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Ely Proposed Resource Management Plan Final Environmental Impact Statement

The Ely PRMP is now available for viewing on-line. We have split the RMP into chapters, and divided the maps into PDF Volumes. This allows anyone to view a specific section of the RMP without having to download the entire PDF document. In order to view the PDF Volumes correctly, we reccomend downloading and installing the latest version of Adobe Reader. You may download a copy by clicking the icon to the right, or by clicking on "Get Adobe Reader" at the bottom of this page. Broadband users may download complete volumes at the bottom of this page as well.

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FOR READERS ON BROADBAND CONNECTIONS
We also have provided the three sections above as complete volumes. You may download the entire section by selecting it below. Note, that if you are on a dialup connection, download times will be significantly longer, especially for the map volume. We suggest dialup users use the links above.

Complete Text Volume
Complete Map Volume
Complete Comments Volume

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EXECUTIVE SUMMARY

Introduction

The Bureau of Land Management (BLM) has prepared this Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) to provide programmatic and implementable direction for management of BLM-administered public lands within the Ely RMP planning area and to analyze the environmental effects resulting from implementing the alternatives addressed in this Proposed RMP/Final EIS.

Across the country, the first generation of BLM land use plans was prepared in the late 1970s and early 1980s. Within the Ely Field Office, one RMP and one Management Framework Plan (MFP) were prepared in this timeframe. In 1996, management of the Caliente Resource Area was transferred from the Las Vegas Field Office to the Ely Field Office. The Caliente Resource Area also was covered by an MFP. The Approved Ely RMP will remain in effect as long as the management direction contained in the Plan is valid in light of scientific understanding and current management needs. The Plan will be monitored and evaluated every 5 years and updated and amended periodically to maintain its effectiveness as long as practical. When the Plan reaches the end of its effective life, a new plan would be prepared. The life of an RMP is typically about 20 years.

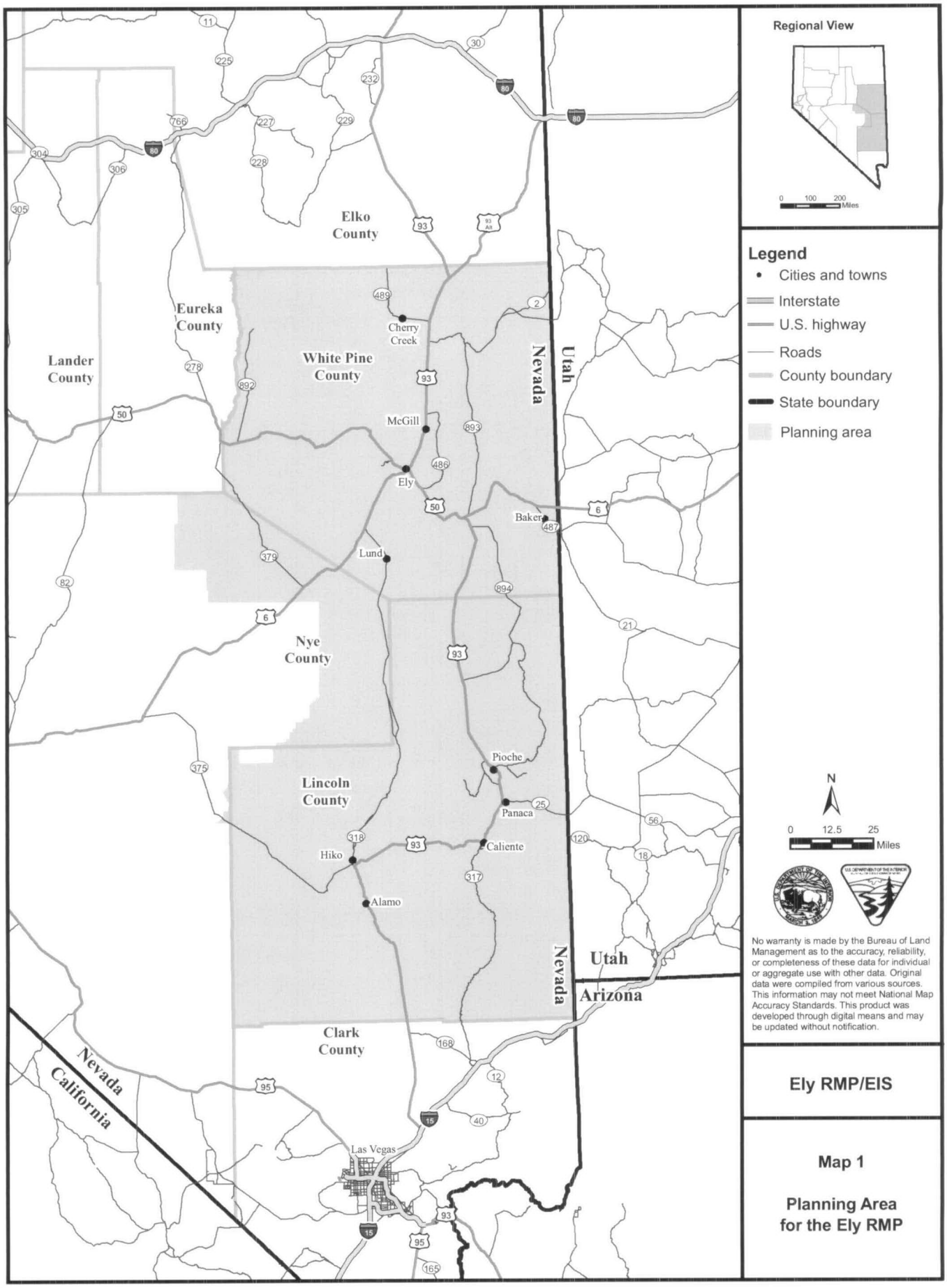
The planning area for the Ely RMP/EIS consists of public and private lands in Lincoln and White Pine counties and a portion of Nye County in east-central Nevada (**Map 1**). The area measures approximately 230 miles (north-south) by 115 miles (east-west). The Ely Field Office manages approximately 11.5 million acres of public lands out of the approximately 13.9 million acres within the boundaries of the planning area. Additional lands within the planning area include those administered by the U.S. Forest Service, Department of Defense, U.S. Fish and Wildlife Service, Bureau of Indian Affairs, National Park Service, various state agencies, and private land (**Map 2**).

Principal communities within or adjacent to the planning area that would be affected by resource management actions contained in the Proposed RMP include (from north to south) Cherry Creek, McGill, Ely, Lund, Baker, Pioche, Panaca, Caliente, Hiko, Alamo, and Mesquite.

The Proposed RMP was prepared using BLM's planning regulations and guidance issued under the authority of the Federal Land Policy and Management Act of 1976. A Final EIS is included in this document to meet the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing NEPA (40 Code of Federal Regulation 1500-1508), and requirements of BLM's NEPA Handbook 1790-1 and Land Use Planning Handbook H-1601-1.

Purpose of and Need for Action

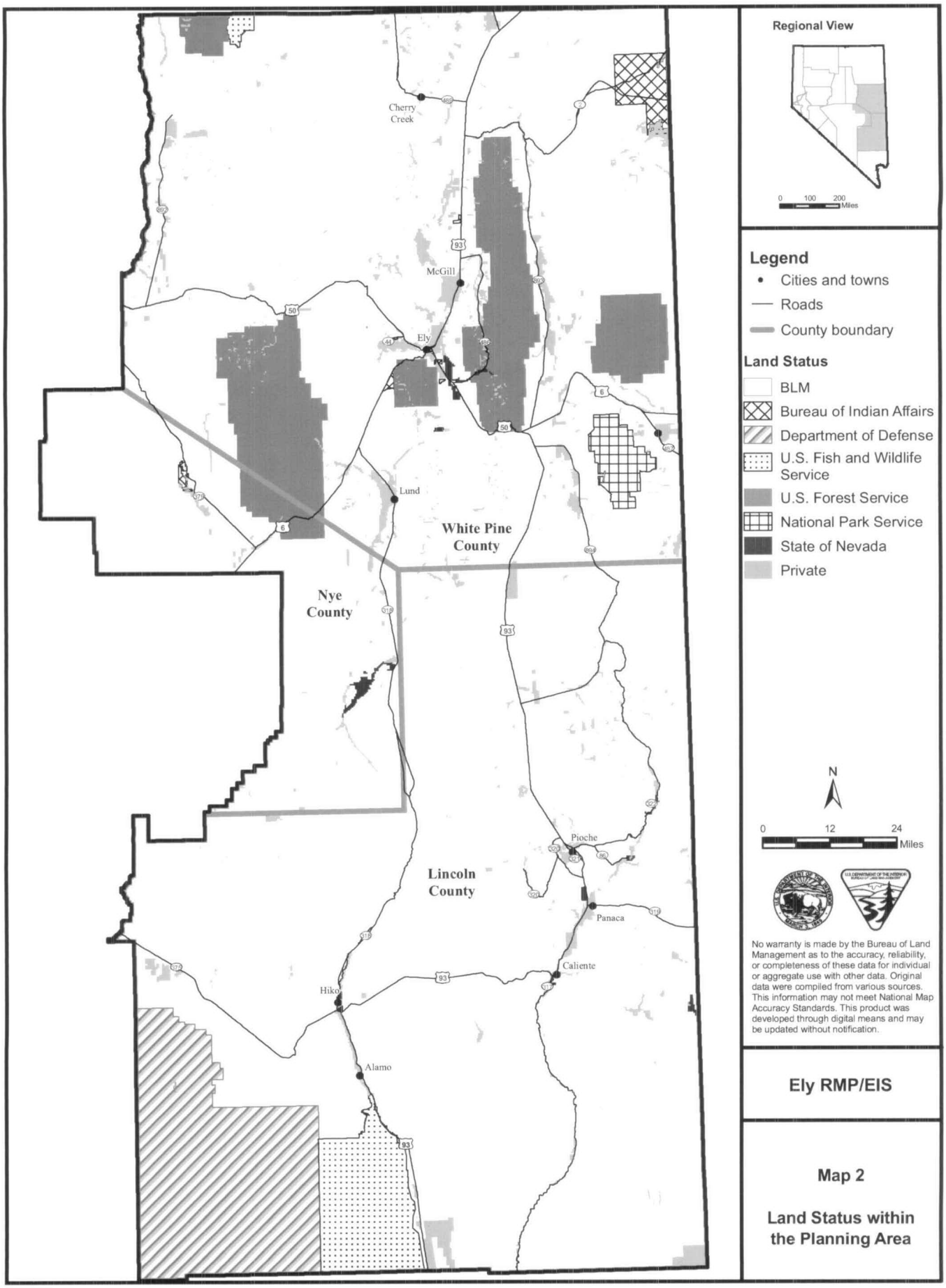
This RMP/EIS is being prepared to provide the Ely Field Office with a comprehensive framework for managing lands in the planning area under the jurisdiction of the BLM. Implementation-level planning and



Ely RMP/EIS

Map 1

Planning Area for the Ely RMP



Ely RMP/EIS

Map 2

Land Status within the Planning Area

site-specific projects would then be completed in conformance with the broad provisions of the RMP. The RMP is needed to provide a land use plan consistent with current law, regulation, and policy.

Section 102 of the Federal Land Policy and Management Act presents the overall policy for planning the use of resources that occur on BLM-administered lands. The BLM is required to prepare land use plans that serve as the basis for all activities that occur on BLM-administered lands. "The national interest will be best realized if the public lands and their resources are periodically and systematically inventoried and their present and future use is projected through a land use planning process coordinated with other Federal and State planning efforts." Section 202 of the Federal Land Policy and Management Act requires that "the Secretary shall, with public involvement ... develop, maintain, and when appropriate, revise land use plans."

RMP Management Focus

The restoration and maintenance of healthy ecological systems within watersheds is a focus for the future management of the Ely RMP planning area. Healthy ecological systems are geographically diverse and change over time. They are compatible with soil potential and are resilient to disturbance.

Resources and resource uses will be managed to restore or maintain ecological health. Certain resource management changes and active treatments may need to be implemented, in portions of watersheds, to accomplish this objective. Adaptive management will be pursued to avoid deteriorating conditions favoring invasive plants and catastrophic fires. Any projects will be implemented so as to result in a mosaic of vegetation within a watershed.

In the long term, natural disturbance (such as drought or fire) will occur and fewer treatments will be needed to maintain ecological health. The result will be a variety of vegetation phases within a watershed, which will provide diverse, healthy conditions for future generations.

The need for the action is to consolidate, update, and establish appropriate goals, objectives, management actions, priorities, and procedures, within a multiple-use management context, for all BLM public land resource programs administered by the Ely Field Office. This action is needed to update resource management direction to allow Ely Field Office managers to meet nationwide BLM goals and objectives and for their actions to be consistent with current BLM policy. The new RMP also is needed to facilitate implementation of the Great Basin Restoration Initiative, a regional initiative to implement actions to maintain or improve ecological health at the landscape scale.

The Proposed RMP would direct the Ely Field Office in resource management activities including leasing minerals such as oil and gas; construction of electrical transmission lines, pipelines, and roads; grazing management; recreation and outfitting; preserving and restoring wildlife habitat; selling or exchanging lands for the benefit of local communities; military use of the planning area; and conducting other activities that require land use planning decisions. To address these management responsibilities, the Ely Field Office planning effort emphasizes a collaborative approach where local, state, federal, and Tribal governments; the public; local user groups; and industry work with the Ely Field Office to identify appropriate multiple uses of the public lands.

Alternatives Analyzed in Detail

The basic goal of developing alternatives was to prepare different combinations of management direction that would address issues and resolve conflicts among resources and resource uses. In addition to addressing issues, alternatives must meet the purpose and need stated for the RMP, must not be remote or speculative, and must be technically and economically practical or feasible. Each alternative is a complete land use plan that provides a framework for multiple use management of the full spectrum of resources, resource uses, and resource programs within the planning area. Under all alternatives, the Ely Field Office would manage the public lands in accordance with all applicable laws, regulations, and BLM policy and guidance, and to meet the Resource Advisory Council standards for rangeland health. However, as noted below, Alternative D is not consistent with all existing laws, regulations, and policies.

Overviews of each of the five alternatives considered in detail can be found in Chapter 2.0 of this Proposed RMP/Final EIS. A complete description of the management actions contained in each alternative also can be found in their respective sections of Chapter 2.0.

Briefly, each alternative can be characterized as follows:

- The first alternative is the Proposed RMP, which was presented as Alternative E in the Draft RMP/EIS. The Proposed RMP contains the management direction that the Ely Field Office proposes to implement to manage the resources and programs in the Ely RMP decision area. The Proposed RMP would balance the need to restore, enhance, and protect resources, with the public's desire to provide for the production of food, fiber, minerals, and services on public lands. This would be accomplished within the limits of an ecological system's ability to sustainably provide these products and services within the constraints of various laws and regulations.

- Alternative A is the continuation of existing management in the Ely RMP decision area, also called the "No Action Alternative" under NEPA regulations. This alternative would continue present management practices based on existing land use plans and other management decision documents. Direction contained in existing laws, regulation, and policy also would continue to be implemented. Under Alternative A, resources, resource uses, and sensitive habitats would receive management emphasis (methods and mix of multiple use management of public land) at present levels. In general, most activities would be analyzed on a case-by-case basis, and few uses would be limited or excluded as long as land health standards could be met.

- Alternative B would emphasize the maintenance of those ecological systems that are functioning and healthy and the restoration of ecological systems that have been degraded or altered. Commodity production would be constrained to protect resources and systems that display healthy ecological processes or to accelerate improvement in those areas that do not. Production of food, fiber, minerals, and services would be more constrained than in most other alternatives, and in some cases and some areas, uses would be excluded to protect sensitive resources.

- Alternative C would emphasize commodity production and production of food, fiber, minerals, and services, including provisions for several types of recreation. Under this alternative, constraints on commodity production for the protection of sensitive resources would be the least restrictive possible within the limits defined by law, regulation, and BLM policy, including the Endangered Species Act, cultural resource protection laws, and wetland preservation. In this alternative, constraints to protect sensitive resources would tend to be implemented in specified geographic areas rather than across the entire Ely RMP planning area.

- Alternative D would exclude all permitted, discretionary uses of the public lands including livestock grazing, mineral sale or leasing, lands and realty actions (such as disposals, leases, rights-of-way), recreation uses requiring permits, etc. Some components of Alternative D could be implemented through the discretionary authority of the Ely Field Manager or the Nevada State Director, while others would require action by the Secretary of the Interior or new legislation by Congress. Where appropriate, management actions that would not be consistent with existing legislation or policies have been noted in text. This alternative was included in response to scoping comments for the RMP, which requested the elimination of certain uses of the public lands in the RMP planning area. It sets a baseline for the comparison of impacts from management actions included in other alternatives and allows for the analysis of a range of management actions in the EIS. This alternative would allow no commodity production and would include management actions necessary to maintain or enhance resources and protect life and property.

Public Involvement and Comment on the Draft RMP/EIS

On July 29, 2005, a Notice of Availability was published in the Federal Register (70[145]:43902-43903) announcing the availability of the Draft Ely District RMP/EIS for public review and comment. This began a 120-day comment period that ended on November 28, 2005.

As described in Section 5.5 of the Draft RMP/EIS, copies of the Draft were sent to over 600 agencies, organizations, and individuals. A total of 650 comment letters on the Draft RMP/EIS were received via U.S. mail and email. These included 81 unique letters and 569 form letters. **Table ES-1** summarizes the type of entity that submitted comments. A complete list of commenters can be found in Appendix I.

Table ES-1
Comment Letters Received on the Draft RMP/EIS

Federal Agency	6
State Agency	6
Local Government	4
Tribal	1
Non Governmental Organization	20
Business	16
Individual	28
Form Letter	569

Each comment letter was assigned a unique number and then reviewed by BLM.

Appendix I contains copies of the main body of the comment letters with individual comments contained in each letter bracketed and numbered. Copies of attachments to those letters are not included in Appendix I; these attachments also were reviewed and are included in the Administrative Record.

Verbal comments also were received at the public meetings that were held on the Draft RMP/EIS. These meetings are discussed further in the following section. Transcripts of the meetings are also included in Appendix I, along with responses to the verbal comments that were contained in the statements made at the meetings.

Public meetings on the Draft RMP/EIS were held in October, 2005 in six locations in Nevada. **Table ES-2** provides the meeting locations, dates, and attendance.

Table ES-2
Public Meeting Locations, Dates, and Attendance

City, State	Location	Date	Attendance
Ely, Nevada	Bristlecone Convention Center	October 17, 2005	3
Caliente, Nevada	Caliente Elementary School Gymnasium	October 18, 2005	3
Mesquite, Nevada	Mesquite Campus Library	October 19, 2005	8
Las Vegas, Nevada	BLM Las Vegas Field Office	October 20, 2005	18
Reno, Nevada	Airport Plaza Hotel	October 24, 2005	6
Tonopah, Nevada	Tonopah Convention Center	October 25, 2005	0
Total			**38**

Principal Areas of Public Concern

Several areas of public concern were revealed in the comments received on the Draft RMP/EIS. Some of these concerns involve differences in opinion about the most appropriate use of a given resource or management action for a given program. Such concerns involving various components of the Ely RMP/EIS were not unexpected, and the Ely Field Office has responded to all concerns expressed in Appendix I of the Proposed RMP/Final EIS. However, given the multiple use mandate that BLM operates under, it is usually impossible to resolve all controversy to the satisfaction of all parties. In the Proposed RMP, the Ely Field Office has selected management actions that best meet the needs of all users of the public lands in the Ely RMP decision area, within the requirements and restrictions imposed by existing laws, regulations, and policies. Principal areas of public concern and BLM's proposed resolutions are as follows:

- Vegetation Treatment – In 1999, the Great Basin Restoration Initiative was introduced as an umbrella for a number of projects and actions underway to enhance the condition of public lands in the Great Basin, including the planning area. The objective of the Great Basin Restoration Initiative is a long-term, landscape-scale improvement in ecological health. The Ely RMP would provide direction to the Ely Field Office staff for implementation of the Great Basin Restoration Initiative within the decision area. The

specific project in eastern Nevada is the Eastern Nevada Landscape Restoration Project. Vegetation treatments outlined in the Proposed RMP are designed on the basis of currently available scientific knowledge to modify vegetation communities in a manner to enhance ecological health and resilience. However, any vegetation manipulation involves certain risks that variables of weather, wildland fire, or other unpredicted circumstances may prevent immediate achievement of the desired results. Throughout most of the planning area, one of the more substantial risks is that unsuccessful treatments could accelerate the spread of invasive or noxious weed species, thereby contributing to further deterioration rather than restoration of ecological health. For these reasons, several commenters were opposed to any type of active treatment of vegetation.

- Wildlife Management – Numerous reviewers of the Draft RMP/EIS expressed their belief that the Ely Field Office had not adequately emphasized the management of habitat for elk, bighorn sheep, and various other wildlife species of interest. Changes incorporated in the Proposed RMP and Final EIS attempt to resolve various aspects of this issue by identifying priority species and priority habitats as points of management emphasis. Additional wildlife habitat management decisions have been incorporated into the wildlife section.

- Special Status Species – The Proposed RMP would provide for the protection of special status species. The debate over threatened and endangered species is not unique to the Ely RMP planning area. Some believe that these species are not being given adequate emphasis, while others believe that restrictions on resource uses for the protection of special status species is unreasonable. The Ely Field Office would continue to manage habitat for special status species in accordance with the requirements of the Endangered Species Act and other applicable regulations and policies. The objectives are to prevent adverse effects to listed species and their habitats and to prevent additional species from being listed as threatened or endangered.

- Wild Horses – The Proposed RMP focuses wild horse herd management on six herd management areas covering approximately 3.7 million acres that are capable of sustaining viable, thriving, natural populations, even in drought conditions. This approach involves combining some existing herd management areas that are not individually capable of sustaining herds and eliminating some others that are neither capable of sustaining herds nor located where they can be part of an effective combination. This management change necessitates removal of wild horses in those herd management areas or portions of areas covering approximately 1.7 million acres, including herd management areas in the Mojave Desert, where habitat conditions are not sufficient to sustain healthy populations. Although any reduction in herd management areas and wild horse populations is opposed by some members of the public, the Ely Field Office has determined that consolidation and reduction of herd management areas with corresponding adjustment in the appropriate management level is the best way to ensure the long-term survival and maintenance of healthy wild horse herds within the planning area.

- Visual Resources – The Proposed RMP would designate an increased acreage within the planning area as Visual Resource Management Class II and III areas as opposed to their current Class IV designation. Commenters were both supportive of and opposed to these designations, due to perceived protection of sensitive visual resources and impediment of future development, respectively. The Ely Field Office has determined that the Proposed RMP appropriately classifies visual resources based on

existing conditions, and future proposals would be evaluated for potential impacts to visual resources and mitigation that could be required to achieve visual resource management class objectives.

- Land Disposal – The Proposed RMP would provide for the disposal of approximately 75,600 acres of BLM-administered land to state, local, and private entities. Given the very limited amount of private land within the boundaries of the Ely RMP planning area, many believe that land disposal is critical to the future economic viability of Lincoln and White Pine counties. Others believe that there should be no net loss of public lands within the planning area. Land disposal in Lincoln and White Pine counties is provided for in recent federal legislation.

- Off-highway Vehicle Use – The Proposed RMP would limit off-highway vehicle travel on approximately 10.3 million acres of the decision area to designated roads and trails. Approximately 1.1 million acres of wilderness, wilderness study areas, and some ACECs would be closed to off-highway vehicle use. A considerable number of commenters believe that the decision area should remain open to cross-country off-highway vehicle use, while a smaller number believe that such use should be eliminated entirely. The change in off-highway vehicle use management direction for the Ely Field Office is consistent with BLM policy throughout the western U.S. The Ely Field Office would establish an interdisciplinary review team to update the Ely Field Office Transportation Plan. The transportation planning process would include public scoping meetings and comment.

- Special Recreation Management Areas – The Proposed RMP would establish five special recreation management areas that would be managed for a variety of recreation opportunities. Area-specific management plans for recreational use would be developed. By establishing these management areas, the Proposed RMP would provide for managed opportunities for recreation in the planning area.

- Off-highway Vehicle Race Events – The Proposed RMP would designate four special recreation permit areas for competitive motorcycle events and four routes for competitive truck events, under event-specific permits from the Ely Field Office. Some commenters believe that race events on public lands are inappropriate, while others want more areas open to racing. Off-highway vehicle race events have taken place in the Ely RMP planning area for a number of years. The Ely Field Office has determined that restricting these events to designated areas and race courses accommodates the public needs for both motorized recreation and resource protection.

- Livestock Grazing – The Proposed RMP would continue livestock grazing on approximately 11.2 million acres of the planning area under current policies and allotment evaluation procedures. Some members of the public oppose livestock grazing on public lands and would like to see livestock grazing reduced or totally eliminated from numerous areas. Such proposals commonly are opposed by those members of the public whose livelihood is dependent on such uses. The Proposed RMP includes constraints on grazing Areas of Critical Environmental Concern (ACECs). These actions are considered necessary by the Ely Field Office for protection of a variety of sensitive resources within some of the ACECs.

- Oil and Gas Leasing – The Proposed RMP would increase the area available for oil and gas leasing compared to current management. National policy encourages energy development on public lands,

while many groups and individuals are opposed to such development. While a majority of the Ely RMP decision area would be open to leasing, the analysis conducted by the Ely Field Office indicates that only a small area overall would be disturbed for exploration and development. These activities would be permitted on a project-specific basis. Thus, the Proposed RMP would be consistent with national policy but also would protect other resources from oil and gas development.

- Areas of Critical Environmental Concern (ACEC) – The Proposed RMP would designate 20 (3 existing and 17 new) ACECs, including 317,790 acres or approximately 2.8 percent of the planning area. Some commenters believe that no new ACECs should be designated, while others believe that several additional ACECs beyond what the Ely Field Office has proposed (especially for biological resources) should be designated. Consistent with existing ACEC regulations, the Ely Field Office has proposed to designate those areas as ACECs that require special management actions.

- Wilderness – Congress has recently designated 1,064,040 acres of wilderness and released approximately 302,744 acres of wilderness study areas through the Lincoln County and White Pine County Conservation, Recreation, and Development Acts (2004 and 2006, respectively). Some commenters believe that additional wilderness study areas need to be identified and additional wilderness needs to be designated. While the BLM no longer identifies wilderness study areas through land use planning, the Ely Field Office would continue to manage wilderness study areas under current BLM policy until action is taken by Congress.

Major Impact Conclusions

Detailed descriptions of the environmental consequences that the management actions contained in the five alternatives would have on each resource program can be found in Chapter 4.0 of this Proposed RMP/Final EIS. A comparison of environmental impact conclusions by alternative is presented in **Table 4.1-1**. Also included in Chapter 4.0 are discussions of cumulative impacts (Section 4.28) and unavoidable adverse impacts (Section 4.31).

Table ES-3 presents the major impact conclusions for the Proposed RMP.

Decisions to be Made

The Proposed RMP/Final EIS has been distributed to the public. There will be a 30-day protest period, followed by resolution of any protests. The resolution of protests may result in modification of the Proposed RMP before it is finalized and approved. Section 7 consultation also is being conducted with the U.S. Fish and Wildlife Service on the Proposed RMP. The Biological Opinion from the U.S. Fish and Wildlife Service may result in modifications of decisions or new terms and conditions. Any such modifications will be documented in a Notice of Significant Change or in the Record of Decision that will accompany the Approved RMP. Once approved, the management actions contained in the Ely RMP can be implemented.

Land use plan decisions, which are made on a broad (programmatic) scale, guide subsequent site-specific implementation decisions. Specific projects for any given resource, resource use, or resource program that

are not analyzed in this Proposed RMP/Final EIS would be detailed in future activity plans or site-specific proposals, and additional NEPA analysis and documentation would be conducted as needed.

Summary of Major Changes from the Preferred Alternative to the Proposed Plan

In response to public comments and input from Cooperating Agencies, the following major changes were made to the Proposed RMP and Final EIS compared to the Preferred Alternative in the Draft RMP/EIS.

The Proposed RMP/EIS has been revised in format and expanded in content to clarify a number of proposed management actions. The format in Chapter 2.0 and the organization of the corresponding analyses in Chapter 4.0 have been modified to simplify the tracking and comparison of individual management actions among alternatives. Proposed management actions in Chapter 2.0 have been specifically numbered and definitively stated for ease of understanding. In several resource programs, the management actions replaced text that was relatively generic and ambiguous. Similarly, the goals and objectives of various resource programs were clarified relative to applicable regulations and standards.

Throughout the document, revisions were incorporated to comply with guidance of the 2005 BLM Land Use Planning Handbook which became available concurrent with the earlier Draft RMP/EIS. This guidance included increased use of quantitative data in both management actions and impact analyses. It also included addition of some management actions in resource programs that were lightly treated in the Draft RMP/EIS (e.g., air resources and water resources). In other areas, changes occurred to render the proposed management actions more compatible between resource programs (e.g., designated corridors and priority wildlife habitat). The proposed minerals management program was revised to more accurately reflect the current BLM policy and guidance that had changed since initial document preparation. The livestock grazing section was expanded to clarify the status of allotments meeting or making progress towards the standards and those not yet evaluated.

A number of changes occurred based on comments received from the public review of the Draft RMP/EIS. As an example, three additional ACECs (Baking Powder Flat, Schlesser Pincushion, and White River Valley) were added under the Proposed RMP to address protection of special status plant species. Similarly, additional discussions were added to address a greater variety of special status species potentially affected by the management plan. Proposed management related to outfitters and guides in the planning area was modified to address public concerns. Management actions related to various wildlife habitats and domestic livestock in bighorn sheep habitat were clarified to address a variety of public and agency concerns related to the Draft RMP/EIS. Watershed priorities were modified due to fire and floods in 2004/2005.

The recent passage of the White Pine County Conservation, Recreation, and Development Act of 2006 also triggered a variety of text revisions to address the changes in land status brought about by this important piece of legislation. Thus, changes occurred in land tenure, proposed land disposals, wilderness acreages, wilderness study areas, ACECs, grazing allotments, mineral closures, and other categories. Three ACECs (Highland Range, Mount Grafton, and Goshute Canyon) were deleted from the Proposed RMP because

they were designated wilderness by Congress in the White Pine County land bill. Boundary adjustment occurred on seven of the other ACECs in the draft.

Maps were revised to present modified management actions, incorporate new information regarding the planning area, and improve readability for the public.

Table ES-3
Major Impact Conclusions for the Proposed RMP

AIR RESOURCES	
Goal – Meet all applicable local, state, and tribal constraints, and National Ambient Air Quality Standards under the Clean Air Act (as amended), and prevent significant deterioration of air quality (defined as violation of air quality regulations) within the Ely planning area from all direct and authorized actions.	
Proposed RMP	Under the Proposed RMP, as watershed analyses are completed and projects are implemented to meet or maintain rangeland health standards, fire management would expand as a tool in vegetation management to approximately 8.9 million acres. In the long term, this approach likely would result in more small fires and fewer major fires producing fewer emissions in the planning area compared to recent historic (last 30 years) levels. Short-term impacts could include larger and more frequent fires plus increased fugitive dust from recreational events impacting air quality. Mitigation measures would be applied where appropriate to help maintain air quality. In the long term, the Proposed RMP would meet the goal of the air resources program and maintain compliance with federal and state air quality standards.
WATER RESOURCES	
Goal – The quality of water resource on public lands administered by the Ely Field Office will be suitable for the appropriate beneficial uses and will meet approved federal, state, tribal, and local requirements, guidelines, and objectives. The quantity of water on public lands administered by the Ely Field Office will be suitable to meet public land management purposes. **Northeastern Great Basin Resource Advisory Council Standard. Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.**	
Proposed RMP	Water resource conditions would be improved on a long-term basis as individual watersheds are analyzed and treated. During the short term, localized decreases of water quality may occur immediately following treatments. The potential for these effects would be minimized by the use of best management practices during the treatment process. Increases in water availability (mainly springflows and baseflows) may occur in local areas conducive to groundwater recharge and discharge. This alternative provides a suitable management framework to achieve the goals of the water resources program, including proper functioning condition of wetlands and riparian areas, and achievement of state water quality standards.
SOIL RESOURCES	
Goal – Maintain or improve long-term soil quality. **Northeastern Great Basin Resource Advisory Council Standard. Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and landform.** **Mojave/Southern Great Basin Resource Advisory Council Standard. Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.**	
Proposed RMP	Over the short term, the Proposed RMP would be expected to increase the risk of soil erosion and temporary loss of productivity on freshly treated areas. Implementation of best management practices, including restoration monitoring, would minimize these risks. Long-term reductions in erosion rates and increases in soil quality would be expected with successful widespread vegetation restoration and weed management. The Proposed RMP would achieve the stated goals for the soils program, including the Resource Advisory Council Standards.

Table ES-3 (Continued)

VEGETATION RESOURCES	
Goal – Manage vegetation resources to achieve or maintain resistant and resilient ecological conditions while providing for sustainable multiple uses and options for the future across the landscape. **Northeastern Great Basin Resource Advisory Council Standard. Habitats – Exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes; habitat conditions meet the life cycle requirements of threatened and endangered species.** **Mojave/Southern Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**	
Proposed RMP	The Proposed RMP would generally reduce dominance by woody species and increase the diversity of vegetation communities over the long term, providing vegetation communities with structure, multiple-aged shrubs, forbs, and perennial grasses. This would result in greater productivity, improved wildlife habitat, and improved natural functions and watershed stability. Livestock grazing management could be used to maintain vegetation communities which currently meet the desired range of conditions and allow improvement of remaining vegetation communities to the desired range of conditions over the short and long term. It also would increase the return of plant litter to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities with maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained across the landscape through the use of numerous tools. This alternative would achieve the program goal.
FISH AND WILDLIFE	
Goal – Provide habitat for wildlife (i.e., forage, water, cover, and space) and fisheries that is of sufficient quality and quantity to support productive and diverse wildlife and fish populations, in a manner consistent with the principles of multi-use management, and to sustain the ecological, economic, and social values necessary for all species. **Northeastern Great Basin Resource Advisory Council Standard. Habitats exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** **Mojave/Southern Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**	
Proposed RMP	Aquatic habitat management would include habitat enhancement for existing aquatic species. Vegetation treatments could result in increased short-term impacts from erosion and sedimentation immediately after treatment. These impacts would be minimized through implementation of management actions that would provide mitigation during the treatment process. Changes in grazing management in riparian areas and restoration of vegetation resilience in nearby riparian and upland areas would improve habitat conditions over the long term. By implementing the various management actions associated with the wildlife and fisheries management direction and mitigation actions associated with other programs, the goal and objective for fisheries would be achieved. There would be a loss of wildlife habitat on less than 5 percent of the planning area. Direct loss of habitat would occur as a result of land disposals and construction activities associated with energy production and mineral development. Indirect losses would occur through fragmentation of habitat and avoidance of areas adjacent to project sites during construction and operation activities. Mitigation of discretionary permitted activities that would result in losses of aquatic habitat and priority wildlife habitat would occur by improving 2 acres of comparable habitat for every 1 acre disturbed as determined on a project-by-project basis. The quality of wildlife habitat, both aquatic and terrestrial, on the remaining 95 percent of the planning area would improve as a result of wildlife habitat management, wild horse management, livestock grazing management, off-highway vehicle management, vegetation management, watershed management, fire management, and noxious and invasive weed management. Over the long term, the Proposed RMP would achieve the goal for the fish and wildlife management program. Because of the time required to implement the necessary vegetation treatments and other management actions, achievement of the goal for the entire area in the short term may not occur in the first few years. Site-specific locations may achieve the goals sooner due to the prioritization of treatments.

Table ES-3 (Continued)

SPECIAL STATUS SPECIES	
Goal – Manage public land to conserve, maintain, and restore special status species populations and their habitats; support the recovery of federally listed threatened and endangered species; and preclude the need to list additional species. **Northeastern Great Basin Resource Advisory Council Standard.** • **Habitats exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** • **Riparian and wetland areas exhibit a properly functioning condition and achieve State water quality criteria.** **Mojave/Southern Great Basin Resource Advisory Council Standard.** • **Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.** • **Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).**	
Proposed RMP	Sensitive fish and invertebrate species would be managed through evaluations of their overall habitat conditions. Numerous resource uses could affect sensitive aquatic habitat as a result of sedimentation, vegetation removal, or habitat alteration. Changes in grazing management and restoration efforts in riparian areas could improve habitat conditions in the long-term, particularly in Lower Meadow Valley Wash ACEC and Condor Canyon ACEC. Vegetation management could result in greater short-term impacts through erosion and sedimentation as a result of increased treatment areas. On a long-term basis, the restoration of vegetation resilience in riparian areas and the surrounding uplands would improve habitat conditions for sensitive fish and invertebrate species. By implementing the various management actions associated with the special status species management direction and mitigation actions associated with other programs, the goals and objectives for special status aquatic species would be achieved. Special status wildlife species would be specifically assessed, based on species-specific desired future conditions, and compared to overall habitat conditions and identification of causal factors for declines. On a watershed level, restoration activities would result in higher quality forage, increased cover and vegetation structure, and increased habitat quality for special status species. On a landscape level, restoration activities to achieve appropriate ranges of vegetation conditions would improve special status species habitats by reducing habitat degradation and fragmentation, and promoting ecological health and resiliency. The Proposed RMP would achieve the program goal for special status wildlife species. A detailed analysis of potential impacts to special status plants would be completed in conjunction with each watershed and habitat analysis. As part of the best management practices, potential mitigation measures and monitoring would be developed on a site-specific basis. Three new ACECs would be established primarily for the protection of special status plants. The establishment of these ACECs and the land use restrictions associated with them may offer additional protection where special status plants occur in these areas. Therefore, implementation of the Proposed RMP would result in additional protection for special status plants and achieve the program goal relative to such species.

Table ES-3 (Continued)

WILD HORSES	
Goal – Maintain and manage healthy, self-sustaining wild horse herds inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple-use relationship with other uses and resources. **Northeastern Great Basin Resource Advisory Council Standard. Healthy wild horse and burro populations exhibit characteristics of healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long-term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.** **Mojave-Southern Great Basin Resource Advisory Council Standard. Wild horses and burros within herd management areas should be managed for herd viability and sustainability. Herd management areas should be managed to maintain a healthy ecological balance among wild horse and/or burro populations, wildlife, livestock, and vegetation.**	
Proposed RMP	Wild horses would be managed where healthy populations can be maintained over the long-term. Wild horse populations would be brought into balance with the available habitat resources needed to sustain healthy populations and prevent damage to the environment and surrounding resources. The Proposed RMP would achieve the goal for the wild horse management program.
CULTURAL RESOURCES	
Goal – Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (Federal Land Policy and Management Act, Section 103(c), 201(a), and (c); National Historic Preservation Act, Section 110(a); Archaeological Resources Protection Act, Section 14 (a)). **Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (Federal Land Policy and Management Act, Section 103(c), National Historic Preservation Act, Section 106, 110(a)(2)) by ensuring that all authorizations for land use and resource use will comply with the National Historic Preservation Act, Section 106.** **Northeastern Great Basin Resource Advisory Council Standard. Land use plan will recognize cultural resources within the context of multiple use.**	
Proposed RMP	There would be a higher level of protection of cultural resources through use allocations, with 100 percent of the sites determined eligible to the National Register of Historic Places allocated and managed for Conservation, Scientific, and Public Use, and the designation of 8 new ACECs. There also would be more protection of cultural/archaeological resources than current management due to the decrease in lands open to off-highway vehicle use, wild horses, and livestock grazing. The level of protection from impacts associated with fire management and recreation activities would be greater than current management. The Proposed RMP would meet the goals for the cultural resources program, including the Resource Advisory Council Standards.
PALEONTOLOGICAL RESOURCES	
Goal – Identify and manage at-risk paleontological resources (scientific value), preserve and protect vertebrate fossils through best science methods, and promote public and scientific use of invertebrate and paleobotanical fossils.	
Proposed RMP	Paleontological resources would be protected under the Proposed RMP, because they would be allocated and managed for Scientific, Conservation, and/or Public Use. An increase in the number of acres withdrawn from mineral entry and a decrease in lands open to off-highway vehicle use would reduce impacts to paleontological resources. The no-fee registration system would increase the protection of known trilobite localities by tracking the amount of use and associated impacts. The Proposed RMP would meet the goal for the paleontology program.
VISUAL RESOURCES	
Goal – Manage public land actions and activities in a manner consistent with Ely Field Office visual resource management class objectives.	
Proposed RMP	Management prescriptions under the Proposed RMP would classify approximately 1.1 million acres as Visual Resource Management Class I and 2.4 million acres as Visual Resource Management Class II. Having classifications for all lands within the decision area would allow for a more comprehensive framework for preserving and mitigating impacts to visual resources. Maximizing the use of prescribed fire and wildland fire use would create short-term visual impacts that would diminish in the long term after treatments are completed. The Proposed RMP would meet the goal for the visual resources program.

Table ES-3 (Continued)

LANDS AND REALTY	
Goal – Manage public lands in a manner that: • **Allows the retention of public land with high resource values;** • **Consolidates public land patterns to ensure effective administration and improve resource management;** • **Makes public lands that promote community development available for disposal;** • **Meets public, local, state, and federal agency needs for use authorizations such as rights-of-way, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values; and** • **Utilizes withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the desired purpose.**	
Proposed RMP	Approximately 75,600 acres would be available for possible disposal and would be withdrawn from mineral entry. Having these areas identified would facilitate the disposal of BLM-administered lands for community development. Designated critical habitat for federally listed threatened and endangered species, cultural resources, mineral exploration and development, watershed restoration, and special designation areas could preclude the disposal of certain parcels and land use authorizations. The Proposed RMP would allow a higher degree of flexibility in land use authorizations by identifying the new 0.5-mile-wide Spring Valley corridor. Encouraging co-location of land use authorizations would reduce or localize impacts to other resources. Approximately 1,403,500 acres would be identified as avoidance or exclusion areas. The Proposed RMP would meet the goals for the lands and realty program.
RENEWABLE ENERGY	
Goal – Provide opportunities for development of renewable energy sources such as wind, solar, biomass, and other alternative energy sources while minimizing adverse impacts to other resources such as wildlife and visual resources.	
Proposed RMP	The primary impact of the Proposed RMP would be to facilitate the development of renewable energy resources. Surface disturbance for an assumed wind energy development scenario could total 4,000 acres, about 0.03 percent of the decision area. Wind and solar power developments would have to be compatible with the management prescriptions for other resources and would be evaluated on a project-specific basis. Biomass development would be based on the acreage of vegetation treatment needed to restore healthy vegetation communities. The Proposed RMP would meet the goal for the renewable energy program.
TRAVEL MANAGEMENT AND OFF-HIGHWAY VEHICLE USE	
Goal – Provide and maintain suitable access to public lands. Manage off-highway vehicle use to protect resource values, promote public safety, provide off-highway vehicle opportunities where appropriate, and minimize conflict. Work closely with local, state, tribal, and other affected parties and other resource users to address off-highway vehicle management including land use and route designations, and monitoring and adaptive management strategies such as applying the Limits of Acceptable Change process.	
Proposed RMP	The elimination of areas open to cross-country vehicle travel would reduce motorized access to parts of the planning area not served by existing or designated roads and trails in the short and long term. Completing road and trail designations in site-specific travel management plans would improve motorized access and road and trail conditions over the long term. The Proposed RMP would meet the goal for the travel management and off-highway vehicle use program.
RECREATION	
Goal – Provide quality settings for developed and undeveloped recreation experiences and opportunities while protecting resources. Conduct an assessment of current and future off-highway vehicle demand, and plan for and balance the demand for this use with other multiple uses/users. Develop sustainable off-highway vehicle use areas to meet current and future demands, especially for urban interface areas.	
Proposed RMP	The Proposed RMP would constitute a comprehensive program that addresses the trend of increasing recreational use as well as provides the opportunity to develop management strategies for anticipated future conditions. Five special recreation management areas totaling approximately 1.2 million acres (10 percent of the decision area) would be designated. Elimination of areas designated as open to cross-country off-highway vehicle use would reduce off-highway motorized recreational opportunities. However, these transportation restrictions also would provide an increased opportunity for seclusion and primitive recreational experiences. A sufficient number of routes would be designated to accommodate motorcycle and truck competitive events. The Proposed RMP would meet the goal for the recreation program.

Table ES-3 (Continued)

LIVESTOCK GRAZING	
Goal – Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health. **Northeastern Great Basin Area Standards.** • **Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form.** • **Riparian and wetland areas exhibit a properly functioning condition and achieve State water quality criteria.** • **Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** **Mojave-Southern Great Basin Area Standards.** • **Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.** • **Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).** • **Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**	
Proposed RMP	Approximately 11.3 million acres would remain available for grazing following closures on all or portions of five ACECs. Approximately 424,602 animal unit months on 8.4 million acres would be authorized on grazing allotments that have been determined to be meeting or progressing toward achievement of standards for rangeland health. Approximately 120,665 animal unit months on 3.2 million acres would be authorized on grazing allotments pending their evaluation for meeting rangeland health standards. The total acreage available for grazing is subject to change based on approximately 75,600 acres identified for potential sale. Although portions of these lands may continue to be grazed after they are sold, they would no longer be administered as part of the BLM livestock grazing program. Vegetation treatments and protection of freshly seeded areas also could temporarily affect grazing on substantial areas during the treatment process, but it is expected that increased forage production on previously treated areas would offset temporary reductions in those allotments. The Proposed RMP would achieve the stated goal for this program.
FOREST/WOODLAND AND OTHER PLANT PRODUCTS	
Goal – Provide opportunities for traditional and non-traditional uses of vegetation products on a sustainable, multiple-use basis.	
Proposed RMP	The Proposed RMP would expand the number of species permitted for use as fuelwood, posts and poles, and Christmas trees, providing a greater opportunity for personal and commercial use and greater flexibility in the management of these woodland communities. The increased availability is not likely to affect the overall resource supply for any of the species involved. Availability of woodland biomass products would continue to exceed demand on both short and long term basis. Green biomass availability would be replaced with dead wood during treatments, but overall product availability would remain relatively constant. Christmas tree availability would likely be reduced as treatments are implemented in more productive sagebrush ecological sites. Pine nut production would be reduced during the short term after treatments, but should maintain or exceed current production rates in the long term as woodland sites are restored and become resilient. Forest/woodland and other plant product availability would be affected in high priority watershed areas prior to other watersheds. The harvest of forest/woodland products would continue to have minimal effects on the woodland communities involved. The management actions of the Proposed RMP would achieve the goal for this program.

Table ES-3 (Continued)

GEOLOGY AND MINERAL EXTRACTION	
Goal – Allow for meeting the Nation's energy needs while providing environmentally responsible production of fluid leasable minerals and geophysical exploration for energy resources on public lands. Allow development of solid leasable and locatable minerals in a manner to prevent unnecessary or undue degradation. Allow development of mineral materials in a manner that would prevent unnecessary or undue degradation, meet public demand, and minimize adverse impacts to other resource values.	
Proposed RMP	The majority of the decision area would be open to fluid mineral exploration and development. The areas proposed for closure to leasing or those with no surface occupancy restrictions that are outside of wilderness, yet within high to moderate potential is less than 5 percent of the decision area. Therefore, the proposed management would allow for the exploration and development of oil and gas while protecting important resource values. The decision area has a low potential for the occurrence of solid leasable mineral resources, so the closure of the lands described would likely have little impact on the exploration and development of solid leasable minerals. Less than 5 percent of the decision area would involve discretionary closures to locatable minerals within high to medium potential. This small percentage of withdrawn areas is not expected to have a major impact on the recovery of locatable minerals. Therefore, the Proposed RMP would allow for the exploration and development of locatable minerals while protecting important resource values. Because mineral material occurrences are so common and widespread, there should be little impact to the availability of these deposits despite the proposed closures and areas where discretionary closures are likely. It is expected that there would be sufficient resources available to meet local, regional, and national needs, while providing for the protection of other resources and uses.
WATERSHED MANAGEMENT	
Goal – Manage watersheds to achieve and maintain resource functions and conditions required for healthy lands and sustainable uses. **Northeastern Great Basin Resource Advisory Council Standards.** • **Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form.** • **Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.** • **Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics; to provide suitable feed, water, cover, and living space for animal species; and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** • **Land use plans will recognize cultural resources within the context of multiple use.** **Mojave/Southern Great Basin Resource Advisory Council Standards.** • **Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.** • **Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.** • **Riparian and wetland vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover; capture sediment; and capture, retain, and safely release water (watershed function).** • **Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**	
Proposed RMP	The Proposed RMP watershed management actions, in combination with the associated vegetation treatment programs, generally would reduce dominance by woody species; increase the diversity of vegetation communities over the long term; and provide structure with multiple-aged shrubs, forbs and perennial grasses. This would result in greater productivity, improved watershed function, and increased stability. It also would increase the amount of plant litter returned to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities, which includes maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained and improved across the landscape except at small localized areas of soil disturbing activities. Thus, the Proposed RMP management actions of this and related programs would achieve the program goal for watershed management.

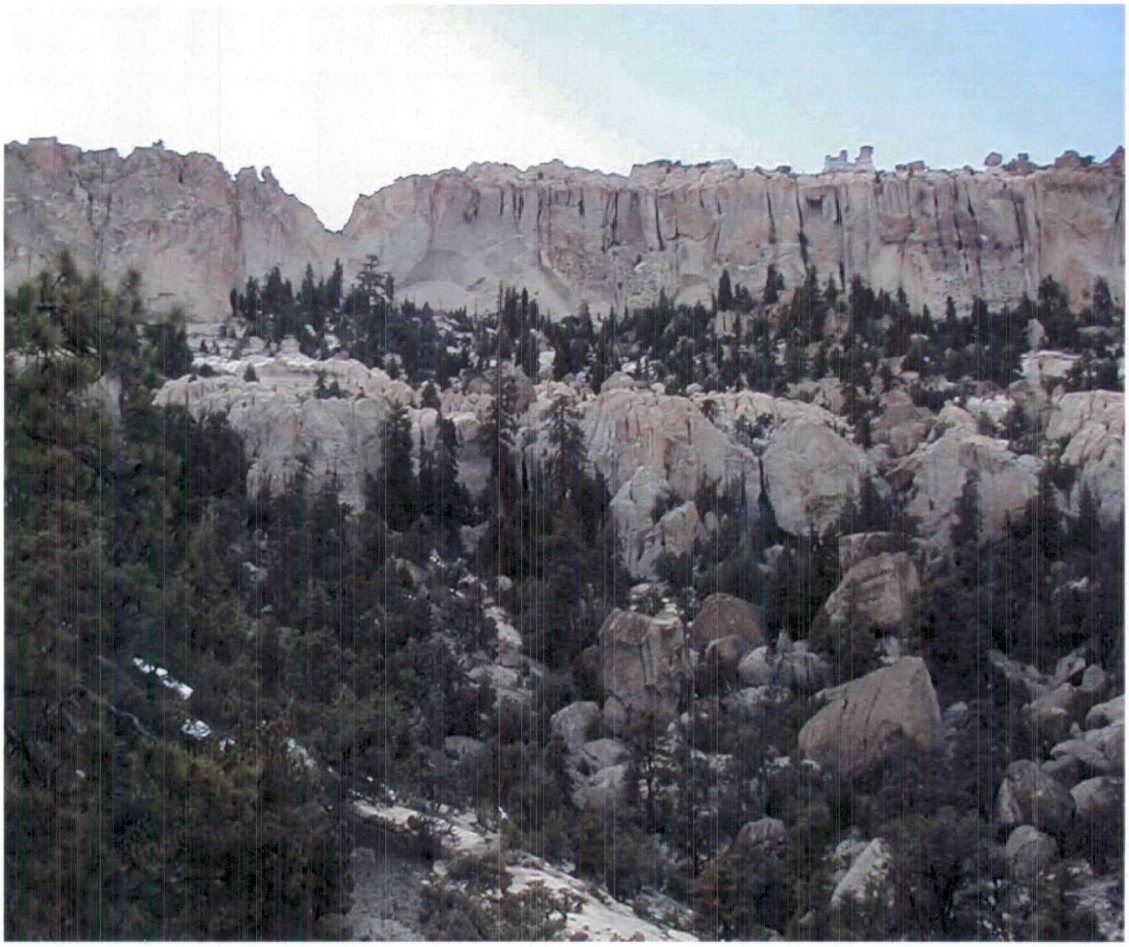
Table ES-3 (Continued)

FIRE MANAGEMENT	
Goal – Provide an appropriate management response to all wildland fires, with emphasis on firefighter and public safety, consistent with overall management objectives. Return fire to its natural role in the ecological system and implement fuels treatments, where applicable, to aid in returning fire to the ecological system. Establish a community education program that includes fuels reduction within the wildland urban interface to create fire-safe communities.	
Proposed RMP	Implementation of the Proposed RMP would result in a major increase in the use of fire throughout the watersheds in the planning area. Fire use and prescribed fire would be implemented year-round in the treatment of vegetation communities and watersheds to achieve the desired range of conditions for vegetation, watersheds, and other resource programs (e.g., livestock grazing, wild horses, soils, etc.). An increase in application of other tools (e.g., herbicides) also may be necessary to meet management goals prior to expanding the use of fire.
NOXIOUS AND INVASIVE WEED MANAGEMENT	
Goal – To reduce the introduction of, and the areal extent of noxious and invasive weed populations and the spread of these populations	
Proposed RMP	The Proposed RMP would involve a substantial increase in vegetation treatments resulting in a temporary increase in the risk of weed invasion and expansion in the areas disturbed by treatments, but a long-term reduction in the vulnerability of these same areas. Additional constraints on off-highway vehicle use throughout the planning area and formalization of weed management actions related to construction and development activities would substantially reduce weed dispersal associated with these activities. However, with the increase in use of off-highway vehicles in designated special recreation management areas and special recreation permit areas, the potential spread of weeds will increase. Monitoring measures will be implemented to ensure containment of any outbreak. Therefore, this alternative would reduce the rate of spread of noxious and invasive weeds on a long-term basis and meet the program goal.
SPECIAL DESIGNATIONS	
Goal – Evaluate areas of interest for special designation and appropriately manage those areas that meet necessary requirements.	
Proposed RMP	Approximately 317,800 acres would be designated as three existing and 17 new ACECs. Management prescriptions would protect the relevant and important values in these ACECs. Opportunities for scenic drives would be created through the designation of one existing and two new back country byways, though there may be some decrease in solitude in these areas. The Proposed RMP would meet the goal for the special designations program.
ECONOMIC AND SOCIAL CONDITIONS	
Goal – No program-specific goals have been identified for economic and social conditions or health and safety.	
Economic Conditions	
Proposed RMP	The Proposed RMP would result in slight, long-term enhancements of the local economy, e.g., 255 to 260 jobs, across the planning area due to the added restoration funding, stewardship contracting, increased woodland commodity production, and developed and organized recreation. Ranch income would be adversely impacted over the short term, but would increase over the long term. Annual payments in lieu of taxes to Lincoln County would increase slightly and to White Pine County would decrease in the short term, but both would increase in the long term due to land disposal and development. RMP-related impacts on local fiscal conditions would be minimal and long term relative to local budgets.
Social Conditions	
Proposed RMP	The Proposed RMP would result in regional population increases of 510 to 560 residents during restoration, with corresponding positive long-term effects on local housing markets. The gains would be relatively more concentrated around Ely. Additional social benefits may be realized from stewardship contracting, the fuels management/wildland fire risk reduction, and potential for developed recreation associated with possible land disposal. This alternative may hold relatively less appeal for those desiring maximum emphasis on resource protection and rangeland health restoration. Additionally, long-term population growth facilitated by land disposal could result in fundamental, long-term changes in social conditions across the area.
AMERICAN INDIAN ISSUES	
No specific impacts are compared. See Section 4.25 to identify specific issues and the sections in which they are addressed.	

Table ES-3 (Continued)

ENVIRONMENTAL JUSTICE	
Goal – Continue efforts to avoid, to the extent practicable, inequitable distributions of adverse environment impacts that may arise based on race, ethnicity, or income.	
Proposed RMP	No significant, adverse, or disproportionately high environmental or health effects to minority or low-income populations were identified in conjunction with the resource programs, objectives, or management actions associated with the Proposed RMP.
HEALTH AND SAFETY	
Goal – The goal of the health and safety program is to ensure that management actions are protective of life and property.	
Proposed RMP	There would be a decrease of risk to public health and safety because of the decreased wildland fire risk. The Proposed RMP would meet the goal for the health and safety program.

Ely Proposed Resource Management Plan/Final Environmental Impact Statement



Map Volume **November 2007**

BLM

Ely Field Office / Nevada

COOPERATING AGENCIES:

Great Basin National Park
Humboldt-Toiyabe National Forest
Nellis Air Force Base
Nevada Department of Wildlife
Nevada Division of Minerals
Nevada Division of Transportation
Nevada State Historic Preservation Office

Lincoln County
Nye County
White Pine County
Duckwater Shoshone Tribe
Ely Shoshone Tribe
Moapa Band of Paiutes
Yomba Shoshone Tribe

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BLM Mission Statement

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

BLM/EL/PL-07/09+1793

DOI No. FES07-40

Cover Photo: Cottonwood Canyon – Fortification Range Wilderness, Lincoln County, Nevada. Ely BLM photo. May, 2002.

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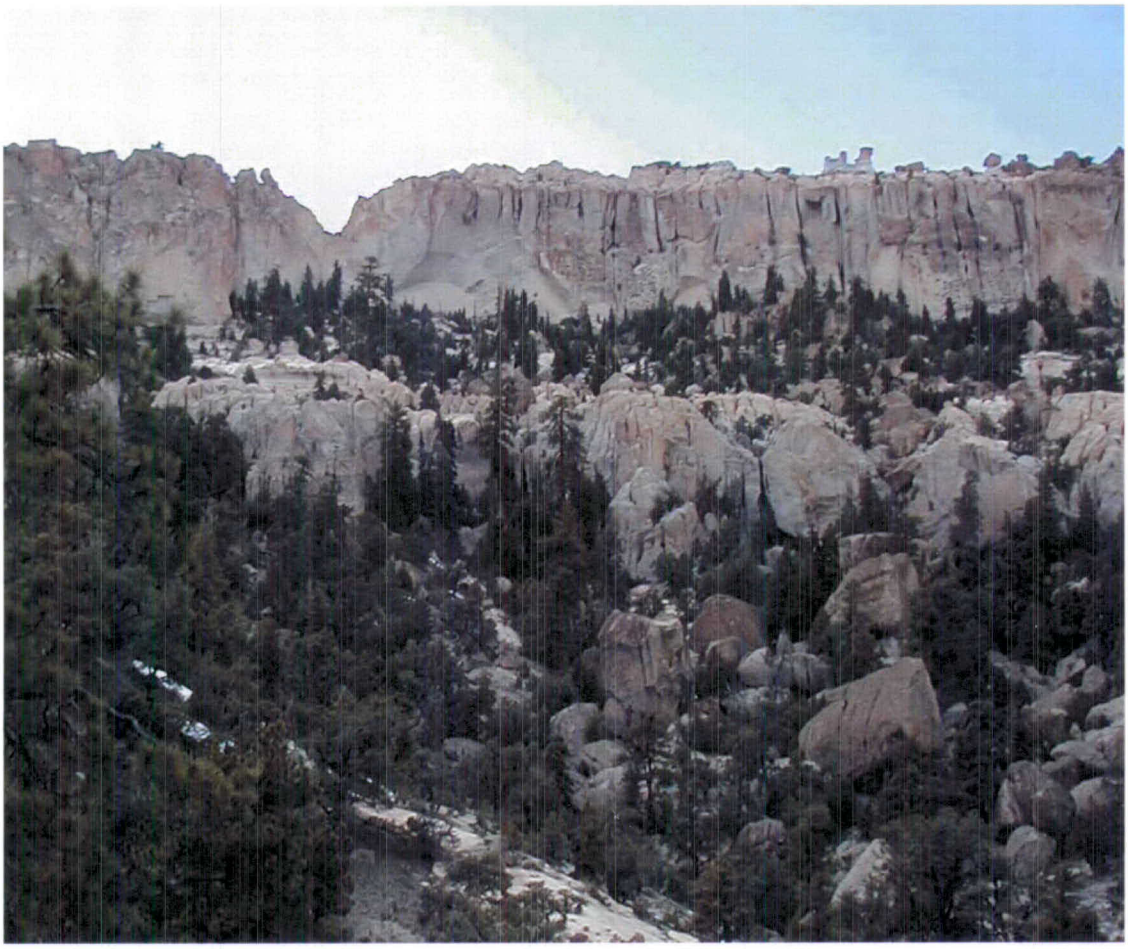
Ely Proposed Resource Management Plan/Final Environmental Impact Statement



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BLM

Ely Field Office / Nevada

COOPERATING AGENCIES:

Great Basin National Park
Humboldt-Toiyabe National Forest
Nellis Air Force Base
Nevada Department of Wildlife
Nevada Division of Minerals
Nevada Division of Transportation
Nevada State Historic Preservation Office

Lincoln County
Nye County
White Pine County
Duckwater Shoshone Tribe
Ely Shoshone Tribe
Moapa Band of Paiutes
Yomba Shoshone Tribe

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BLM Mission Statement

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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Cover Photo: Cottonwood Canyon – Fortification Range Wilderness, Lincoln County, Nevada. Ely BLM photo. May, 2002.

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2.0 ALTERNATIVES

2.1 Introduction

Chapter 2.0 begins with introductory material describing the development of alternatives and then moves to the presentation of the management actions for resources, resource uses, and resource management programs encompassing 26 topics. Information is presented in the same sequence in Chapters 3.0 and 4.0 for each of the topic areas. Several of the categories contain subsections that focus on particular aspects of a resource program.

The table presented in Section 2.9 summarizes the management goals for each resource program and compares the management actions for each of the alternatives considered in detail. Detailed discussions of the environmental effects of each alternative can be found in Chapter 4.0.

All maps referenced in Chapter 2.0 are presented in the separate Map Volume. The maps contained in the map volume were developed with the goal of optimizing comprehension of information related to the resources portrayed in each respective map within the constraints of an 11x17-inch black-and-white format. The maximum scale that would fit on an 11x17-inch page while allowing room for an appropriate legend and title block was chosen. Background information (major roads and towns, county boundaries, shaded relief, etc.) is presented to orient the reader to the extent that such background information does not detract from the readability of the map. For this reason, a shaded relief background was used where it did not detract from presentation of the relevant information regarding a specific resource or resources, while the shaded relief background was omitted in more complex maps (e.g., minerals). Where it was deemed to be warranted (e.g., ACECs and land disposals), "blow-ups" of smaller areas were created to convey information at a more detailed scale.

This chapter contains alternatives that describe different approaches to the management of public lands and resources in the planning area, which includes the Caliente Field Station. Each alternative represents a complete and reasonable set of goals and management actions to guide future management of BLM-administered public lands and resources in the planning area. As discussed in various sections throughout this document, disturbances such as fire and drought are natural components of the ecological systems of the Great Basin and the planning area. Many of the management actions considered among the alternatives in this Proposed RMP address different approaches to dealing with these disturbances in terms of resource management options.

Five alternatives are presented in this chapter. The first alternative is the Proposed RMP, which is a modified version of Alternative E that was initially presented in the Draft RMP/EIS. The Proposed RMP contains the management actions that the Ely Field Office proposes to implement to manage the resource programs. Alternative A describes the continuation of current, existing management and serves as the No Action alternative. This alternative is required by Council on Environmental Quality regulations and provides a baseline for comparison of the other alternatives (Council on Environmental Quality 1981). Three other action alternatives (B through D) describe proposed changes to current management as well as the existing management that would be carried forward into future management. These alternatives provide a range of choices for resolving the planning issues identified in Chapter 1.0.

Management actions outlined in the alternatives only apply to BLM-administered public land and interests in the planning area.

2.2 Development of Alternatives

The development of management alternatives for the Ely RMP/EIS was guided by provisions of the Federal Land Policy and Management Act and the NEPA, as well as planning criteria listed in Chapter 1.0. Other laws, BLM planning regulations, and current policy also directed alternative considerations and focused the alternatives on appropriate land use plan-level decisions. To begin the alternative development process, goals and desired future conditions were identified by the planning team in consideration of public comments received through scoping and direction established by BLM-wide initiatives and mandates. The goals directed the overall management actions proposed within the alternatives.

The goals (including the Resource Advisory Council standards) and objectives presented in Section 2.4 for the Proposed RMP also apply to Alternatives A through D presented in Sections 2.5 through 2.8. Summary descriptions of each alternative analyzed in the Proposed RMP and Final EIS (Proposed RMP and Alternatives A through D) are presented below. Important quantitative differences among the alternatives are highlighted in the second paragraph of each summary description.

2.2.1 Proposed RMP

The Proposed RMP will balance the need to restore, enhance, and protect resources with the public's desire to provide for the production of food, fiber, minerals, and services on public lands. This will be accomplished within the limits of an ecological system's ability to sustainably provide these products and services and within the constraints of various laws and regulations. Restoration will be implemented proactively to build resiliency to prevent further degradation of ecological systems. Restoration activities will be accelerated in comparison to current management to the limits of available funding and resources. Vegetation communities will be managed to achieve appropriate composition of woody and herbaceous species that promote resiliency. This will involve a mosaic of vegetation communities having differing ages (since treatment) and differing composition and structure. Vegetation resources and fish and wildlife habitats will be restored and enhanced using a variety of tools; however, constraints to protect sensitive resources will be implemented in specified geographic areas. Increases in herbaceous vegetation resulting from restoration will be allocated to livestock and wild horses, and/or reserved for watershed maintenance and wildlife.

Approximately 3.5 million acres will be designated as Visual Resource Management Class I or II. Approximately 75,600 acres of public land will be available for disposal in Lincoln and White Pine counties. Off-highway vehicle use will be restricted to designated roads and trails. Road and trail designations will occur at the watershed level through subsequent implementation-level plans developed using a public review team process. No areas will be open and approximately 1.1 million acres will be closed to off-highway vehicle use. Five special recreation management areas encompassing approximately 1.2 million acres will be created. Approximately 11.2 million acres will be available for livestock grazing. Mineral extraction will be managed for fluid leasable minerals (10.0 million acres open with varying restrictions), solid leasable minerals (9.9 million acres open), locatable minerals (9.9 million acres open), and mineral materials (9.9 million acres open). Acreage available for wildland fire use will increase. Three existing ACECs will be retained, and 17 new ACECs will be designated, totaling about 317,800 acres.

2.2.2 Alternative A

Under Alternative A, resources, resource uses, and sensitive habitats would receive management emphasis (methods and mix of multiple use management of public land) at present levels. In general, most activities would be analyzed on a case-by-case basis, and few uses would be limited or excluded as long as land health standards could be met. Restoration of ecological systems would be implemented primarily in reaction to changes that occur from events such as fire or other disturbances. Restoration activities would be conducted on approximately 10,000 acres per year. Vegetation communities would be managed to achieve appropriate composition of woody and herbaceous species that promote resiliency. This would involve a mosaic of vegetation communities having differing ages (since treatment) and differing composition and structure. Increases in herbaceous vegetation resulting from restoration would be allocated to livestock and wild horses and/or reserved for watershed maintenance and wildlife as directed in the existing plans.

Approximately 1.7 million acres would be managed as Visual Resource Management Class I or II. Up to 28,000 acres of public land would be available for disposal in Lincoln and White Pine counties. Off-highway vehicle use would remain relatively unrestricted throughout the planning area. Approximately 9.8 million acres would remain open and 1.1 million acres would be closed to off-highway vehicle use. One special recreation management area encompassing approximately 550,000 acres would be managed. Approximately 11.2 million acres would be available for livestock grazing. Mineral extraction would be managed for fluid leasable minerals (4.0 million acres open with varying restrictions), solid leasable minerals (10.1 million acres open), locatable minerals (10.1 million acres open), and mineral materials (10.0 million acres open). Fire management would continue under the existing Ely District Fire Management Plan, which incorporates the Ely Managed and Natural Prescribed Fire Plan. Three existing ACECs would be retained, totaling about 203,670 acres.

2.2.3 Alternative B

Alternative B would emphasize the maintenance of those systems that are functioning and healthy and the restoration of ecological systems and their historic mosaic patterns that have been degraded or altered. There would be a coordinated effort to restore the resiliency of native vegetation in shrub communities, woodlands, and riparian areas. Commodity production would be constrained to protect resources and systems that display healthy ecological processes or to accelerate improvement in those areas that do not. Production of food, fiber, minerals, and services would be more constrained than in the other alternatives, and in some cases and some areas, uses would be excluded to protect sensitive resources. Restoration would be implemented proactively to build resiliency and resistance to changes that would degrade natural systems. Restoration activities would be accelerated in comparison to the Proposed RMP and limited by available funding and resources. Sagebrush communities would be managed to achieve a mosaic of herbaceous/shrub phases with minimal bare ground; interspaces between shrubs would be occupied by perennial grasses and forbs. Increases in herbaceous vegetation resulting from restoration would be reserved for watershed maintenance and wildlife.

Approximately 3.5 million acres would be designated as Visual Resource Management Class I or II. Up to 90,000 acres of public land would be available for disposal in Lincoln and White Pine counties. Off-highway vehicle use would be restricted to designated roads and trails. No areas would be open and approximately 1.1 million acres would be closed to off-highway vehicle use. Nine special recreation management areas encompassing approximately 2.7 million acres would be created. Approximately 7.7 million acres would be available for livestock grazing. Mineral extraction would be managed for fluid leasable minerals (10.1 million acres open with varying restrictions), solid leasable minerals (10.1 million acres open), locatable minerals (10.1 million acres open), and mineral materials (9.4 million acres open). Acreage available for wildland fire use would increase. Three existing ACECs would be retained, and 15 new ACECs would be designated, totaling about 338,020 acres. Under this alternative, management would more often be applied across several vegetation types with a restoration emphasis on those areas most at risk of crossing a threshold into a less desirable vegetation community or ecological process, rather than focusing on specific sensitive resources in particular geographic areas.

2.2.4 Alternative C

Alternative C would emphasize commodity production and production of food, fiber, minerals, and services, including provisions for several types of recreation. Under this alternative, constraints on commodity production for the protection of sensitive resources would be the least restrictive possible within the limits defined by law, regulation, and BLM policy, including the Endangered Species Act, cultural resource protection laws, and wetland preservation. Under this alternative, constraints to protect sensitive resources would tend to be implemented in specified geographic areas rather than across the decision area. Restoration of ecological systems would be accelerated in comparison to the Proposed RMP and limited by available funding and resources. Land health restoration activities would focus on areas with understory vegetation appropriate for the ecological site, which could provide the production of additional forage. Sagebrush communities would be managed to achieve sites dominated by herbaceous vegetation (i.e., grasses) with some shrubs. Increases in herbaceous vegetation resulting from restoration would be allocated to livestock.

Approximately 3.6 million acres would be designated as Visual Resource Management Class I or II. Up to 291,000 acres of public land would be available for disposal in Lincoln and White Pine counties. Off-highway vehicle use would be restricted to designated roads and trails except on 32,000 acres of dry lake beds, which would be designated as open to cross country off-highway vehicle use. Approximately 1.1 million acres would be closed to off-highway vehicle use. Nine special recreation management areas encompassing approximately 2.6 million acres would be created. Active and organized recreation activities (such as off-highway vehicle use and races) would be emphasized in this alternative. Approximately 11.2 million acres would be available for livestock grazing. Mineral extraction would be managed for fluid leasable minerals (9.9 million acres open with varying restrictions), solid leasable minerals (9.9 million acres open), locatable minerals (9.9 million acres open), and mineral materials (9.4 million acres open). All wildland fires would be suppressed and prescribed fires would be used only in limited situations as a vegetation treatment tool. Three existing ACECs would be retained, and 17 new ACECs would be designated, totaling about 333,390 acres.

2.2.5 Alternative D

Alternative D would exclude all permitted, discretionary uses of the public lands including livestock grazing, mineral sale or leasing, lands and realty actions (such as disposals, leases, rights-of-way), recreation uses requiring permits, etc. Some components of Alternative D could be implemented through the discretionary authority of the Ely Field Manager or the Nevada State Director, while others would require action by the Secretary of the Interior or new legislation by Congress. Where appropriate, management actions that would not be consistent with existing legislation or policies have been noted in text. This alternative was included in response to scoping comments for the RMP, which requested the elimination of certain uses of the public lands in the RMP planning area. It sets a baseline for the comparison of impacts from management actions included in other alternatives and allows for the analysis of a range of management actions in the EIS. Alternative D would allow no commodity production and would include management actions necessary to maintain or enhance resources and protect life and property. Restoration would be restricted to previously treated areas (such as mechanical treatments, seedings, and prescribed burns); areas dominated by invasive species; and newly disturbed areas (such as those resulting from wildland fires). Restoration activities would be focused toward a much narrower set of conditions than in all other alternatives. Such restoration would be primarily in reaction to changing conditions. Sagebrush communities would be managed to protect existing native communities and to prevent expansion of annual exotic species. Increases in herbaceous vegetation resulting from restoration would be reserved for watershed maintenance and wildlife, and/or allocated to wild horses.

All areas would be designated as Visual Resource Management Class I or II. Up to 12,000 acres of public land would be available for disposal in Lincoln and White Pine counties. Off-highway vehicle use would be restricted to maintained roads. No areas would be open and 11.1 million acres would be closed to off-highway vehicle use. No special recreation management areas would be created, and one existing area would be eliminated. No acreage would be available for livestock grazing. Mineral extraction would be managed for fluid leasable minerals (no acres open with varying restrictions), solid leasable minerals (no acres open), locatable minerals (6.2 million acres open), and mineral materials (no acres open). The Ely Field Office would petition the Department of the Interior to withdraw a majority of the decision area from locatable mineral entry. Wildland fires would not be suppressed unless they are human-caused or threaten life or property. No ACECs would be retained or designated.

2.3 Management Common to All Alternatives

The following management would be implemented by the Ely Field Office in association with all alternatives.

2.3.1 Management by Watershed

BLM policy calls for the use of watershed, rather than administrative, boundaries when conducting local analyses except when compelling issues dictate that an administrative or other ecological-based boundary take precedence. The Ely Field Office is currently conducting watershed analyses on a limited basis, and proposes to continue this process as part of the Approved RMP. The RMP/EIS proposes the use of tools and techniques for watershed analysis that have already been approved for use throughout the BLM (see Section 1.4.3, Types of Decisions). The Ely Field Office has established 61 watershed management units (based on draft 10-digit Hydrologic Unit Code Level 5 watershed boundaries or portions thereof) to address watershed objectives and management needs to implement the goals of the Great Basin Restoration Initiative and the Proposed RMP. The watershed determination documents and watershed restoration strategies that would flow from the watershed analyses would provide site-specific restoration direction. The implementation of site-specific actions would be subject to NEPA. Until the watershed analysis is completed for a particular watershed management unit, lands and resources would be managed following existing BLM regulations and policies, in conformance with the management direction for that area identified in the Proposed RMP.

Watershed analysis interdisciplinary teams would assess and evaluate watersheds based on indicators outlined in the Resource Advisory Council Standards and Guidelines for the Northeastern Great Basin and Mojave/Southern Great Basin Areas (see Appendix B). The Ely Field Office is using BLM guidance 43 Code of Federal Regulations §4180.1, and BLM Handbook/Manual H-4180-1 – *Rangeland Health Standards* to guide this watershed analysis process, which includes the on-the-ground implementation of existing programs that are in compliance with current laws, regulations, and policies. Public involvement also would be used to achieve a greater understanding of land health issues.

The watershed analyses would help to implement the Proposed RMP by:

1. Identifying dominant plant community reference and preferred conditions;

2. Identifying existing plant communities and their general conditions;

3. Developing restoration goals (e.g., restoring plant communities that do not meet the Resource Advisory Councils' land health standards or other criteria for healthy ecological communities);

4. Evaluating and determining causal factors for not meeting the Resource Advisory Councils land health standards; and

5. Providing a strategy for restoring and maintaining watershed health and function.

The watershed analyses would characterize the human, terrestrial vegetation and wildlife, aquatic vegetation and wildlife, and physical features and the associated conditions, processes, and interactions within each watershed. Watershed analysis enhances Ely Field Office's ability to estimate direct, indirect, and cumulative effects of management activities and allows for greater flexibility within the watershed. It guides the general type, location, and sequence of management activities. It establishes baseline watershed conditions that permit measurement of progress toward management objectives. It allows for a shift from species and individual use-driven management to management of the natural systems that support the watershed function. This approach allows the Ely Field Office to focus on flexible management techniques necessary to maintain or improve the functionality of the watershed. Future landscape-scale actions would be able to be applied in such a manner as to affect or influence much more of the watershed and its functionality. Please refer to Appendix A for more detail on the processes that take place during watershed analysis.

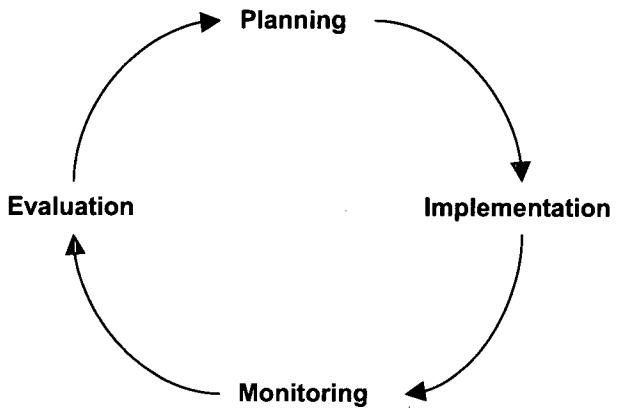
2.3.2 Ecological Analysis at the Watershed Scale

The Proposed RMP provides the management goals and actions for ecological analysis at the watershed scale in terms of issues to be addressed and desired range of conditions to be achieved. Much of the ecological analysis and development of appropriate treatment plans would focus on application of current state and transition models and LANDFIRE Biophysical setting models as discussed further in Section 3.5 and Appendix C. The evaluation of the conditions achieved would be through appropriate monitoring. Refer to Chapter 2.0.

2.3.3 Adaptive Management

The Department of the Interior Office of Environmental Policy and Compliance issued ESM03-6, which provides initial guidance to all agencies on the implementation of adaptive management practices for NEPA compliance. The Interior Departmental Manual 516 DM 4.16 defines adaptive management as "a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes and, if not, facilitating management changes that would best ensure that outcomes are met or re-evaluate the outcomes." The Ely Field Office recognizes that specific knowledge regarding natural resource systems is sometimes uncertain and in those situations, adaptive management is the preferred management method. The Ely Field Office intends to implement the Approved RMP utilizing adaptive management as defined by 516 Department Manual 4.16.

This Proposed RMP/Final EIS recommends an adaptive management strategy. This adaptive management process is flexible and generally involves four phases: planning, implementation, monitoring, and evaluation.



Adaptive management is a formal, systematic, and rigorous approach to learning from the results of management actions, accommodating change, and improving management. It involves synthesizing existing knowledge, exploring alternative actions, and making explicit forecasts about their results. Management actions and monitoring programs are carefully designed to generate reliable feedback and clarify the reasons underlying results. Actions and objectives are then adjusted based on this feedback and improved understanding. In addition, decisions, actions, and results are carefully documented and communicated to others, so that knowledge gained through experience is passed on rather than lost when individuals move or leave the organization.

As the BLM obtains new information, it is possible to evaluate monitoring data and other resource information to periodically refine and update goals, objectives, management actions, and allowable uses. This allows for the continual refinement and improvement of management prescriptions and practices.

Land use plan level decisions would not be adaptable. These include the goals, objectives, special designations, and allocations. Plan amendments would be required to change these decisions. Implementation or activity level decisions could be adapted. Future activity level plans would follow NEPA procedures and involve the public.

2.3.3.1 Land Health Standards

There are two Resource Advisory Councils that guide the Ely Field Office: the Northeastern Great Basin and the Mojave/Southern Great Basin (see Appendix B). They each have developed a set of similar and complementary land health standards by which ecological systems and rangeland "health" of the planning area can be assessed. While the standards and guidelines developed by the Northeastern Great Basin and Mojave/Southern Great Basin Resource Advisory Councils are not identical in terms of the resources addressed or their specific wording, the goals presented were developed to be consistent with both sets of

standards. The Ely Field Office's continued use of these standards is an inherent part of the foundation for this RMP/EIS.

2.3.3.2 Activity Plans

Program-specific "activity plans," such as habitat management plans or watershed restoration strategies, have been written over the years to apply a more focused approach to achieving land use planning goals. Activity plans provide direction for more site-specific actions. NEPA analysis is required for site-specific implementation actions.

2.3.3.3 Tools and Techniques

A wide variety of tools and techniques would be applied as appropriate to implement the management actions identified in the following sections. These tools and techniques are based on current management practices and procedures applicable to the planning area, and are meant to represent best management practices. The array of tools and techniques identified in Appendix G illustrates those measures that would be applied as appropriate and where necessary in implementing any of the alternatives. It must be emphasized that Appendix G is not exhaustive or site-specific. It is anticipated that new tools and techniques would be developed during the useful life of this plan, and all tools and techniques could be used in all parts of the planning area where they are appropriate and effective.

2.3.3.4 Best Management Practices

Best management practices may be found in Appendix F. Best management practices are management actions that have been developed by agency, industry, scientific, and/or working groups as methods for mitigating environmental impacts associated with certain kinds of activity. Appendix F contains three sections:

- Section 1 – Ely Field Office best management practices (organized by resource or resource use).
- Section 2 – Fluid Minerals Lease Notices and Stipulations.
- Section 3 – BLM Wind Energy Development Program, Policies, and Best Management Practices.

Best management practices would be implemented at the discretion of the Ely Field Office on a project-specific basis, depending on the specific characteristics of the project area and the types of disturbance being proposed. They may not be appropriate to implement in all cases. It has been assumed for impact analysis that best management practices would be implemented wherever appropriate.

2.3.3.5 Monitoring

The BLM planning regulations (43 Code of Federal Regulations 1610.4-9) call for the monitoring of resource management plans on a continual basis with formal evaluation done at periodic intervals. The Ely RMP/EIS would be monitored on a continual basis. Plan evaluations would occur on 5-year intervals. Management actions arising from activity plan decisions would be evaluated to ensure consistency with the Approved RMP objectives.

Monitoring is the process of following up on the management actions and documenting BLM's progress toward achievement of goals and objectives. Monitoring is identified in Section 2.4.23.

2.4 Proposed RMP

2.4.1 Introduction to the Proposed RMP

The Proposed RMP primarily is based on Alternative E presented in the Draft RMP/EIS (July 2005) (BLM 2005b) and on changes to management actions in response to public and internal comments received on the Draft. The management actions that are presented in the Proposed RMP were developed through consideration of the planning criteria presented in Section 1.5 of the Draft and Final RMP/EIS, public scoping comments presented in Section 1.6, BLM policy especially as presented in the Land Use Planning Handbook, the professional judgment of the staff in the Ely Field Office, and comments from a wide array of users of the planning area. The Proposed RMP is a compilation of those individual management actions from the other four alternatives, plus unique management actions, that the Ely Field Office has determined will best meet its obligations for multiple use management of the resources found within the decision area.

The planning area includes all lands regardless of jurisdiction; however, the BLM will only make decisions on lands that fall under BLM's jurisdiction. The "decision area" consists of public lands administered by the Ely Field Office in Lincoln, White Pine, and a portion of Nye counties in east-central Nevada. The "decision area" also includes those private lands on which there is a "split estate," and the BLM continues to manage subsurface mineral commodities.

Tables, maps, and figures have been included to display and summarize pertinent information. Acreages displayed in this document should be considered approximations even when displayed to the nearest acre. Most acreages were calculated from Geographic Information System coverage and rounded to the nearest 1,000 acres. As a result, the acreages presented may not match acres provided in prior published documents containing calculations from master title plats or other base data. The data used throughout this document are for land use planning purposes and not necessarily for on-the-ground implementation. The precision afforded by Geographic Information System calculation does not reflect project-level accuracy. Acreage figures that are provided in this document for land use plan analysis purposes would be refined as subsequent site-specific analysis is conducted.

Management actions from the Approved Caliente Management Framework Plan Amendment and Record of Decision for the Management of Desert Tortoise Habitat (BLM 2000a), have been incorporated into relevant sections of the Proposed RMP. Where appropriate, the management actions have been modified to reflect changes in conditions since 2000 and the editorial style of the Proposed RMP.

2.4.2 Air Resources

The Clean Air Act requires the BLM to minimize emissions of air quality pollutants from activities on public lands to protect human health and the environment. The Clean Air Act also requires each state to develop a state implementation plan for regions within the state that have nonattainment status, to ensure that the national ambient air quality standards are attained and maintained for the criteria pollutants. Federal agencies are required to ensure that their actions conform to state implementation plans. The Nevada

Division of Environmental Protection is responsible for producing the state implementation plan. The Nevada Smoke Management Program coordinates and facilitates the statewide management of prescribed outdoor burning in the State of Nevada. This program is designed to meet the requirements of Nevada Revised Statutes 445B.100 through 445B.845, inclusive, which deal with air pollution, and the requirements of the U.S. Environmental Protection Agency Interim Air Quality Policy on Wildland and Prescribed Fires (April 1998). The planning area is considered in attainment. The Clean Air Act places additional restrictions on impacts to air quality and visibility within Class I and II areas. Class I areas consist of many national wildlife refuges and most national parks and designated wilderness that existed when legislation was enacted in 1977. Class II areas include most other western public lands. Little degradation of air quality is allowed in Class I areas; less stringent requirements apply to Class II areas. There are no Class I areas in the planning area; the nearest Class I areas are the Jarbidge Wilderness in northeast Nevada and Zion National Park in southwest Utah.

Goal

Meet all applicable local, state, and tribal constraints, and National Ambient Air Quality Standards under the Clean Air Act (as amended), and prevent significant deterioration of air quality (defined as violation of air quality regulations) within the Ely planning area from all direct and authorized actions.

Objective

To ensure air quality in the Ely planning area meets all National Ambient Air Quality Standards.

Management Actions

AR-1: Develop burn plans that include incident and cumulative air quality considerations prior to implementing all prescribed burn treatments.

AR-2: Coordinate with the Nevada Division of Environmental Protection prior to the planning of prescribed fires and other air quality related actions.

AR-3: Authorize activities likely to adversely affect the Class II classification of public lands within the planning area, or the designation of the nearest Class I areas, such as Jarbidge Wilderness, on a case-by-case basis after compliance with appropriate laws.

2.4.3 Water Resources

Suitable water quality is important for proper ecological function as well as for supporting designated beneficial uses, including domestic supply (drinking water). The maintenance or improvement of water quality in streams and aquifers is, therefore, a major BLM management goal. The Federal Water Pollution Control Act of 1977, as amended, (commonly known as the "Clean Water Act") requires the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters. The State of Nevada has regulatory primacy in administering the Act within its boundaries. A Memorandum of Understanding identifies responsibilities and activities to be performed by each agency in carrying out water quality

programs on agency-administered lands in Nevada. In addition to the Clean Water Act, numerous laws, regulations, policies, and Executive Orders direct the BLM to manage water quality for the benefit of the Nation and its economy, and to sustain multiple uses of the land. The BLM is required to maintain water quality where it presently meets approved state water quality requirements, guidelines, and objectives, and to improve water quality on public lands where it does not meet those requirements, guidelines, and objectives.

It is BLM policy to conform with applicable state laws and administrative claims procedures for water rights when managing and administering all BLM programs and projects, except as otherwise specifically mandated by Congress. The State Engineer Office in the Division of Water Resources of the Nevada Department of Conservation and Natural Resources, administers water rights programs in Nevada based on beneficial use and the Doctrine of Prior Appropriation. The State of Nevada regulates its water rights programs using guidance in chapters 533 and 534 of the Nevada Revised Statutes. The BLM will acquire and perfect water rights necessary for public land management purposes according to these state laws and procedures. The BLM also will protect existing water rights of the U.S. by protesting or providing comment during the state permitting process on applications for new water rights or for changes to existing water rights that may interfere with BLM's ability to utilize such water for public land management purposes.

Goal

The quality of water resource on public lands administered by the Ely Field Office will be suitable for the appropriate beneficial uses and will meet approved federal, state, tribal, and local requirements, guidelines, and objectives. The quantity of water on public lands administered by the Ely Field Office will be suitable to meet public land management purposes.

Northeastern Great Basin Resource Advisory Council Standard. Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

Objective

To protect the chemical, physical, and biological integrity of waters as needed to maintain healthy ecological systems and provide values that support multiple uses. Acquire and perfect sufficient water rights to meet public land management needs.

Management Actions

WR-1: Ensure authorized activities on public lands do not degrade water quality by complying with the Clean Water Act and Nevada Water Pollution Control Regulations (Nevada Revised Statute 445A). Cooperate with the Nevada Division of Environmental Protection to reduce non-point source water pollution as per the Memorandum of Understanding between the BLM and Nevada Division of Environmental Protection dated September 2004.

WR-2: Integrate land health standards, best management practices, and appropriate mitigation measures into authorized activities to ensure water quality meets state requirements and BLM resource management objectives (BLM Manual 7240 Nevada Supplement).

WR-3: Recognize community wellhead protection areas approved by the State of Nevada and only authorize activities within such areas that do not have potential for degrading groundwater quality.

WR-4: Maintain or improve watershed conditions by controlling or restricting land uses and utilizing tools, where appropriate, to promote desired vegetation conditions.

2.4.4 Soil Resources

Soils are the growth medium for vegetation and the source of sediment in streams. Management goals for vegetation, watershed, wildlife, and livestock cannot be achieved without productive and stable soils.

Goal

Maintain or improve long-term soil quality.

Northeastern Great Basin Resource Advisory Council Standard. Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and landform.

Mojave/Southern Great Basin Resource Advisory Council Standard. Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

Objective

To ensure that soils throughout the planning area exhibit infiltration and permeability appropriate to the soil type, with erosion and compaction having minimal effect on soil quality.

Management Actions

SR-1: Restore and maintain desired range of conditions to increase infiltration, conserve soil moisture, promote groundwater recharge, and ground cover composition (including litter and biotic crusts) to increase or maintain surface soil stability and nutrient cycling.

SR-2: For soil disturbing actions which will require reclamation, salvage and stockpile all available growth medium prior to surface disturbances. Seed stock piles if they are to be left for more than one growing season. Re-contour all disturbance areas to blend as nearly as possible with the natural topography prior to re-vegetation. Rip all compacted portions of the disturbance to an appropriate depth based on site characteristics. Establish an adequate seed bed to provide good seed-to-soil contact.

SR-3: Protect soils from high compaction during surface disturbing activities through soil moisture and/or seasonal use restrictions commensurate with soil surface texture or other properties on a case-by-case basis.

2.4.5 Vegetation Resources

The Federal Land Policy and Management Act, the Public Rangeland Improvement Act, and the Healthy Forests Restoration Act, provide objectives and priorities for management of public land vegetation resources. Guidance contained in Title 43, Subpart 4180 of the Code of Federal Regulations directs public land management toward the maintenance or restoration of the physical function and biological health of vegetation systems. Land Health Standards for lands administered by the BLM in Nevada were approved by the Secretary of the Interior in 1997.

Ecological site descriptions will be used as the initial basis to guide integrated management/treatments to meet the desired goals and objectives for vegetation.

Implement specific management actions and decisions by vegetation community to achieve the desired range of conditions and objectives, and to meet the overall goal of vegetation in the Proposed RMP. A variation of 5 percent above or below the values listed in the desired range of conditions for all vegetation communities is considered acceptable.

Goal

Manage vegetation resources to achieve or maintain resistant and resilient ecological conditions while providing for sustainable multiple uses and options for the future across the landscape.

Northeastern Great Basin Resource Advisory Council Standard. Habitats – Exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes; habitat conditions meet the life cycle requirements of threatened and endangered species.

Mojave/Southern Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Objective

To manage for resistant and resilient ecological conditions including healthy, productive, and diverse populations of native or desirable nonnative plant species appropriate to the site characteristics.

2.4.5.1 General Vegetation Management

Management Actions

VEG-1: Emphasize treatment areas that have the best potential to maintain desired conditions or respond and return to the desired range of conditions and mosaic upon the landscape, using all available current or future tools and techniques.

VEG-2: Develop specific management objectives through the watershed analysis process, incorporating direction from activity plans (see Management Actions WL-8 and WL-15).

VEG-3: Adhere to the Healthy Forests Restoration Act of 2003 (Section 102 (e)) to protect old-growth characteristics or their equivalent.

VEG-4: Design management strategies to achieve plant composition within the desired range of conditions for vegetation communities, and emphasize plant and animal community health at the mid scale (watershed level).

VEG-5: Focus restoration of undesirable conditions initially on those sites that have not crossed vegetation transitional thresholds.

VEG-6: Emphasize the conservation and maintenance of healthy, resilient, and functional vegetation communities before restoration of other sites.

VEG-7: Determine seed mixes on a site-specific basis dependent on the probability of successful establishment. Use native and adapted species that compete with annual invasive species or meet other objectives.

2.4.5.2 Parameter – Pinyon-Juniper Woodlands

Management Actions

VEG-8: Implement actions to attain the desired vegetation states shown in **Table 2.4-1**.

VEG-9: Integrate treatment priorities to include:

1. Public safety and protection from catastrophic wildland fire above other considerations.

2. Limit the transition of immature and mature phases to the overmature phase and from becoming infested with invasive species.

Table 2.4-1
Desired Range of Conditions of Pinyon-Juniper (Distribution of Woodland Phases and States)

State and Phase	Herbaceous State	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)[1]	Altered State
Canopy Description[2]	0 to 10% canopy cover-includes herbaceous, herbaceous-shrub, and sapling phase	11 to 20% canopy cover	21 to 35% canopy cover	>36 to 50% canopy cover	Site dominated by invasive species or weeds
LANDFIRE classes	A and B	C	D and E	E	Uncharacteristic
Proposed RMP[3]	10% (359,300 acres)	20% (718,700 acres)	65% (2,335,700 acres)	5% (179,700 acres)	0% (0 acres)

[1] Overmature woodland refers to woodlands exhibiting greater than 35 percent canopy cover. This classification is not the same as "old growth" although the two classifications may coincide in some situations.
[2] Canopy descriptions derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Settings models for Great Basin Pinyon-juniper Woodland. Altered state is an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but is part of current conditions.

3. Direct overmature woodlands toward earlier phases (i.e., herbaceous state and phase) on a watershed basis, and only if existing immature and mature woodlands are considered resilient and do not need treatments to maintain resiliency.

4. Manage for pinyon-juniper old-growth characteristics to include broad asymmetric tops, deeply furrowed bark, twisted trunks or branches, dead branches and spike tops, large lower limbs, hollow trunks (mostly in juniper), large trunk diameters relative to tree height, and branches covered with a bright yellow-green lichen on true woodland sites as defined by ecological site description.

2.4.5.3 Parameter – Aspen

Management Actions

VEG-10: Implement actions to attain the desired vegetation states shown in **Table 2.4-2**.

VEG-11: Integrate treatment priorities that include:

1. Areas where select species of conifers dominate the tree overstory and where canopy cover exceeds the percentages listed in the desired range of conditions in **Table 2.4-2** (Overmature Phase).

2. Areas where understory species are declining and aspen are not regenerating.

3. Managing aspen communities (using disturbance) to remain in or move toward those phases that are more resilient and resistant to disturbance.

Table 2.4-2
Desired Range of Conditions of Aspen (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous, and Herbaceous-Shrub and Sapling Phase)	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)
Canopy Cover[1]	0 to 15% tree canopy cover	16 to 29% tree canopy cover.	30 to 45% tree canopy cover	45% or greater tree canopy cover (includes conifer dominated)
LANDFIRE classes	A	B	C and D	D and E
Proposed RMP[2]	14% (980 acres)	40% (2,800 acres)	45% (3,150 acres)	<1% (<70 acres)

[1] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[2] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Rocky Mountain aspen forest and Inter-mountain Basin aspen-mixed conifer forest and woodland. Description of LANDFIRE CLASSES can be found at www.landfire.gov.

4. Allowing regeneration to occur where potential allows, and to protect that regeneration through use restrictions or other protection methods.

5. Selecting and applying of protection measures on a site-specific basis during implementation of the RMP.

6. Managing aspen stands to maintain or improve stand characteristics and promote regeneration.

2.4.5.4 Parameter – High Elevation Conifer Species

Management Actions

VEG-12: Implement actions to attain the desired vegetation states shown in **Tables 2.4-3** and **2.4-4**.

Table 2.4-3
Desired Range of Conditions of High Elevation Conifer (Distribution of States and Phases)

State and Phase	Herbaceous State, (Herbaceous, and Herbaceous/Sapling Phase)	Herbaceous State (Immature Phase)	Tree State (Mature Phase)	Tree State (Overmature Phase)[1]
Canopy Cover[2]	0 to 15% canopy Cover	16 to 31% canopy cover	31 to 40% canopy cover	41 to 60% canopy cover
LANDFIRE classes	A	B	C	C
Proposed RMP[3]	20% (9,400 acres)	20% (9,400 acres)	50% (23,500 acres)	10% (4,700 acres)

[1] Overmature high elevation conifer refers to stands with canopy cover exceeding 40 percent. This classification is not the same as "old growth," although the two classifications may coincide in some situations.
[2] Canopy cover derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain white fir limber-bristlecone pine woodland (47,000 acres).

Table 2.4-4
Desired Range of Conditions of Ponderosa Pine (Distribution of States and Phases)

State and Phase	Herbaceous State, (Herbaceous, and Herbaceous/Sapling Phase)	Tree State (Saplings and survivors)	Tree State (Mature Phase)	Tree State (Overmature Phase)
Canopy Cover	0 to 5% canopy cover	5-10% canopy cover	10-20% canopy cover	Greater than 20% canopy cover
LANDFIRE Classes	A	C	D	B and E
Proposed RMP[1]	10% (900 acres)	20% (1,800 acres)	60% (5,400 acres)	10% (900 acres)

[1] LANDFIRE Biophysical Setting Model for southern Rocky Mountain ponderosa pine and appropriate ecological site descriptions.

VEG-13: Integrate treatment priorities that include:

1. Areas where tree overstory canopy is approaching threshold levels (i.e., self-thinning and understory is diminishing).

2. Areas where overstory tree canopy cover and density have crossed a threshold, and are restricting understory growth.

3. Protect conifer trees, as appropriate, that meet the old growth criteria. General characteristics are: white fir, 24 inches diameter breast height and 75 feet in height; limber pine, 20 inches diameter breast height and 75 feet in height; ponderosa pine, 30 inches diameter breast height and 75 feet in height.

2.4.5.5 Parameter – Salt Desert Shrub

Management Actions

VEG-14: Implement actions to attain the desired vegetation states shown in **Table 2.4-5**.

Table 2.4-5
Desired Range of Conditions of Salt Desert Shrub (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State Annual Invasive/Exotic State	Altered State Perennial Nonnative Seeded
LANDFIRE classes	A	B and C	Uncharacteristic	Uncharacteristic
Proposed RMP[1]	5% (61,050 acres)	77% (940,170 acres)	0% (0 acres)	18% (219,800 acres)

[1] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins mixed salt desert shrub and Inter-Mountain Basins greasewood flat. Altered state (invasive species/weeds) is an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but is part of current conditions.

VEG-15: Intensively manage areas currently in the herbaceous state to facilitate conversion to the shrub state.

2.4.5.6 Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

Management Actions

VEG-16: Implement actions to attain the desired vegetation states shown in **Table 2.4-6**.

Table 2.4-6
Desired Range of Conditions of Sagebrush (Distribution of Phases and States)

State/Phase Name	Total Herbaceous State (Early, Mid, and Late Phases)[1]	Total Shrub State	Total Tree State	Altered State Annual/Perennial Invasive	Altered State Nonnative Perennial Seeded
LANDFIRE classes	A, B, and C	D	E	Uncharacteristic	Uncharacteristic
Proposed RMP[2]	85% (4,776,500 acres)	5% (281,000 acres)	5% (281,000 acres)	0% (0 acres)	5% (281,000 acres)

[1] Sagebrush in the mid-late phase of the herbaceous state is desired for wildlife habitat.
[2] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Great Basin xeric mixed sagebrush and Inter-Mountain Basin big sagebrush. Altered states (annual/perennial invasive and nonnative perennial seeded) are an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but are part of current conditions.

VEG-17: Integrate treatments to:

1. Establish and maintain the desired herbaceous state or early shrub state where sagebrush is present along with a robust understory of perennial species.

2. Prioritize treatments toward restoration of sagebrush communities on areas with deeper soils and higher precipitation.

VEG-18: Manage native range to meet the requirements of wildlife species. Management will focus on maintaining or establishing diversity, mosaics, and connectivity of sagebrush between geographic areas at the mid and fine scales.

2.4.5.7 Parameter – Mountain Mahogany

Management Actions

VEG-19: Implement actions to attain the desired vegetation states shown in **Table 2.4-7**.

Table 2.4-7
Desired Range of Conditions of Mountain Mahogany (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous Phase)	Shrub State (Shrub/ Herbaceous Phase)	Shrub State (Shrub Phase)	Shrub/Tree-like State (No Understory Phase)[1]
Canopy Cover[2]	0-15% mahogany canopy cover	15-25% mahogany canopy cover (desired mix of herbaceous and shrub species in understory)	30-45% mahogany canopy cover (approaching threshold with no understory)	45-60% mahogany cover (shrub/tree-like and tree dominant)
LANDFIRE classes	A and C	B	D	E
Proposed RMP[3]	20% (9,200 acres)	20% (9,200 acres)	15% (6,900 acres)	45% (20,700 acres)

[1] Refers to savanna sites.
[2] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[3] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins Mountain Mahogany woodland and shrubland.

VEG-20: Integrate treatments in areas where:

1. Wildlife habitat requirements will receive the highest priority consideration when determining site-specific objectives in mountain mahogany sites.

2. Desirable understory is still present and where canopy cover is near threshold level or exceeds percentages listed for the desired range of conditions above (i.e., shrub/tree-like dominant state).

2.4.5.8 Parameter – Mojave Desert Vegetation

Management Actions

VEG-21: Implement actions to attain the desired vegetation states shown in **Tables 2.4-8** and **2.4-9**.

Table 2.4-8
Desired Range of Conditions of Creosotebush and Bursage (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State (Annual Invasive and Exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Proposed RMP[1]	15% (54,825 acres)	70% (255,850 acres)	0% (0 acres)	15% (54,825 acres)

[1] In creosotebush/bursage communities, the herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Sonora-Mojave creosotebush-white bursage description. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

Table 2.4-9
Desired Range of Conditions of Blackbrush (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State (Annual Invasive and Exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Proposed RMP[1]	15% (57,375 acres)	75% (286,875 acres)	0% (0 acres)	10% (38,250 acres)

[1] The herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Mojave mid-elevation desert scrub. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

VEG-22: Intensively manage areas currently in the herbaceous state to facilitate conversion to the shrub state.

2.4.5.9 Parameter – Riparian/Wetlands

Desired Range of Conditions. The Ely Field Office is directed to follow the appropriate rangeland health standards. The Northeastern Great Basin Resource Advisory Council states "Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria." The Mojave/Southern Great Basin Resource Advisory Council specifies "Riparian and watershed vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function)." In addition to achieving riparian proper functioning condition, composition, structure, and cover of riparian vegetation will occur within capabilities of the site. Ground cover and species composition will be appropriate to the site. Riparian areas with free-flowing water (i.e., undeveloped springs) that are non-functional or functioning at risk will show improving trends toward proper functioning condition.

Management Actions

VEG-23: Promote vegetation structure and diversity that is appropriate and effective in controlling erosion, stabilizing stream banks, healing channel incisions, shading water, filtering sediment, and dissipating energy, in order to provide for stable water flow and bank stability.

VEG-24: Focus management actions on uses and activities that allow for the protection, maintenance, and restoration of riparian habitat.

2.4.5.10 Parameter – Nonnative Seedings (Existing)

Management Actions

VEG-25: Implement actions to attain the desired vegetation states shown in **Table 2.4-10**.

Table 2.4-10
Desired Range of Conditions of Seedings (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Tree State	Altered State (Annual Invasive)
Proposed RMP	65% (175,200 acres)	25% (67,400 acres)	10% (26,900 acres)	0% (0 acres)

VEG-26: Include the following integrated treatments:

1. Use of ecological site descriptions as references for identifying appropriate management of non-seeded species on the sites.

2. Management of seedings to allow sagebrush, perennial grasses, and forbs to become established on the site.

2.4.6 Fish and Wildlife

Introduction

Section 102(8) of the Federal Land Policy and Management Act of 1976, as amended, states it is policy to manage public lands in a manner that will protect the quality of multiple resources and provide habitat for fish, wildlife, domestic livestock, and wild horses. Standards and guidelines direct BLM to foster productive and diverse populations and communities of plants and animals. It also is BLM policy to cooperate with state agencies to accommodate species management population goals to the extent that they are consistent with the principles of multiple use management. The BLM acknowledges the role of the State of Nevada and the Nevada Department of Wildlife, under the direction of the State Board of Wildlife Commissioners, in managing, protecting, augmenting, and restoring fish and wildlife populations. The Ely Field Office will work in close coordination with the State of Nevada and the Nevada Department of Wildlife and draw on and implement the goals, objectives, and actions outlined in Nevada's Wildlife Action Plan and various species management plans, as appropriate.

The ecological condition of the various vegetation communities greatly influences the quality of wildlife habitat. The Ely Field Office fish and wildlife habitat management, as presented in this RMP, will emphasize restoration to achieve the desired range of conditions for the various vegetation communities (see Section 2.4.5, Vegetation Resources).

Goal

Provide habitat for wildlife (i.e., forage, water, cover, and space) and fisheries that is of sufficient quality and quantity to support productive and diverse wildlife and fish populations, in a manner consistent with the principles of multi-use management, and to sustain the ecological, economic, and social values necessary for all species.

Northeastern Great Basin Resource Advisory Council Standard. Habitats exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

Mojave/Southern Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Objective

To manage suitable habitat for aquatic species, priority wildlife species, and migratory birds in a manner that will benefit wildlife species directly or indirectly and minimize conflicts among species and wildlife or habitat losses from permitted activities. Priority species for terrestrial wildlife habitat management are elk, mule deer, pronghorn antelope, Rocky Mountain bighorn sheep, desert bighorn sheep, and migratory birds; because these species cover the entire Ely RMP planning area. Priority habitats include calving/fawning/kidding/lambing grounds, crucial summer range, crucial winter range, and occupied desert bighorn sheep habitat.

To use wildlife water developments, both natural and artificial, to improve the condition of wildlife habitat, and to use artificial wildlife water developments to mitigate impacts to wildlife species from loss of natural water sources or loss of habitat.

2.4.6.1 General Wildlife Habitat Management (Aquatic and Terrestrial)

Management Actions

WL-1: Emphasize management of priority habitats for priority species. (See Section 2.4.5, Vegetation Resources, for the desired range of conditions for the various vegetation communities.) See **Map 2.4.6-1**, **Map 2.4.6-2**, **Map 2.4.6-3**, and **Map 2.4.6-4**.

WL-2: Release wildlife on public lands within the planning area in conformance with Manual 1745, and the Memorandum of Understanding between the BLM and the Nevada Department of Wildlife.

WL-3: Consider objectives listed in the appropriate U.S. Fish and Wildlife Service National Wildlife Refuge Comprehensive Conservation Plan when managing wildlife habitat adjacent to a national wildlife refuge.

WL-4: Mitigate all discretionary permitted activities that result in the loss of aquatic and priority wildlife habitats by improving 2 acres of comparable habitat for every 1 acre of lost habitat as determined on a project-by-project basis (see **Map 2.4.6-1**, **Map 2.4.6-2**, **Map 2.4.6-3**, and **Map 2.4.6-4**).

2.4.6.2 Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitats

Management Actions

WL-5: In coordination with Nevada Department of Wildlife, update priority habitats for elk, pronghorn antelope, mule deer, and Rocky Mountain bighorn sheep, as well as other seasonal habitats for these priority species (see **Map 2.4.6-1**, **Map 2.4.6-2**, **Map 2.4.6-3**, and **Map 2.4.6-4**).

WL-6: Where appropriate, restrict permitted activities in big game calving/fawning/kidding/lambing grounds and crucial summer range from April 15 through June 30 (see **Map 2.4.6-1**, **Map 2.4.6-2**, **Map 2.4.6-3**, and **Map 2.4.6-4**).

WL-7: Where appropriate, restrict permitted activities in crucial winter range from November 1 through March 31 (see **Map 2.4.6-1**, **Map 2.4.6-2**, **Map 2.4.6-3**, and **Map 2.4.6-4**).

WL-8: Focus restoration projects initially in priority habitats (i.e., calving/fawning/kidding/lambing grounds, crucial summer range, and crucial winter range), and then in other seasonal habitats within a watershed (see **Map 2.4.6-1**, **Map 2.4.6-2**, **Map 2.4.6-3**, and **Map 2.4.6-4**).

WL-9: Manage elk habitat by implementing the actions and strategies identified in the Central Nevada, Lincoln County, and White Pine County Elk Management Plans that the Ely Field Office has the authority to implement, and that are consistent with watershed restoration strategies.

WL-10: Manage habitat for Rocky Mountain bighorn sheep in the Snake Range. Manage domestic sheep and goats in accordance with current BLM policy when changes to BLM grazing permits are being considered in the Snake Range.

WL-11: Consider managing habitat for Rocky Mountain bighorn sheep in unoccupied ranges if and when domestic sheep grazing no longer occurs in the area (see **Map 2.4.6-4**).

2.4.6.3 Parameter – Desert Bighorn Sheep Habitat

Management Actions

WL-12: Manage desert bighorn sheep habitat in all occupied ranges (see **Map 2.4.6-4**). Manage domestic sheep and goats in accordance with current BLM policy when changes to BLM grazing permits are being considered.

WL-13: Where appropriate, restrict permitted activities within occupied desert bighorn sheep habitat from March 1 through May 31 and from July 1 through August 31 (see **Map 2.4.6-4**).

WL-14: Consider managing habitat for desert bighorn sheep in unoccupied ranges if and when domestic sheep grazing no longer occurs in the area (see **Map 2.4.6-4**).

2.4.6.4 Parameter – Migratory Bird Habitat

Management Actions

WL-15: Identify the spatial and temporal habitat needs for those migratory bird species of concern for the sagebrush biome to help achieve the desired range of conditions of the various vegetation communities (see Section 2.4.5, Vegetation Resources).

WL-16: When planning projects, consider migratory birds, as appropriate, to minimize take and limit impacts.

WL-17: Work with the U.S. Fish and Wildlife Service, Nevada Department of Wildlife and other partners (e.g., Great Basin Bird Observatory, Partners in Flight) to conduct breeding bird surveys to document the population status and trends of those migratory bird species of concern.

2.4.6.5 Parameter – Wildlife Water Developments

Management Actions

WL-18: Restore natural water sources (i.e., springs and seeps) to increase water availability through restoration of riparian habitats and proper livestock and wild horse management.

WL-19: Identify areas of suitable wildlife habitat that are water limited in coordination with the Nevada Department of Wildlife and interested public (i.e., elk management technical review teams, sportsmen groups, etc.).

WL-20: Use the criteria listed below to identify artificial wildlife water developments:

- To mitigate for loss of natural water sources;
- To mitigate for habitat loss or habitat fragmentation;
- To reduce inter-specific competition between wildlife, livestock, and wild horses;
- To reduce inter-specific competition between wildlife species; and
- In suitable wildlife habitat that is water limited.

2.4.7 Special Status Species

Section 102(8) of the Federal Land Policy and Management Act of 1976, as amended, requires that public land be managed to protect the quality of multiple resources and to provide habitat for fish, wildlife, domestic livestock, and wild horses. Special status species include federally listed, proposed, or candidate species; state protected species; and BLM sensitive species. The BLM must follow the requirements of the

Endangered Species Act of 1973, as amended, and BLM policy to conserve federally listed threatened and endangered species and the ecological systems on which they depend. BLM policy also states, "...ensure that actions requiring authorization or approval by the Bureau of Land Management (BLM or Bureau) are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species, either under provisions of the ESA or other provisions of this policy." The Ely Field Office will manage special status species following the direction and guidance identified in BLM Manual 6840; recovery plans; biological opinions; conservation agreements, plans, and strategies; habitat conservation plans; and the recommendations from interagency recovery implementation teams.

Goal

Manage public lands to conserve, maintain, and restore special status species populations and their habitats; support the recovery of federally listed threatened and endangered species; and preclude the need to list additional species.

Northeastern Great Basin Resource Advisory Council Standard.

- Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

- Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

Mojave/Southern Great Basin Resource Advisory Council Standard.

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

- Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Objective

To manage suitable habitat for special status species in a manner that will benefit these species directly or indirectly and minimize loss of individuals or habitat from permitted activities.

2.4.7.1 Parameter – Special Status Species Habitat

Management Actions

SS-1: Prioritize conservation, maintenance, and restoration actions for special status species based on the following order of importance: 1) federally listed endangered species, 2) federally listed threatened species, 3) federal proposed species, 4) federal candidate species, and 5) BLM sensitive species.

SS-2: Develop and implement an interagency inventory and monitoring program for special status plant and animal species.

SS-3: Participate on interagency recovery implementation teams to identify and address implementation of management actions for the recovery of listed species in the Ely planning area.

SS-4: Where appropriate, restrict permitted activities from May 1 through July 15 within 0.5 mile of raptor nest sites unless the nest site has been determined to be inactive for at least the previous 5 years.

SS-5: Manage Bonneville cutthroat trout habitat by implementing those actions and strategies identified in the Conservation Agreement and Conservation Strategy for Bonneville Cutthroat Trout in the State of Nevada that the Ely Field Office has the authority to implement.

SS-6: Use the Revised Nevada Bat Conservation Plan (Bradley et al. 2006) for guidance on implementation of bat management actions, such as:

- Bat-friendly techniques for abandoned mine closures;
- Proper bat surveys of abandoned mines identified for hard closure techniques;
- Improving livestock grazing of riparian and upland habitat;
- Limiting off-highway vehicle travel in or near riparian habitat;
- Stopping conversion of native sagebrush vegetation communities to annual grasslands, and restoration to native rangelands;
- Installing escape ramps in artificial water sources;
- Monitoring wind energy development projects; and
- Rehabilitating areas damaged by fires.

SS-7: Implement management actions identified in the Ely Cave Management Plan (BLM 1986a) (i.e., closures, bat gates, etc.) to protect bats, on a case-by-case basis.

SS-8: In vegetation communities, especially riparian areas and pinyon-juniper woodlands, consider the habitat needs of obligate bat species in restoration treatments.

SS-9: Perform springsnail surveys prior to the development of any spring source.

SS-10: Mitigate all discretionary permitted activities that result in the loss of special status species habitats on a ratio of 2 acres of comparable habitat for every 1 acre of lost habitat as determined on a project-by-project basis. This will not apply to desert tortoise habitat as remuneration fees and other measures to minimize effects to the tortoise are required for disturbance in desert tortoise habitat.

2.4.7.2 Parameter – Great Basin Riparian Habitat

Management in Great Basin riparian habitat will benefit the following special status species:

Pahrump poolfish (federally listed endangered species)
White River spinedace (federally listed endangered species)
Railroad Valley springfish (federally listed threatened species)
Big Spring spinedace (federally listed threatened species)
Ute ladies'-tresses (federally listed threatened species)

Management Actions

SS-11: Manage the refugium at Shoshone Ponds for Pahrump poolfish in accordance with the Recovery Plan for the Pahrump Killifish (now called the Pahrump poolfish).

SS-12: Expand the fenced area at Shoshone Ponds.

SS-13: Manage the uplands around Shoshone Ponds to increase vegetation cover, reduce runoff, and prevent excessive siltation into the ponds.

SS-14: Develop additional ponds at Shoshone Ponds to increase the habitat for the Pahrump poolfish.

SS-15: Manage public lands adjacent to designated critical habitat for the White River spinedace, located on private land, in accordance with the White River Spinedace Recovery Plan.

SS-16: Manage public lands adjacent to designated critical habitat for the Railroad Valley springfish, located on the Duckwater Indian Reservation, in accordance with the Railroad Valley Springfish Recovery Plan.

SS-17: Manage Big Spring spinedace habitat by implementing those actions and strategies identified in the Big Spring Spinedace Recovery Plan that the Ely Field Office has the authority to implement, and in accordance with the Condor Canyon Habitat Management Plan.

SS-18: In cooperation with the U.S. Fish and Wildlife Service, survey appropriate habitats on public lands in Lincoln County for the Ute ladies'-tresses. Develop and implement conservation and recovery actions for any populations that may be discovered.

2.4.7.3 Parameter – Mojave Desert and Great Basin Riparian Habitats

Management in Mojave Desert and Great Basin riparian habitat will benefit the following special status species:

Southwestern willow flycatcher (federally listed endangered species)
Western yellow-billed cuckoo (federal candidate species)
Meadow Valley Wash desert sucker (BLM sensitive species)
Meadow Valley Wash speckled dace (BLM sensitive species)
Arizona southwestern toad (BLM sensitive species)

Management Actions

SS-19: Manage southwestern willow flycatcher habitat by implementing those actions and strategies identified in the Southwestern Willow Flycatcher Recovery Plan and appropriate actions from future habitat conservation plans that the Ely Field Office has the authority to implement.

SS-20: Limit livestock grazing in the Lower Meadow Valley Wash ACEC through terms and conditions and/or season-of-use restrictions on grazing permits in accordance with a site-specific ACEC plan.

2.4.7.4 Parameter – Mojave Desert Riparian Habitat

Management in Mojave Desert riparian habitat will benefit the following special status species:

White River springfish (federally listed endangered species)
Hiko White River springfish (federally listed endangered species)
Pahranagat roundtail chub (federally listed endangered species)

Management Actions

SS-21: Manage White River springfish habitat at Ash Spring by implementing those actions and strategies identified in the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley and the Ash Springs Coordinated Management Plan that the Ely Field Office has the authority to implement.

SS-22: Manage public lands adjacent to designated critical habitat for the Hiko White River springfish, located on private land, in accordance with the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley.

SS-23: Manage public lands adjacent to the aquatic habitat for the Pahranagat roundtail chub, located on private and state land, in accordance with the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley.

2.4.7.5 Parameter – Mojave Desert Scrub Habitat

Management in Mojave Desert scrub habitat will benefit the following special status species:
Desert tortoise (federally listed threatened species)
Banded Gila monster (BLM sensitive species)

Management Actions

SS-24: Manage desert tortoise habitat by implementing those actions and strategies identified in the Desert Tortoise Recovery Plan and appropriate actions from future habitat conservation plans that the Ely Field Office has the authority to implement.

SS-25: Coordinate with the U.S. Fish and Wildlife Service and the Nevada Department of Wildlife to inventory desert tortoise habitat and desert tortoise populations.

SS-26: Implement an interagency monitoring program for desert tortoise habitat and desert tortoise populations, approved by the U.S. Fish and Wildlife Service and the Desert Tortoise Management Oversight Group.

SS-27: Cooperate with the U.S. Fish and Wildlife Service, Nevada Department of Wildlife, and the U.S. Department of Agriculture-Wildlife Services in a program to control desert tortoise predators.

SS-28: Coordinate with the U.S. Fish and Wildlife Service and Nevada Department of Wildlife to develop approved translocation research projects for desert tortoises.

SS-29: Coordinate with the U.S. Fish and Wildlife Service, Nevada Department of Wildlife, Federal Highway Administration, the Nevada Department of Transportation, and Lincoln County to install tortoise-proof fencing and crossing culverts along U.S. Highway 93 in the Kane Springs ACEC and along other roads, as needed, in all three desert tortoise ACECs.

SS-30: Manage leased public lands in the Coyote Springs area in accordance with Public Law 100-275 dated March 31, 1988, and the Land Lease Agreement signed July 14, 1988.

SS-31: Limit maintenance of existing roads to the existing disturbance and perform maintenance in accordance with specifications provided by the Ely Field Office in consultation with the U.S. Fish and Wildlife Service.

SS-32: Where appropriate, restrict permitted activities from March 1 through October 31 within desert tortoise habitat (see **Map 2.4.7-1**).

SS-33: Implement the following management actions for desert tortoise habitat (see **Map 2.4.7-1**) (also refer to Section 2.4.8, Wild Horses; Section 2.4.12, Lands and Realty; Section 2.4.15, Recreation;

Section 2.4.16, Livestock Grazing; Section 2.4.18, Geology and Mineral Extraction; and Section 2.4.20, Fire Management).

- Within desert tortoise ACECs: (Unless enclosed with tortoise-proof fence or determined that fencing is not necessary by the BLM authorized officer and the U.S. Fish and Wildlife Service) a qualified biologist will be present during surface-disturbing activities from March 1 through October 31 (most active season) to ensure that desert tortoises are not inadvertently harmed (unless determined by the BLM authorized officer and the U.S. Fish and Wildlife Service that the project does not need one). The biologist will be on-call from November 1 through February 28/29 (less active season). The biologist will check construction areas immediately before construction activities begin.

- Within desert tortoise ACECs: If fence construction occurs during the tortoise active season, a qualified tortoise biologist will be onsite during construction of the tortoise-proof fence to ensure that no tortoises are harmed. If the fence is constructed during the tortoise inactive season, a qualified tortoise biologist will thoroughly examine the proposed fence line and burrows for the presence of tortoises no more than three days before construction. Any desert tortoises or eggs found in the fence line will be relocated offsite by the biologist in accordance with approved protocol (Desert Tortoise Council 1994, 1999). Tortoise burrows that occur immediately outside of the fence alignment that can be avoided by fence construction activities will be clearly marked to prevent crushing.

- Within desert tortoise ACECs: Projects will require fencing, unless determined by the BLM authorized officer and U.S. Fish and Wildlife Service that the project should not be fenced. In accordance with current specifications, fencing will consist of 1-inch horizontal by 2-inch vertical mesh. The mesh will extend at least 18 inches aboveground and, where feasible, 6 to 12 inches belowground. In situations where it is not feasible to bury the fence, the lower 6 to 12 inches of the fence will be bent at a 90 degree angle towards potentially approaching tortoises and covered with cobble or other suitable material to ensure that tortoise or other animals cannot dig underneath.

- Within desert tortoise ACECs: Tortoise fencing will be inspected on a quarterly basis, and any repairs completed within 72 hours from March 1 through October 31, and within 7 days from November 1 through February 28/29. The operator will inspect the fencing at least on a quarterly basis and after major precipitation events to ensure zero ground clearance. Monitoring and maintenance will include regular removal of trash and sediment accumulation and restoration of zero ground clearance between the ground and the bottom of the fence, including re-covering the bent portion of the fence if not buried. The operator will perform maintenance when needed including removing trash, sediment accumulation, and other debris. Fencing will be removed upon termination and reclamation of the project, or when it is determined by the BLM authorized officer and U.S. Fish and Wildlife Service that the fence is no longer necessary.

- Within desert tortoise ACECs: After a project has been fenced and a tortoise clearance completed, if a desert tortoise in imminent danger is encountered, it will be moved out of harm's way and onto adjacent BLM-administered land by personnel that have completed appropriate U.S. Fish and Wildlife Service-approved training. If the tortoise cannot be avoided or moved out of harm's way onto

BLM-administered land, it will be placed in a cardboard box or other suitable container and held in a shaded area until BLM personnel can retrieve the tortoise.

- Within desert tortoise ACECs: During surface-disturbing activities, tortoise burrows will be avoided whenever possible. If a tortoise is found onsite during project activities, which may result in take of the tortoise (i.e., in harm's way), such activities will cease until the tortoise moves, or is moved, out of harm's way. The tortoise will be moved by a qualified tortoise biologist. All workers also will be instructed to check underneath all vehicles before moving such vehicles and within stockpiled materials. Tortoises often take cover under vehicles and construct burrows in stockpiled material.

- Within desert tortoise ACECs: Construction sites, staging areas, and access routes will be cleared by a qualified tortoise biologist before the start of construction. The project area will be surveyed for desert tortoise using survey techniques that provide 100 percent coverage. From March 1 through October 31, the preconstruction clearance will be no more than 3 days before initiation of construction; and from November 1 through February 28/29, the preconstruction clearance will be within 10 days before work begins. All desert tortoise burrows, and other species' burrows, which may be used by tortoises, will be examined to determine occupancy of each burrow by desert tortoises. Tortoise burrows will be cleared of tortoises and eggs, and collapsed. Any desert tortoise or eggs found in the fenced area will be removed under the supervision of a qualified tortoise biologist in accordance with U.S. Fish and Wildlife Service protocol.

- Within desert tortoise ACECs: The BLM authorized officer will approve the selected consulting firm/biologist to be used by the applicant to implement the terms and conditions of the permit issued by the BLM. Any biologist and/or firm not previously approved will submit a curriculum vitae and be approved by the BLM authorized officer. Other personnel may assist with implementing terms and conditions that involve tortoise handling, monitoring, or surveys, only under direct field supervision of the approved, qualified biologist.

- Within desert tortoise ACECs: Tortoises and nests that are found will be handled and relocated by a qualified tortoise biologist in accordance with U.S. Fish and Wildlife Service-approved protocol. Burrows containing tortoises or nests will be excavated by hand, with hand tools, to allow removal of the tortoise or eggs. Desert tortoises moved during the tortoise inactive season or those in hibernation, regardless of date, will be placed into an adequate burrow; if one is not available, one will be constructed in accordance with Desert Tortoise Council protocol. During mild temperature periods in the spring and early fall, tortoises removed from the site will not necessarily be placed in a burrow. Tortoises and burrows will only be relocated to federally managed lands. If the responsible federal agency is not the BLM, verbal permission, followed by written concurrence, will be obtained before relocating the tortoise or eggs to lands not managed by the BLM.

- Within desert tortoise ACECs: Tortoises that are moved offsite and released into undisturbed habitat on public land will be placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow in accordance with Desert Tortoise Council protocol.

- When a permitted activity results in residual impacts to desert tortoise habitat, compensation will be required. The compensation rate will be determined through the NEPA process for each proposed action. The amount to be paid will be calculated according to the formula identified in the "Compensation for the Desert Tortoise" report approved by the Desert Tortoise Management Oversight Group in November 1991.

- Desert tortoises moved in the winter (i.e., November 1 through February 28/29), or those in hibernation regardless of date, will be placed into an adequate burrow; if one is not available, one will be constructed utilizing the protocol for burrows in Section B.5.f. of the U.S. Fish and Wildlife Service-approved guidelines (U.S. Fish and Wildlife Service 1994a).

- The BLM will present a tortoise-education program to all personnel working on projects or activities occurring within the planning area. This program will be presented by a qualified tortoise biologist for those projects with the greatest potential impacts to desert tortoise. A video or fact sheet, as approved by the U.S. Fish and Wildlife Service, may be presented or provided in lieu of a presentation for those projects with low potential impacts. A tortoise-education program will be given to, but not limited to: off-highway vehicle event entrants, pit crew members, crowd-control officials, race monitors, checkpoint personnel, clean-up crews, foremen, workers, grazing allotment permittees, hazardous materials management staff, fencing crews, fire suppression personnel, and others as appropriate.

- The program will include information on the life history of the desert tortoise, legal protection for desert tortoises, penalties for violations of federal and state laws, general tortoise-activity patterns, reporting requirements, measures to protect tortoises, terms and conditions of the permit, and personal measures employees can take to promote the conservation of desert tortoises. The definitions of take will be explained. Specific and detailed instructions will be provided on the proper techniques to capture and move tortoises which appear onsite, in accordance with U.S. Fish and Wildlife Service-approved protocol. The presentation shall be approved by the U.S. Fish and Wildlife Service prior to implementation. Workers will be encouraged to car pool to and from project sites.

- All projects in desert tortoise habitat will be reviewed by the BLM's wildlife staff to ensure that appropriate measures have been incorporated into the BLM authorization (e.g., material site, land sale, or off-highway vehicle event) to minimize the potential take of desert tortoise and loss of habitat.

- In accordance with Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise, a qualified desert tortoise biologist should possess a bachelor's degree in biology, ecology, wildlife biology, herpetology, or closely related fields as determined by the BLM. The biologist must have demonstrated prior field experience using accepted resource agency techniques to survey for desert tortoises and tortoise sign, which should include a minimum of 60 days field experience. All tortoise biologists will comply with the U.S. Fish and Wildlife Service-approved handling protocol prior to conducting tasks in association with terms and conditions of a permit. In addition, the biologist will have the ability to recognize tortoise sign and accurately record survey results.

- A BLM representative(s) will be designated and will be responsible for overseeing compliance with terms and conditions of all permitted activities and reporting requirements. The designated representative will provide coordination among the permittee, project proponent, the BLM, and the U.S. Fish and Wildlife Service.

2.4.7.6 Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Objective

To manage Mojave Desert and Great Basin desert scrub and salt desert shrub habitats for the benefit of the following special status species:
Western burrowing owl (BLM sensitive species)
Sunnyside green gentian (BLM sensitive species)

Management Actions

SS-34: Identify the spatial and temporal habitat needs for the western burrowing owl to help achieve the desired range of conditions of the various vegetation communities (see Section 2.4.5, Vegetation Resources).

SS-35: Work with the U.S. Fish and Wildlife Service, Nevada Department of Wildlife and other partners (e.g., Great Basin Bird Observatory, Partners in Flight) to conduct breeding bird surveys to document the population status and trends of western burrowing owls.

SS-36: Inventory and monitor populations of the Sunnyside green gentian in conjunction with the development of the White River Valley ACEC management plan.

2.4.7.7 Parameter – Great Basin Sagebrush Habitat

Objective

To manage Great Basin sagebrush habitats for the benefit of the following special status species:
Greater sage-grouse (BLM sensitive species)
Pygmy rabbit (BLM sensitive species)

Management Actions

SS-37: Manage greater sage-grouse habitat by implementing those actions and strategies identified in the BLM National Sage-Grouse Habitat Conservation Strategy, Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, and local greater sage-grouse conservation plans that the Ely Field Office has the authority to implement.

SS-38: Maintain intact and quality sagebrush habitat. Prioritize habitat maintenance actions from the BLM National Sage Grouse Conservation Strategy to: 1) maintain large areas of high quality sagebrush currently occupied by greater sage-grouse; 2) maintain habitats which connect seasonal sagebrush habitats in occupied source habitats; and 3) maintain habitats that connect seasonal sagebrush habitats in occupied isolated habitats.

SS-39: Implement proactive and large scale management actions to restore lost, degraded, or fragmented sagebrush habitats and increase greater sage-grouse populations. Prioritize habitat restoration actions from the BLM National Sage Grouse Conservation Strategy to: 1) reconnect large patches of high quality seasonal habitats, which greater sage-grouse currently occupy; 2) enlarge sagebrush habitat in areas greater sage-grouse currently occupy; 3) reconnect stronghold/source habitats currently occupied by greater sage-grouse with isolated habitats currently occupied by greater sage-grouse; 4) reconnect currently occupied and isolated habitats; 5) restore potential sagebrush habitats that currently are not occupied by greater sage-grouse. Develop allowable use restrictions in greater sage-grouse habitats undergoing restoration, on a case-by-case basis, as dictated by monitoring.

SS-40: Outside of designated corridors, above-ground facilities will not be constructed within 0.25 mile of greater sage-grouse leks. Underground facilities will not be installed within 0.25 mile of greater sage-grouse leks unless the vegetation can be established to pre-disturbance conditions within a reasonable period of time. No new roads will be constructed within 0.25 mile of greater sage-grouse leks. Exceptions may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the project can be designed so that it will not affect breeding activity nor degrade the integrity of the habitat associated with the lek, or if the lek has been inactive for at least 5 consecutive years or the habitat has changed such that there is no likelihood that the lek will become active.

SS-41: Where appropriate, restrict permitted activities from March 1 through May 15 within 2 miles of an active greater sage-grouse lek (see **Map 2.4.7-2**).

SS-42: Where appropriate, restrict permitted activities from November 1 through March 31 within greater sage-grouse winter range (see **Map 2.4.7-2**).

SS-43: Survey all proposed ground disturbing activities in suitable pygmy rabbit habitat utilizing the appropriate protocol. Surveys will be completed by a qualified biologist approved by the Ely Field Office.

2.4.8 Wild Horses

Introduction

The Wild Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195) requires the BLM to protect and manage wild horses in areas where they were found at the time of the Act (**Map 2.4.8-1**), in a manner designed to achieve and maintain a thriving natural ecological balance in keeping with the multiple use management concept of public lands. These requirements are further detailed in the Standards and Guidelines for Wild Horses and Burros developed by the Northeastern Great Basin Resource Advisory Council and the Mojave/Southern Great Basin Resource Advisory Council.

Goal

Maintain and manage healthy, self-sustaining wild horse herds inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple-use relationship with other uses and resources.

Northeastern Great Basin Resource Advisory Council Standard. Healthy wild horse and burro populations exhibit characteristics of healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long-term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.

Mojave-Southern Great Basin Resource Advisory Council Standard. Wild horses and burros within herd management areas should be managed for herd viability and sustainability. Herd management areas should be managed to maintain a healthy ecological balance among wild horse and/or burro populations, wildlife, livestock, and vegetation.

Objective

To maintain wild horse herds at appropriate management levels within herd management areas where sufficient habitat resources exist to sustain healthy populations at those levels.

Herds will consist of healthy animals that exhibit diverse age structure, good conformation, and any characteristics unique to the specific herd.

2.4.8.1 General Wild Horse Management

Management Actions

WH-1: Do not authorize domestic horse grazing permits within wild horse herd management areas (see **Map 2.4.8-2**).

WH-2: Coordinate wild horse management with other federal and state jurisdictions and resource management agencies.

WH-3: Do not construct permanent fences that prohibit the free-roaming behavior of wild horses or prevent wild horses from moving within herd management areas. Remove existing fences within herd management areas that restrict the free-roaming behavior of wild horses.

2.4.8.2 Parameter – Herd Management Area Establishment

Management Actions

WH-4: Manage wild horses within six herd management areas designated from herd areas (see **Map 2.4.8-2**) based on wild horse use and habitat suitability listed in **Table 2.4-11** covering approximately 3.7 million acres.

Table 2.4-11
Proposed Herd Management Areas

Proposed Herd Management Areas	Size Acres	Initial Appropriate Management Level
Pancake	855,000	240-493
Triple B	1,225,000	250-518
Antelope	331,000	150-324
Silver King	606,000	60-128
Eagle	670,000	100-210
Diamond Hills South[1]	19,000	10-22
	3,705,000	**810-1,695**

[1] Managed as a complex with Elko and Battle Mountain BLM.

WH-5: Remove wild horses and drop herd management area status for those areas that do not provide sufficient habitat resources to sustain healthy populations as listed in **Table 2.4-12.**

2.4.8.3 Parameter – Population Management

Management Actions

WH-6: Initially manage the appropriate management level as a range between 810 and 1,695 animals on all herd management areas within the planning area. Manage populations within ranges of appropriate management levels in which the upper level is based on available habitat and the lower level is based on the projected recruitment rate between gather cycles as developed from herd monitoring data (see **Table 2.4-11**).

WH-7: Base adjustments to appropriate management levels on monitoring data and perform adjustments typically, but not exclusively, in conjunction with the watershed analysis process.

WH-8: Manage sex ratios, phenotypic traits, reproductive cycles, and other population dynamics on a herd management area basis.

Table 2.4-12
Herd Management Areas Dropped

Herd Management Areas	Public Land Area (acres)[1]	Approximate Number Removed
Antelope (west of Highway 93)	62,900	0
Applewhite	30,300	0
Blue Nose Peak	84,600	5
Cherry Creek (eastern portion)	3,200	0
Clover Creek	33,100	10
Clover Mountains	168,000	20
Delamar Mountains	183,600	40
Highland Peak (southern 2/3)	65,500	0
Jakes Wash	153,700	50
Little Mountain	53,000	30
Meadow Valley Mountains	94,500	5
Miller Flat	89,400	30
Moriah	53,300	30
Rattlesnake (southern 1/2)	37,400	0
Seaman	358,800	100
White River	116,300	80
Totals	**1,587,600**	**400**

[1] Rounded to hundreds.

WH-9: Implement the following management actions for desert tortoise habitat (also refer to Section 2.4.7, Special Status Species). The Ely Field Office does not plan to manage for any wild horses in desert tortoise habitat and this management only will be used if emergency gathers are needed in the future should wild horses reenter the area (see **Map 2.4.7-1**).

- For gathers: Trap sites should be located at previous trap site locations or in previously disturbed areas, where possible. All trap and holding sites, and access routes will be cleared by a qualified tortoise biologist before the trap and holding facilities are set up. The parcel will be surveyed for desert tortoise using survey techniques that provide 100 percent coverage.

- For gathers: Holding facilities will not be located inside ACECs. If possible, they should be located outside of desert tortoise habitat. If they cannot be located outside of desert tortoise habitat, they should be placed in previously disturbed areas.

- For gathers: All vehicle use in desert tortoise habitat will be restricted to existing roads and trails and within surveyed areas. Vehicles will not exceed 25 mph.

- For gathers: Trash and garbage will be contained in a covered, raven-proof trash receptacle and disposed of off-site in a designated facility. No trash or garbage will be buried at the sites.

- For gathers: Use of hay or grains as enticements into the traps will not occur within desert tortoise habitat to avoid the introduction of nonnative plant species. The feeding of hay or grains to animals will not be allowed within ACECs. The feeding of hay or grains to animals at holding facilities on public land within desert tortoise habitat will be avoided when possible.

- For gathers: The discharge of firearms will be prohibited at all traps and holding facilities except in the case of euthanasia of a captured animal by an authorized BLM employee or contractor.

2.4.9 Cultural Resources

Introduction

Management of cultural resources is directed primarily by two laws: the National Historic Preservation Act of 1966, as amended, and the Archaeological Resources Protection Act of 1979. The National Historic Preservation Act requires management and enhancement of significant historic properties and the Archaeological Resources Protection Act requires protection of archaeological resources (sites and objects of 100 years or more in age). The Federal Land Policy and Management Act directs the BLM to manage public lands on the basis of multiple use and to "protect the quality of historical resources and archaeological values." This act provides for the periodic inventory of public lands and resources.

Goal

Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (Federal Land Policy and Management Act, Section 103(c), 201(a), and (c); National Historic Preservation Act, Section 110(a); Archaeological Resources Protection Act, Section 14 (a)).

Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (Federal Land Policy and Management Act, Section 103(c), National Historic Preservation Act, Section 106, 110(a)(2)) by ensuring that all authorizations for land use and resource use will comply with the National Historic Preservation Act, Section 106.

Northeastern Great Basin Resource Advisory Council Standard. Land use plan will recognize cultural resources within the context of multiple use.

Objective

To protect and maintain cultural resources on BLM-administered land in stable condition. Appropriate management actions will be determined after evaluation and allocation of cultural resource use categories through cultural resource project plans.

2.4.9.1 General Cultural Resources Management

Management Actions

CR-1: Prioritize inventories to identify sites eligible to the National Register.

CR-2: Allocate all cultural resources in the planning area, whether already recorded or projected to occur on the basis of existing data synthesis (including cultural landscapes), or not projected to occur but later identified through inventory, to the following six uses according to their nature and relative preservation value: Scientific Use, Conservation for Future Use, Traditional Use, Public Use, Experimental Use, and Discharged from Management. See the Cultural category in the glossary for definitions. These use allocations pertain to cultural resources, not to areas of land. Each resource will be assigned to a primary use category, but that assignment does not preclude management from other use categories. Allocate and manage all sites determined eligible to the National Register of Historic Places to Scientific, Public, and Conservation for Future Use.

Focus on three of the six cultural resource use allocations: Scientific Use, Public Use, and Conservation for Future Use. These allocations currently address the majority of issues within the planning area and, therefore, are of high importance.

Do not emphasize the remaining three cultural resource use allocations – Traditional Use, Experimental Use, and Discharged from Management – for the following reasons:

- Traditional Use. Several recent and extensive efforts have identified no Traditional Cultural Properties within the planning area. Appropriate measures for identification and evaluation of Traditional Cultural Properties, as well as assignment to use categories, will be taken during tribal consultation and public involvement in planning and project implementation. Although currently not identified as such, several historic cemeteries may qualify as Traditional Cultural Properties.

- Experimental Use. Because there are few activities in the planning area where the destructive nature of impacts on archaeological sites are uncertain or unknown, this allocation will not be emphasized.

- Discharged from Management. This cultural resource use allocation may occur. However, this will not be emphasized because conducting a program driven by this goal would defeat the long-term preservation of these resources.

CR-3: Allocate and manage all sites determined not eligible to the National Register of Historic Places and not containing archaeological resources as Discharged from Management Use.

CR-4: Pending completion of watershed, site type, or site-specific Cultural Resource Project Plans, direct inventory priorities to testing high-medium-low predictions found in archaeological predictive models, including the Gnomon forecast model (Gnomon 2004).

CR-5: Continue to educate the public on Cultural Heritage resources, their importance as a non-renewable resource, and the laws that provide for their preservation. Work with local groups and volunteers to enhance interpretive capabilities and provide educational opportunities.

CR-6: The following thirteen classes of site types found in the planning area have specific management needs based on each site type. Priorities for inventory and appropriate management actions have been identified for each site type.

2.4.9.2 Parameter – Cultural Resource Use Allocation: Historic Roads, Trails, Railways, Highways, and Associated Sidings and Stations

- Management:
  - Perform an intensive archaeological inventory of the corridor of each site to establish baseline information on a priority basis as identified in Cultural Resources Project Plans.
  - Write an historic context report for each resource on a priority basis as identified in Cultural Resource Project Plans.
  - Encourage the use of site stewards for monitoring.
- Scientific Use:
  - Inventory road/trail/railway/highway related sites (e.g., stage stops, stage stations) and record the condition on a priority basis as identified in Cultural Resources Project Plans.
  - Allow excavation subject to management plan with appropriate research design (which conserves samples for future use).
- Conservation for Future Use:
  - Post informational signs at all major intersections along existing Public Use sites.
  - Allow excavation subject to management plan with appropriate research design (which conserves samples for future use).
  - Inventory road/trail/railway/highway related sites (e.g., stage stops, stage stations) and record the condition.
- Public Use:
  - Post informational signs at all major intersections along Public Use sites as appropriate.
  - Prepare activity level cultural resource project plans for public use sites to identify interpretive needs including signs, interpretive kiosks, driving guides, etc.
  - Complete National Register nominations for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated National Scenic and Historic Trails
  - Routes under national study

Manage the cultural historic landscape (setting) around the Pony Express Trail and California Trail (National Historic Trail) according to the National Historic Preservation Act and current policy regarding Historic Landscape Management along National Historic Trails and current policy regarding the Determination of the Direct Effects Analysis Area for National Historic Trails. The area of direct effect around national historic

trails is established as 1 mile from centerline, although in some cases, the area of effect may be larger or smaller than 1 mile from centerline. Manage designated national historic trails according to the National Scenic and Historic Trail Act (16 USC sections 1241-1251) and the BLM's National Scenic and Historic Trails Strategy and Work Plan (BLM 2006).

Allocate and manage all National Register eligible historic roads, trails, railways, highways, and associated sidings and stations for Scientific, Conservation, and Public Use. No fee sites will be established.

Allocate national historic trails to Public Use and prepare Cultural Resource Project Plans to better balance Public, Scientific, and Conservation Use. Establish fee sites at Public Use sites as appropriate.

2.4.9.3 Parameter – Cultural Resource Use Allocation: Rock Art Sites

- Management:
  - Consider for allocation to Public Use, any rock art site with evidence of public use.
  - Allocate any rock art site with no evidence of public use to Conservation Use and/or Scientific Use and consider those sites for public use as appropriate.
  - Preserve in place all rock art sites eligible to the National Register of Historic Places under Criterion c. Do not discharge these sites from management.
  - Use the best and most accurate technologies available to photograph and gather locational information at all rock art panels (for example, digital photographs and global positioning system readings with position error no greater than 20 feet).
  - Take detailed measured drawings and sub-meter global positioning system locations of all panels.
  - Allow Scientific Use subject to management plans that minimize physical damage to rock art.
  - Conduct condition monitoring of rock art sites on at-risk/threatened rock art sites annually.
  - Limit livestock and human contact with rock art panels through physical barriers (fences or natural barriers such as plantings or boulder placement).
  - Allow emergency stabilization if natural or cultural threats are causing loss of integrity to rock art.
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Encourage the use of site stewards for monitoring.
- Scientific Use:
  - Permit surface collection of artifacts on non-rock art portions of sites under the Archaeological Resources Protection Act of 1979 if there is threat of loss or destruction.
- Public Use:
  - Post informational signs on rock site etiquette and the Archaeological Resources Protection Act of 1979 at all Public Use sites.
  - Develop site-specific recreation management plans/interpretative plans for all Public Use rock art sites before implementing Cultural Resource Project Plan actions.
  - Consider installing at least one interpretative trail/footpath at each rock art site allocated to Public Use.
  - Install visitor registers at all Public Use sites.

- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Those areas containing rock art identified for prescribed or wildland fire use
  - Existing designated sites

Allocate and manage all National Register eligible rock art sites for Scientific, Conservation, and/or Public Use, and continue to develop interpretative sites with priority placed on maintaining and improving existing interpretative facilities.

Establish fee sites at Public Use rock art sites as appropriate. American Indians will be exempt from fees only when visiting rock art sites for religious practices.

2.4.9.4 Parameter – Cultural Resource Use Allocations: Historic Townsites, Historic Mining Camps, Historic Mining Districts and Related Historic Buildings and Standing Structures, and Historic Racetracks

- Management:
  - Stabilize or rehabilitate standing structures on a priority basis as identified in Cultural Resources Project Plans and consistent with the Memorandum of Agreement with the Nevada Division of Minerals for Mine Safety Closures (State Protocol Agreement, page 38. Appendix F, Part B: Hazard Abatement).
  - Write an historic context report and an historic structure report for each mining district based on priorities identified in Cultural Resource Project Plans.
  - Complete an intensive archaeological inventory of the resource (townsite, camp, or district) for baseline information based on priorities identified in Cultural Resource Project Plans.
  - Follow Appendix H of the State Protocol Agreement for recording all standing structures for baseline information based on priorities identified in Cultural Resource Project Plans.
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Encourage the use of site stewards for monitoring.
- Scientific Use:
  - Allow excavation subject to management plan with appropriate research design (which conserves samples for future use).
  - Post signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 as appropriate.
  - Permit surface collection of artifacts under the Archaeological Resources Protection Act of 1979 if there is threat of loss or destruction.
  - Permit data recovery in those instances where future protection is not feasible.
- Conservation for Future Use:
  - Allow excavation subject to management plan with appropriate research design (which conserves samples for future use).
  - Post signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 as appropriate.

  - Perform stabilization and/or rehabilitation of standing structures on a priority basis as identified in Cultural Resource Project Plans.
- Public Use:
  - Place at least one kiosk with interpretation panel for each resource.
  - Develop site-specific information brochures for all Public Use sites.
  - Complete National Register nominations for all Public Use sites based on priorities developed in Cultural Resource Project Plans.
  - Consider preservation and reuse of historic buildings as appropriate.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Those areas containing historic townsites, mining camps, mining districts, buildings, standing structures and historic racetracks identified for prescribed or wildland fire use
  - Existing designated sites

Allocate and manage all National Register eligible sites with evidence of unauthorized excavation for Conservation Use and/or Scientific Use in order to perform data recovery in those instances where future protection is not feasible. Allocate and manage the remaining National Register eligible sites for Scientific and/or Public Use.

Allocate and manage all of the National Register eligible sites with standing structures for Conservation and/or Public Use.

Establish fee sites at Public Use sites as appropriate.

2.4.9.5 Parameter – Cultural Resource Use Allocations: Historic Cemeteries and Isolated Historic Gravesites

- Management:
  - Allow preservation in place and emergency stabilization if natural or cultural threats are causing loss of integrity to cemetery (including wood treatment and stone repair).
  - Write historic context report and equivalent of historic structure report for all cemeteries based on priorities identified in Cultural Resource Project Plans.
  - Follow Appendix H of the State Protocol Agreement for recording all standing structures for baseline information based on priorities identified in Cultural Resource Project Plans.
  - Follow Appendix H of the State Protocol Agreement based on priorities identified in Cultural Resource Project Plans.
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Install visitor registers and create informational brochures.
  - Install fences or physical barriers.
  - Install physical protection of historic cemeteries and isolated gravesites in the Cultural Resource Project Plans.

  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979.
  - Encourage the use of site stewards for monitoring.
  - If established, allocate and manage for Traditional Use.
- Scientific Use:
  - No scientific excavation of cemeteries except in those instances where physical disturbance is unavoidable and scientific study of human remains and associated funerary objects, and/or burial patterns, may be appropriate to answer questions about demography, health, and/or status, as well as site significance.
- Public Use:
  - Prepare National Register nominations, with the expectation that historic cemeteries and isolated gravesites that are no longer in use and part of historic townsites, landscapes, or themes, will meet National Register criteria.
- Discharged from Management:
  - Discharge from Management under the Act of June 14, 1926, commonly known as the Recreation and Public Purposes Act, to a public (government) body requesting transfer with conditions/stipulations that maintain historic character.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Those areas containing historic cemeteries or isolated gravesites identified for prescribed or wildland fire use
  - Existing designated sites

Allocate and manage all sites for Conservation and/or Public Use.

Establish fee sites at Public Use sites as appropriate.

2.4.9.6 Parameter – Cultural Resource Use Allocations: Ethnic Arboreal Narratives and Graphics, and Bow Stave Trees

- Management:
  - Perform detailed recordation of all arboreal narratives, graphics, and bow stave trees on a priority basis as identified in Cultural Resource Project Plans. Recordation will include, for example, detailed measured drawings, digital photographs, and sub-meter global positioning system locational information.
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Develop management plans and National Register nomination addressing collection/curation policy for specimens.
  - Perform a reconnaissance inventory of all threatened aspen stands based on priorities identified in Cultural Resource Project Plans.
  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 as appropriate.
  - Encourage the use of site stewards for monitoring.

- Priorities for Inventory:
  - Potential threats identified in Cultural Resources Project Plans
  - Those areas containing aspen stands identified for prescribed or wildland fire use
  - Oldest aspen groves with known carvings
  - Existing designated sites

Allocate and manage all National Register eligible sites for Scientific Use while promoting public access.

2.4.9.7 Parameter – Cultural Resource Use Allocations: Paleoindian Sites

The term Paleoindian is defined as follows: "Paleoindian or Pre-Archaic has been attributed to include both fluted and stemmed complexes as well as being reserved for complexes containing fluted points and extinct megafauna. The term Paleoindian is used here to denote archeological sites and artifact assemblages dating between 12,000 to 8,000 years Before Present, which include fluted or stemmed points, and possibly crescents. Under this broad Paleoindian umbrella there are several local traditions and possible variants that may represent different peoples using the land in different ways. This includes Clovis, Folsom, Western Pluvial Lakes Tradition, and Stemmed Complex" (Sherve 2001).

- Management:
  - Due to fragility of these sites to unauthorized collection, do not allocate these sites to public use, unless disclosure of site location does not harm but benefit the resource.
  - Complete National Register nominations for all sites on a priority basis as identified in Cultural Resource Project Plans.
  - Develop partnerships to encourage scientific research on Paleoindian sites in the planning area.
  - Address research and preservation potential in Cultural Resource Project Plans.
  - Perform site recordation to include, for example, collection of sub-meter global positioning system locational information of all diagnostic Paleoindian tools when located.
  - Encourage the use of site stewards for monitoring.
- Scientific Use:
  - Allow excavation subject to management plan with appropriate research design to conserve samples for future use.
- Conservation Use:
  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 where evidence of unauthorized collection is evident.
  - Conduct annual monitoring of all Paleoindian sites on a priority basis as identified in Cultural Resource Project Plans.
  - Allow activities that do not have direct impacts to the integrity of the sites.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Allocate and manage all National Register eligible sites for Scientific and/or Conservation Use.

2.4.9.8 Parameter – Cultural Resource Use Allocations: Formative Puebloan Sites

- Management:
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Allow preservation in place and emergency stabilization if natural or cultural threats are causing loss of integrity to sites.
  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979.
  - Develop partnerships to encourage scientific research on formative Puebloan sites.
  - Conduct annual monitoring of all formative Puebloan sites based on priorities developed in Cultural Resource Project Plans.
  - Allocate no more than one site per watershed to Public Use.
  - Address Scientific, Conservation, and Public Use, as well as public participation in research on formative Puebloan sites in Cultural Resource Project Plans.
  - Protect formative Puebloan sites from vehicular traffic in the event of fire on or near the sites.
- Scientific Use:
  - Allow excavation/scientific research subject to management plan with appropriate research design (which maximizes conservation of the site for future use and also maximizes public participation in the research).
- Conservation for Future Use:
  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 only where public knowledge is inevitable.
- Public Use:
  - Install visitor registers and create informational brochures based on priorities established in Cultural Resource Project plans.
  - Develop specific recreation management plan/interpretative plans for all formative Puebloan sites developed for Public Use.
  - Perform surface collection of artifacts on all sites allocated to Public Use prior to Public Use designation.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Allocate and manage all National Register eligible sites for Scientific, Conservation Use, and Public Use.

Establish fee sites at Public Use sites as appropriate.

2.4.9.9 Parameter – Cultural Resource Use Allocations: Rockshelter and Cave Sites

- Management:
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Preserve in place and allow emergency stabilization if natural or cultural threats are causing loss of integrity to sites.
  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 where evidence of ongoing public use exists.
  - Conduct a Class II inventory of areas identified as high potential for aboriginal site occurrence on a priority basis as identified in Cultural Resource Project Plans.
  - Encourage the use of site stewards for monitoring.
- Scientific Use:
  - Encourage partnerships that assist the Ely Field Office in evaluating loss of scientific data due to vandalism and in estimating cost of restoration and repair.
  - Develop partnerships for excavation/scientific research to assist the Ely Field Office to understand the paleo-environmental record.
- Conservation for Future Use:
  - Evaluate the cost of restoration and repair as soon as vandalism is detected.
- Public Use:
  - Install visitor registers and create informational brochures based on priorities established in Cultural Resource Project plans.
  - Develop specific recreation management plan/interpretative plan for all rockshelter cave sites developed for Public Use.
  - Perform surface collection of artifacts on all sites allocated to Public Use prior to Public Use designation.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Those areas containing rockshelters identified for prescribed or wildland fire use
  - Existing designated sites

Allocate and manage all National Register eligible sites for Scientific, Conservation Use, and Public Use.

Establish fee sites at Public Use sites as appropriate.

2.4.9.10 Parameter – Cultural Resource Use Allocations: Prehistoric Complex Sites, Campsites, or Specialized Activity Areas

- Management:
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979, where evidence of public use exists.

  - Develop Cultural Resource Project Plans that further define this class of sites and clarify acceptable management actions.
  - Allow excavation subject to management plan with appropriate research design (which conserves samples for future use).
  - Subject all sites initially allocated to Conservation, Scientific, Experimental, or Discharged from Management Use to site-specific activity plans that preserve portions of the sites for future use.
  - Encourage the use of site stewards for monitoring.
- Scientific Use:
  - Complete National Register nominations for all sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.
- Public Use:
  - Continue to produce materials and programs on "Leave What You Find" principles and environmental ethics.
  - Develop and produce a brochure covering the topic "What Do You Do If You Find an Artifact?".
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Allocate and manage 90 percent of the National Register eligible sites for Conservation and/or Scientific Use and up to 10 percent of the sites per watershed for Experimental Use.

2.4.9.11 Parameter – Cultural Resource Use Allocations: Toolstone Sources or Quarries

- Management:
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979, where evidence of public use exists.
  - Develop Cultural Resource Project Plans that include addressing mineral collection of non-artifacts from quarry/source locations.
  - Implement photographic monitoring for all obsidian sources.
  - Encourage the use of site stewards for monitoring.
- Scientific Use:
  - Compile National Register nominations for all sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.
- Public Use:
  - Develop and produce a brochure to enable the public to distinguish between artifacts and mineral specimens.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Allocate and manage all obsidian toolstone sources/quarries for Scientific and/or Conservation Use; 90 percent of all other National Register eligible material sources/quarries for Scientific and/or Conservation Use; and up to 10 percent of all other National Register eligible material sources/quarries for Experimental Use.

2.4.9.12 Parameter – Cultural Resource Use Allocations: Historic Ranching and Livestock-related Historic Sites, Buildings, Standing Structures, and Landscapes

- Management:
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 where evidence of public use exists.
  - Write historic context reports on a priority basis as identified in Cultural Resource Project Plans.
  - Write historic structure reports on a priority basis as identified in Cultural Resource Project Plans.
  - Complete Level I documentation (measured drawings, plans, elevations, photos, and narratives) on all standing structures on a priority basis as identified in Cultural Resource Project Plans.
  - Obtain photo documentation of historic features and landscapes.
  - Encourage the use of site stewards for monitoring.
- Scientific Use:
  - Allow excavation subject to management plan with appropriate research design (that conserves samples for future use).
- Conservation Use:
  - Emphasize conservation of the setting.
  - Perform stabilization and/or rehabilitation of standing structures on a priority basis as identified in Cultural Resource Project Plans.
- Discharged from Management:
  - Subsequent to scientific use, discharge sites when preservation in place is impractical.
- Public Use:
  - Complete National Register nominations for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.
  - Consider standing structures for adaptive uses.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Manage and allocate sites for Public Use on a watershed basis. Allocate and manage all of the National Register eligible sites for Scientific Use and/or Public Use.

2.4.9.13 Parameter – Cultural Resource Use Allocations: Ethnohistoric Sites, Sacred Sites, Traditional Use Areas, Traditional Cultural Properties

- Management:
  - When identified, describe locations and boundaries of Ethnohistoric Sites, Sacred Sites, Traditional Use Areas, and Traditional Cultural Properties with global positioning systems or other appropriate technology.
  - When identified, record Ethnohistoric Sites, Sacred Sites, Traditional Use Areas, and Traditional Cultural Properties.
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Complete National Register nominations on a priority basis as identified in Cultural Resource Project Plans.
  - Pending approval of Cultural Resource Project Plans, allocate all sites to Conservation use.
  - Encourage the use of site stewards for monitoring.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Allocate and manage all National Register eligible Ethnohistoric Sites primarily for Conservation Use unless subject to Cultural Resource Project Plans.

Allocate and manage all identified Traditional Cultural Properties primarily for Traditional Use.

Allocate and manage all identified Sacred Sites or Traditional Use Areas for Conservation Use.

2.4.9.14 Parameter – Cultural Resource Use Allocations: "Other" Sites

"Other" is defined as those sites not included in any of the above 12 site types.

- Management:
  - Evaluate fire potential and remove fuels where there is threat of loss.
  - Post appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979, where evidence of public use exists.
  - Encourage the use of site stewards for monitoring.
- Public Use:
  - Due to sensitivity of some of these resources, monitor public use on these sites (excluding the agave roasting pits).
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Allocate and manage all National Register eligible sites for Scientific and/or Conservation Use with public use being monitored. Permit Scientific Use if it does not destroy features.

Allocate all of the agave roasting pits to Scientific, Conservation, and/or Public Use.

2.4.10 Paleontological Resources

The BLM has authority to manage and protect paleontological resources under the Federal Land Policy and Management Act of 1976, the National Environmental Policy Act of 1969, and various sections of Part 43 of the Code of Federal Regulations.

Goal

Identify and manage at-risk paleontological resources (scientific value); preserve and protect vertebrate fossils through best science methods; and promote public and scientific use of invertebrate and paleobotanical fossils.

Objective

To manage fossil sites with high scientific value in a stable condition, while allowing appropriate research and casual public collecting.

2.4.10.1 General Paleontological Resource Management

Management Actions

PAL-1: Allocate and manage all vertebrate sites for Scientific Use.

PAL-2: Allocate and manage all invertebrate and paleobotanical sites for Public and/or Scientific Use.

PAL-3: Change the use allocation without a plan amendment if another use is evident or proposed.

2.4.10.2 Parameter – Trilobite Collecting

Management Actions

PAL-4: Establish a no-fee-based registration system[1].

PAL-5: Establish the following priorities for Inventory:

- Predicted threats identified in Cultural Resource Project Plans
- Existing designated sites
- Lands identified for disposal

[1] Implementation level decision.

2.4.11 Visual Resources

Introduction

Section 102(8) of the Federal Land Policy and Management Act declares that public land will be managed to protect the quality of scenic values and, where appropriate, to preserve and protect certain public land in its natural condition. NEPA, section 101(b), requires federal agencies to ". . . assure for all Americans . . . esthetically pleasing surroundings." Section 102 of NEPA requires agencies to ". . . utilize a systematic, interdisciplinary approach which will ensure the integrated use of . . . Environmental Design Acts in the planning and decision making . . ." process. Guidelines for the identification of visual resource management classes on public land are contained in BLM Manual Handbook 8410-1, Visual Resource Inventory. New technology in the form of geographic information systems, as well as changing public perceptions about visual resources led to the development of a new inventory for the planning area.

Goal

Manage public land actions and activities in a manner consistent with Ely Field Office visual resource management class objectives.

Objective

To implement multiple use activities within the planning area with mitigation measures consistent with the visual resource management classes.

Management Actions

VR-1: Manage designated wilderness, wilderness study areas, and some special designation areas such as ACECs (see Section 2.4.22) for scenic qualities under Visual Resource Management Class I objectives.

VR-2: Manage wilderness study areas released by Congress at the baseline visual resource inventory class.

VR-3: Manage visual resources in accordance with the following visual resource management classes (approximate acreages – see **Map 2.4.11-1**).

Class I: 1,154,500 acres
Class II: 2,396,700 acres
Class III: 4,874,200 acres
Class IV: 3,031,200 acres

VR-4: Manage the Pony Express National Historic Trail corridor under Visual Resource Management Class II objectives.

2.4.12 Lands and Realty

Introduction

Section 102(a)(1) of the Federal Land Policy and Management Act requires that public land be retained in federal ownership unless disposal of a particular parcel will serve the national interest. Acquisition of land to consolidate ownership patterns will provide for more efficient land management and administration for both public and private landowners. Retention and acquisition of land containing significant resource values will provide for long-term protection and management of those values.

Rights-of-way and other land uses are recognized as major uses of the public lands and are authorized pursuant to sections 302 and 501 of the Federal Land Policy and Management Act. Section 503 of the Federal Land Policy and Management Act provides for the designation of utility corridors and encourages utilization of rights-of-way in-common to minimize environmental impacts and the proliferation of separate rights-of-way. It is BLM policy to encourage prospective applicants to locate their proposals within corridors. Only facilities and uses that are consistent with the special designation associated with that area will be permitted in avoidance areas. Designation of exclusion zones—those areas where no new rights-of-way will be allowed—will provide protection of lands and resources with values that are not compatible with rights-of-way or other land uses.

The acquisition of legal public and administrative access is required to ensure continued effective administration and public use of these lands. This need becomes more acute as public use of these lands increases and as landowners become more aware of the value of public and private land for recreation and other purposes. Land tenure adjustment actions (exchanges or fee purchases) can be a valuable tool for access acquisitions. However, without careful review, lands actions, particularly disposals, can result in lost access.

Section 204 of the Federal Land Policy and Management Act gives the Secretary of the Interior the authority to make, modify, extend, or revoke withdrawals and mandates periodic review of existing withdrawals.

Goal

Manage public lands in a manner that:

- Allows the retention of public land with high resource values;
- Consolidates public land patterns to ensure effective administration and improve resource management;
- Makes public lands that promote community development available for disposal;

- Meets public, local, state, and federal agency needs for use authorizations such as rights-of-way, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values; and

- Utilizes withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the desired purpose.

Objective

To respond to public, local, state, and federal agency needs for land for community development, utility and other associated rights-of-way, communication sites, and other allowed uses of BLM-administered lands.

2.4.12.1 Parameter – Retention

Management Actions

LR-1: Retain lands or interest in lands within designated critical habitat for federally listed threatened and endangered species unless the disposal results in the acquisition of land with higher quality habitat.

LR-2: Retain lands within ACECs.

LR-3: Under authority of the Federal Land Policy Management Act, Section 203, retain portions of the National Trails System including the corridors of both the Pony Express National Historic Trail and the California National Historic Trail within the designated corridor. This limitation is without regard for eligibility to the National Register of Historic Places and is instead tied to the congressionally-designated corridor.

LR-4: Prior to disposal, review all lands for National Natural Landmark eligibility and retain lands containing resources qualifying as National Natural Landmarks.

LR-5: Retain all public lands with springs and creeks that contain fisheries in federal ownership unless the disposal of these lands will result in the acquisition of lands with higher quality habitat.

LR-6: Retain lands in areas with high recreation value, unless state and county entities show an over-riding need through an acceptable recreation management plan.

2.4.12.2 Parameter – Disposal (Sales, Exchanges, Recreation and Public Purposes Act, and Airport Conveyances)

Management Actions

LR-7: In accordance with Section 7 of the Taylor Grazing Act, 43 U.S.C. 315f, and Executive Order No. 6910, the described lands are hereby classified for disposal by sale, exchange, Recreation and Public Purposes Act, and airport conveyances.

LR-8: In accordance with the Lincoln County Conservation, Recreation, and Development Act of 2004, the Ely Field Office will dispose of not more than 90,000 acres of public land in Lincoln County identified for disposal by the Ely Field Office through the Ely Resource Management Plan or a subsequent amendment to the land use plan. The Ely Field Office and the County jointly will select the parcels of land to offer for sale. The lands identified in the approved plan upon signature of the Record of Decision will be withdrawn from:

- All forms of entry and appropriation under the public land laws, including the mining laws;
- Location, entry, and patent under the mining laws; and
- Operation of the mineral leasing and geothermal leasing laws.

Once the lands are disposed of by a sale or an election by the County to obtain land under the Recreation and Public Purposes Act, the withdrawal will no longer apply.

LR-9: In accordance with the Lincoln County Conservation, Recreation, and Development Act of 2004, up to 15,000 acres of public land in Lincoln County could be conveyed to Lincoln County for open space and parks.

LR-10: In accordance with the Lincoln County Conservation, Recreation, and Development Act of 2004, approximately 4,780 acres of public land in Lincoln County could be conveyed to the State of Nevada for state park expansion.

LR-11: In accordance with the White Pine County Conservation, Recreation, and Development Act of 2006, the Ely Field Office will dispose of not more than 45,000 acres of public land in White Pine County identified for disposal by the Ely Field Office through the Ely Resource Management Plan or a subsequent amendment to the land use plan. The Ely Field Office and the County will jointly select the parcels of land to offer for sale. The lands identified in the approved plan upon signature of the Record of Decision will be withdrawn from:

- All forms of entry and appropriation under the public land laws, including the mining laws;
- Location, entry, and patent under the mining laws; and
- Operation of the mineral leasing and geothermal leasing laws.

Once the lands are disposed of by a sale or an election by the County to obtain land under the Recreation and Public Purposes Act, the withdrawal will no longer apply.

LR-12: In accordance with the White Pine County Conservation, Recreation, and Development Act of 2006, the following lands will be conveyed to the State of Nevada, subject to valid existing rights, for no consideration, all right, title, and interest if the state and White Pine County enter into a written agreement supporting the conveyances.

- Approximately 6,265 acres identified as "Steptoe Valley Wildlife Management Area Expansion Proposal"; and

- Approximately 658 acres identified as "Ward Charcoal Ovens Expansion."

LR-13: In accordance with the White Pine County Conservation, Recreation and Development Act of 2006, the following lands will be conveyed to White Pine County, subject to valid existing rights, for no consideration, all right, title, and interest:

- Approximately 1,550 acres identified as "Airport Expansion"; and
- Approximately 200 acres identified as "Industrial Park Expansion."

LR-14: The U.S. mineral estate inside or outside the designated disposal areas may be conveyed to consolidate surface and sub-surface management ownership, if there is no known mineral value present, or if the reservation of mineral rights by the U.S. is interfering with or precluding appropriate non-mineral development that is considered to be a more beneficial use of the land. Conveyance of mineral interest shall be made only to the owner of record of the surface, upon payment of administrative costs and the fair market value of the interests being conveyed.

LR-15: Subject all Land Tenure adjustments to valid existing rights at the time of disposal.

LR-16: Dispose of lands outside of designated disposal areas to resolve unauthorized use of public land only when there are no other practical means of resolution.

LR-17: Maintain access to recreation areas.

LR-18: Exchanges. Consider land exchanges that serve the national interest and are beneficial to Ely Field Office programs or that support the programs of other agencies, per Sections 102, 205, and 206 of Federal Land Policy Management Act.

LR-19: Recreation and Public Purposes Act. Convey or lease public lands only for an established or definitely proposed project for which there is a reasonable timetable of development and satisfactory development and management plans. Convey no more land than is reasonably necessary for the proposed use.

LR-20: A total of 75,582 acres are available for potential disposal: 57,039 acres in Lincoln County; 0 acres in Nye County; and 18,543 acres in White Pine County. See **Maps 2.4.12-1**, **2.4.12-2**, **2.4.12-3**, and **2.4.12-4**. (See Appendix H.) Federal Land Policy and Management Act of 1976, Sections 203 and 209, states that sales are the preferred method of disposal.

LR-21: If rights-of-way are approved for power plants, dispose of up to 4,500 acres in White Pine County by direct sale.

LR-22: Dispose of 40 acres located at Township 6 South, Range 57 East, Section 25, NW¼ NW¼ by direct sale to resolve a long standing agricultural lease that has several structures on it.

LR-23: If a right-of-way is approved for a power plant, dispose of up to 640 acres in Lincoln County by direct sale.

LR-24: Use the following criteria for disposal. These criteria may be modified as appropriate in the future.

- Allow land disposal of parcels containing National Register eligible sites when mitigation and/or data recovery has occurred prior to patent.
- Allow disposal of lands that are difficult to manage and are not suitable for management by another federal department or agency.
- Allow disposal of lands when disposal will serve important public objectives, including but not limited to community expansion or economic development; disposal could not be achieved prudently or feasibly on land other than public lands; and disposal outweighs other public objectives or values.
- Process existing Desert Land Entry, Carey Act, and Indian Allotment applications. If the application is cancelled, relinquished, or rejected, the lands could not be applied for again. Reject applications for Desert Land Entries, Carey Act, or Indian Allotments in designated disposal areas if they are located within a closed water basin unless existing water rights are held.
- Allow land disposals within herd management areas when the disposal 1) will not prohibit free roaming behavior within or between areas inside the herd management area, 2) will not eliminate so much habitat within the herd management area that a significant reduction of the appropriate management levels will result, and 3) will be subject to mitigation.
- Dispose of lands only in identified areas (see Appendix H). Exceptions will be Recreation and Public Purposes Act, Airport Conveyances, existing Desert Land Entries, Carey Act and Indian Allotments, and disposals to resolve trespasses.

LR-25: The BLM will work cooperatively with tribes when specific expansion proposals are provided to BLM in the future. They will be reviewed and processed according to appropriate BLM policy related to the expansion of tribal lands.

2.4.12.3 Parameter – Acquisitions

Management Actions

LR-26: Limit acquisition of lands to situations where no other reasonable alternative exists. Coordinate on acquisitions with federal, state, and county agencies, and other interested parties prior to the acquisition. Consider private lands or rights for acquisition from willing sellers.

- Consider acquisition of lands or interest in lands with at-risk or high resource values or those characteristics that contribute to restoration, healthy watersheds, or other resource goals (e.g., ACECs, wilderness study areas, habitat for threatened and endangered species, cultural resources, and designated wilderness) in the planning area, or those lands that also provide for environmentally responsible commercial activities.

- Consider split-estate where appropriate to improve resource management while protecting resource values.

LR-27: Acquire legal public or administrative access from willing landowners, where a public demand or administrative need exists.

LR-28: Manage newly acquired lands in the same manner as comparable surrounding public lands or in conformance with established guidelines for the special management area.

LR-29: Prior to the acquisition of non-federal lands, conduct assessments (e.g., noxious weed) to enable the authorized officer to factor the cost of weed control into the acquisition decision.

2.4.12.4 Parameter – Withdrawals

Management Actions

LR-30: Implement proposed withdrawals, if appropriate, consisting of the BLM Caliente Administrative Site, the municipal water supply for the City of Ely, Murry Springs Watershed, and the entrance area from Baker to Great Basin National Park (see Section 3.12).

LR-31: Recommend withdrawal of lands with sensitive or high resource values (e.g., ACECs) from surface and mineral entry (see Section 2.4.18, Geology and Mineral Extraction).

LR-32: Consider requests by other federal agencies for new withdrawals, withdrawal relinquishments, and modifications on a case-by-case basis.

LR-33: Withdraw the 80-acre area around Ash Springs (Township 5 North, Range 61 East, Section 31, SW¼ SW¼, and Township 6 North, Range 61 East, Section 6, Lot 8, Mount Diablo Meridian) from settlement, sale, location, or entry (with the exception of a no surface occupancy stipulation for fluid mineral leasing).

2.4.12.5 Parameter – Corridors

Management Actions

LR-34: Manage corridors in the RMP planning area as follows (see **Map 2.4.12-5**):

A. Retain a corridor 1,000 feet wide, 500 feet on either side of the centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 30 running easterly to the Arizona state line.

B. Retain the Falcon to Gonder corridor, 0.5 mile wide, as an east-west corridor to interconnect with the Ely to Utah State Line portion of the Southwest Intertie Project corridor.

C. Retain the Ely to Utah State Line portion of the Southwest Intertie Project corridor as 0.5 mile wide.

D. Designate the approved Southwest Intertie Project corridor as 0.75 mile wide from the Elko/White Pine County line to the point where it parallels Highway 93 and the Pahranagat Wildlife Refuge at which point it will be 0.5 mile wide to the Clark County line.

E. Maintain the Moapa corridor at 0.5 mile wide.

F. Maintain the corridors designated by the Lincoln County Conservation, Recreation and Development Act as 0.5 mile wide.

G. Designate a new corridor, 0.5 mile wide, connecting with the corridor designated by the Lincoln County Conservation, Recreation, and Development Act. This corridor will begin near the Atlanta Mine where the Lincoln County Conservation, Recreation, and Development Act corridor ends and will trend in a northerly direction along the west side of Spring Valley, ending at the Southwest Intertie Project corridor.

2.4.12.6 Parameter – Communication Sites

Management Actions

LR-35: Authorize communication site locations that support community and economic development with an emphasis on co-location of sites.

LR-36: Establish wilderness study areas as avoidance areas.

LR-37: Establish designated wilderness as exclusion areas.

LR-38: Establish ACECs as avoidance or exclusion areas.

LR-39: Coordinate, as appropriate, with appropriate local, state, and federal agencies on siting and construction for all communication towers.

2.4.12.7 Parameter – Land Use Authorizations (Rights-of-Way, Permits, Leases, Easements, and Unauthorized Use)

Management Actions

LR-40: Establish wilderness study areas as avoidance areas.

LR-41: Establish designated wilderness as exclusion areas.

LR-42: Establish ACECs as avoidance or exclusion areas (see Section 2.4.22, Special Designations).

LR-43: Coordinate, as appropriate, with appropriate local, state, and federal agencies on siting and construction for rights-of-way proposals.

LR-44: Consider existing material site rights-of-way in ACECs (both developed and undeveloped) authorized under the provisions of the Federal Highway Aid Act as valid existing rights and consistent with the land use plan. Material site rights-of-way will be authorized within the 1-mile-wide corridor (0.5 mile on each side) on state and county roads and will be restricted to not less than 10-mile separations.

LR-45: Manage rights-of-way in desert tortoise habitat the same as that described for the Beaver Dam Slope, Kane Springs, and Mormon Mesa ACECs.

LR-46: Reclaim surface disturbances from unauthorized uses to pre-disturbance conditions, if possible.

LR-47: Where feasible, consolidate new land use authorizations within or adjacent to existing authorizations.

LR-48: Coordinate with the U.S. Fish and Wildlife Service on utility line development and Avian Protection Plan guidelines.

LR-49: Implement the following management actions for desert tortoise habitat (also refer to Section 2.4.7, Special Status Species; and Section 2.4.18, Geology and Mineral Extraction) (see **Map 2.4.7-1**).

- Within desert tortoise ACECs: Drilling fluids and cuttings will be contained in portable mud pits or lined reserve pits in all operations.

- Within desert tortoise ACECs: Vibriosis, drill hole shot, or surface shot will not be completed within 100 yards of known tortoise burrows.

- Within desert tortoise ACECs: Companies controlling new road segments may be required to restrict access to the general public. This access could be in the form of closed gates, and these restrictions will not apply to authorized agents of the operator or their subcontractor(s), the land managing agency, and other agencies with a legitimate access need.

- A speed limit of 25 miles per hour will be required for all vehicles on the project site and unposted dirt access roads.

- If possible, overnight parking and storage of equipment and materials, including stockpiling, will occur in previously disturbed areas or areas to be disturbed that have been cleared by a qualified tortoise biologist. If not possible, areas for overnight parking and storage of equipment will be designated by the BLM authorized officer based on recommendations of a qualified tortoise biologist.

- All vehicular traffic will be restricted to existing access roads, or those roads approved by the BLM authorized officer in consultation with the U.S. Fish and Wildlife Service.

- Project activity areas will be clearly marked or flagged at the outer boundaries before the onset of construction. All activities will be confined to designated areas. Blading of vegetation will occur only to the extent necessary and will be limited to areas designated for that purpose by the BLM authorized officer based on recommendations from a qualified tortoise biologist.

- When a permitted activity results in residual impacts to desert tortoise habitat, compensation will be required. The compensation rate will be determined during the NEPA process for each proposed action. The amount to be paid will be calculated according to the formula identified in the "Compensation for the Desert Tortoise" report approved by the Desert Tortoise Management Oversight Group in November 1991.

- Projects resulting in residual impacts will require the submission of a BLM and U.S. Fish and Wildlife Service-approved reclamation plan, unless determined by the BLM authorized officer and U.S. Fish and Wildlife Service that reclamation or rehabilitation is not necessary. The reclamation/rehabilitation plan will describe objectives and methods to be used, species of plants and/or seed mixture to be used, time of planting, success standards, and follow-up monitoring. Depending upon the size and location of the project, reclamation could range from recontouring, to rehabilitation and restriction of access points, to intensive reclamation over the entire area of surface disturbance. The plan will be prepared within 60 days following completion of the surface disturbance phase of the project. Reclamation will be addressed on a case-by case basis.

- If trenches or holes are to remain open overnight, they will be checked for tortoises at the end and beginning of each workday. The trenches or holes also will be checked immediately prior to backfilling.

- Prior to starting operations each day on any land, energy, or minerals project that have not been totally enclosed by tortoise proof fencing and cattle guards, the operator will be responsible for conducting a desert tortoise inspection by qualified desert tortoise biologists using techniques approved by the U.S.

Fish and Wildlife Service and BLM. The inspection will determine if any desert tortoises are present in the following locations:

a. Around and under all equipment;
b. In and around all disturbed areas to include stockpiles and reject materials areas;
c. In and around all routes of ingress and egress; and
d. In and around all other areas where the operation might expand to during that day.

If a tortoise is discovered during this inspection or later in the day, the operator will immediately cease all operations in the immediate vicinity of the tortoise and will immediately notify the BLM authorized officer.

- A litter-control program shall be implemented to minimize predation on tortoises by ravens drawn to the project site. This program will include the use of covered, raven-proof trash receptacles, removal of trash from project areas to the trash receptacles following the close of each work day, and the proper disposal of trash in a designated solid waste disposal facility. Appropriate precautions must be taken to prevent litter from blowing out along the road when trash is removed from the site. The litter-control program will apply to all actions. A litter-control program will be implemented by the responsible federal agency or their contractor, to minimize predation on tortoises by ravens and other predators drawn to the project site.

- The project applicant will notify the BLM's authorized officer at least ten days before initiation of any project. Notification will be made to the BLM's wildlife staff in Caliente or Ely.

- BLM's wildlife staff in Caliente or Ely and the U.S. Fish and Wildlife Service's Southern Nevada Field Office must be notified of any desert tortoise death or injury due to the project implementation by close of business on the following work day.

- All appropriate Nevada Department of Wildlife permits or letters of authorization will be acquired prior to handling desert tortoises and their parts, and prior to initiation of any activity that may require handling tortoises.

- The project proponent must submit a document to the BLM within 30 days of completion of the project, showing the number of acres disturbed; remuneration fees paid; and the number of tortoises taken, which includes capture and displacement, killed, injured, and harassed by other means, during project activities.

2.4.13 Renewable Energy

Introduction

The Ely Field Office will follow established policy for the processing of right-of-way applications (see Section 2.4.12.7) for potential renewable energy development projects on public lands administered by the

BLM, and for evaluating the feasibility of installing energy systems on BLM administrative facilities and projects. Guidance also will be obtained from the BLM Wind Energy Development Programmatic EIS. Note: Geothermal energy is discussed in Section 2.4.18.

Goal

Provide opportunities for development of renewable energy sources such as wind, solar, biomass, and other alternative energy sources while minimizing adverse impacts to other resources.

Objective

To be responsive to applications for renewable energy sites and associated rights-of-way, as encouraged by current BLM policy.

Management Actions

RE-1: Review proposed renewable energy developments on a project-specific basis, considering potential resource conflicts and mitigation measures. Areas of high potential for wind and solar energy development are identified but no specific areas are designated for such development (see **Maps 2.4.13-1** and **2.4.13-2**).

RE-2: Conform wind energy development to the direction presented in Appendix F, Section 3 – BLM Wind Energy Development Program Policies and Best Management Practices.

RE-3: Wind energy developers should conduct pre-application consultation with the Ely Field Office, the appropriate Department of Defense representatives, and the Department of Homeland Security, to determine possible constraints posed by military testing and training operations.

RE-4: Establish wilderness study areas as avoidance areas.

RE-5: Establish designated wilderness areas as exclusion areas.

RE-6: Establish ACECs as avoidance or exclusion areas (see Section 2.4.22, Special Designations).

RE-7: Increase the utilization of biomass from BLM lands and utilize tools of the Healthy Forest initiative such as Stewardship Contracting. Review proposed biomass energy development on a project-specific basis in relation to specific areas of restoration needed to restore healthy vegetation communities.

2.4.14 Travel Management and Off-highway Vehicle Use

Introduction

Federal regulations (Title 43 Code of Federal Regulations Subpart 8340) and BLM planning guidance require the Ely Field Office to designate all BLM-administered land as either open, limited, or closed in

regard to off-road vehicle (now termed off-highway vehicle) use. These designations are designed to help meet public demand for off-highway vehicle activities, protect natural resources, ensure public safety, and minimize conflicts among users.

The BLM designates areas as "open" for cross country vehicle use where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel.

The BLM designates areas as "limited" where it must restrict off-highway vehicle use to meet specific resource management objectives. These limitations may include: restricting the number or types of vehicles; limiting the time or season of use; allowing permitted or licensed use only; limiting use to existing roads and trails; and limiting use to designated roads and trails. The BLM may enact other limitations, as necessary to protect resources, particularly in areas of intense motorized off-highway vehicle use.

The BLM designates areas as "closed" if closure to all vehicular use is necessary to protect resources, ensure visitor safety, or reduce use conflicts.

Goals

Provide and maintain suitable access to public lands. Manage off-highway vehicle use to protect resource values, promote public safety, provide off-highway vehicle opportunities where appropriate, and minimize conflict.

Work closely with local, state, tribal, and other affected parties and other resource users to address off-highway vehicle management including land use and route designations, and monitoring and adaptive management strategies such as applying the Limits of Acceptable Change process.

Objective

To manage motorized vehicle traffic to sustain this type of use while protecting sensitive resources and providing access.

2.4.14.1 Parameter – Transportation Plan

Comprehensive travel and transportation planning is the BLM's interdisciplinary approach to addressing multiple-use access concerns. Comprehensive travel management planning addresses all resource use aspects and accompanying modes and conditions of travel on public lands, and is not limited to recreational off-highway vehicle activities. Providing and maintaining access to the public lands is an important public service provided by the BLM. The National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (BLM 2001a) provides guidance in developing and implementing solutions to off-highway vehicle issues. Roads on BLM-administered lands are used by permitted users such as miners and livestock operators and by recreationists for dispersed recreation activities such as hunting, fishing, camping, rock-hounding, off-highway vehicle use, and sightseeing. Access is necessary for BLM personnel to administer the various resource management programs on public land including livestock grazing,

mining, wildlife habitat management, watershed management, recreation management, and numerous other programs. Access also is an important factor in fire suppression and fire management.

Complexity, incomplete data, and insufficient resources have made it infeasible to complete road and trail network selection and data collection for this planning effort. Collection will follow a standardized process using appropriate technology to allow staff to record road and trail conditions and characteristics.

Travel Management in the planning area will be:

- **Comprehensive:** All motorized and non-motorized travel that occurs on public lands will be considered.
- **Multi-functional:** Participation will encompass all functions within the BLM.
- **Collaborative:** Travel plans will be accomplished in a collaborative and community-based process.
- **Outcome based:** Travel systems will be designed for transportation outcomes.
- **Holistic:** Travel management implementation will be accomplished in a holistic approach that provides clear direction for access and recreation opportunities while protecting sensitive areas. This includes signs, maps, education, maintenance, construction, reconstruction, planning, field presence, law enforcement, and monitoring.

Management Actions

TM-1: Close designated wilderness to motorized and mechanized travel according to policy and enabling legislation.

TM-2: Close the Park Range, Blue Eagle, Antelope Range, and Riordan's Well wilderness study areas to motorized and mechanized travel.[2]

TM-3: Incorporate the Duck Creek Basin designations into the transportation plan[3] (see **Map 2.4.14-1**).

TM-4: Update the Ely Field Office Transportation Plan through subsequent implementation-level plans completed primarily along watershed boundaries. Transportation planning may move ahead of the watershed analysis process where the need for vehicle route designation is a greater priority than other watershed management needs. If this is the case, changes in route designations may be made once watershed analysis and additional site-specific NEPA is complete. Until site-specific implementation plans and route designations are complete, motorized travel will be limited to existing roads and trails except when cross-country travel is needed for safety, required for government (federal, state, and local) administrative needs, as authorized on a permit, for big game retrieval, or as otherwise officially approved.

[2] Implementation level decision.
[3] Implementation level decision.

The planning process is described as follows:

- Establish an interdisciplinary team to ensure broad participation from a variety of resources.

- Define the goals and objectives of the proposed Travel and Transportation Management Plan.

- From inventory data, complete a map of the proposed planning area, and identify the baseline of roads, primitive roads, and trails. As road and trail data collection is completed, the interdisciplinary review team will analyze each route and make recommendations for designations within the specific watershed based on the following criteria. (Other criteria will be added as new issues develop in different watersheds over time.) In addition to making recommendations on designations for existing routes, the review team may recommend the development of new roads or trails based on the same criteria.

  - Route redundancy
  - Wildlife habitat needs – integrate concepts of habitat connectivity into off-highway vehicle planning to minimize habitat fragmentation
  - Visual resource management class objectives
  - Recreation opportunities
  - Administrative needs
  - Public access needs
  - Special management areas
  - Cultural Resources
  - Riparian and wetland resources

- Hold public scoping meetings. Notify the public of the meetings through local media, as appropriate, to reach the potentially affected public. Involve Resource Advisory Councils, local government, state and federal agencies, gateway communities, local motorized and non-motorized user group clubs as applicable to the planning area. Notify the meeting attendees of the objective of the proposed plan using maps and other appropriate materials to facilitate discussion regarding public issues, concerns, and access needs.

- Produce a map depicting the designated roads, primitive roads, and trails available for use.

- Implement decisions on the ground. Rehabilitate roads that have been identified through the process as closed to motorized traffic on a case-by-case basis to discourage continued motorized use. In addition, place signs and barriers and produce public maps and other appropriate forms of education and communication to inform the public of updated route designations.

TM-5: Limit motorized vehicle traffic to designated routes within desert tortoise habitat outside of designated wilderness. This action will be given a high priority for completion.

TM-6: Restrict the establishment of new permanent roads and trails in designated desert tortoise habitat. New access routes may be allowed on a temporary basis, or permanently if approved through the NEPA process.

TM-7: Reroute roads and trails where feasible to improve manageability of desert tortoise habitat.

TM-8: Coordinate with the U.S. Fish and Wildlife Service, Lincoln County Road Department, and the Nevada Department of Transportation when possible to identify roads and trails with high tortoise mortality due to impacts from vehicles. Fences and culverts may be installed along these roads and trails to allow for the safe passage of desert tortoises.

2.4.14.2 Parameter – Off-highway Vehicles

Management Actions

TM-9: Manage off-highway vehicles in accordance with the following designations (see **Map 2.4.14-2**).

- Off-highway vehicle use limited to designated roads and trails: 10,306,500 acres.
- Closed to off-highway vehicle use: 1,153,500 acres. This acreage reflects designated wilderness and wilderness study areas.

2.4.15 Recreation

Introduction

The Federal Land Policy and Management Act provides for recreation use of public land as an integral part of multiple use management. Dispersed, unstructured activities typify the recreational uses occurring throughout the majority of the planning area. BLM Manual 8300 directs the BLM to designate special units known as special recreation management areas. Management within special recreation management areas focuses on providing recreation opportunities that will not otherwise be available to the public, reducing conflicts among users, minimizing damage to resources, and reducing visitor health and safety problems.

Goals

Provide quality settings for developed and undeveloped recreation experiences and opportunities while protecting resources.

Conduct an assessment of current and future off-highway vehicle demand, and plan for and balance the demand for this use with other multiple uses/users.

Develop sustainable off-highway vehicle use areas to meet current and future demands, especially for urban interface areas.

Objectives

To provide a wide variety of recreation opportunities to satisfy a growing demand by a public seeking the open, undeveloped spaces that are characteristic of the planning area.

To provide visitor information to familiarize people with recreational opportunities throughout the planning area and encourage minimum impact or "Leave No Trace" and "Tread Lightly" recreational skills and ethics for recreational activities.

2.4.15.1 Parameter – Special Recreation Management Areas

Management Actions

REC-1: Manage for the protection of cave resources in the planning area according to the Ely Field Office Cave Management Plan.

REC-2: Manage five special recreation management areas (1 existing – Loneliest Highway, 4 new) for a broad recreation opportunity spectrum ensuring a balance of recreation experiences (see **Map 2.4.15-1**).

- The **Loneliest Highway Special Recreation Management Area** (675,123 acres);
- The new **Chief Mountain Special Recreation Management Area** (111,181 acres);
- The new **Egan Crest Special Recreation Management Area** (53,455 acres);
- The new **Pahranagat Special Recreation Management Area** (298,500 acres); and
- The new **North Delamar Special Recreation Management Area** (202,890 acres).

REC-3: Develop recreation sites, as appropriate, to proactively manage for tourism and recreation experiences.

REC-4: Write recreation area management plans for each special recreation management area identified in REC-2 to provide further management guidance at a site-specific level. The process for development of recreation area management plans is described as follows:

- Establish an interdisciplinary team to ensure broad participation.

- Hold public scoping meetings, as appropriate, to identify the potentially affected publics. Involve Resource Advisory Councils, local government, state and federal agencies, gateway communities, local user groups as applicable to the recreation management area. Prepare appropriate maps to facilitate discussion in identifying issues, concerns and desired future needs.

- Using information from the interdisciplinary team and through public scoping, identify different recreation niches to be served in the special recreation management area. Write specific objectives for the

recreation opportunities that would be provided and managed. Use the recreation opportunity spectrum to describe the existing setting character and the desired future setting character.

- Collect and analyze data identified through the scoping process to assist in the development of the best set of proposed actions to meet the recreation and other resource objectives of the area.

- All recreation area management plans will incorporate guidance from Appendix C of the BLM Land Use Planning Handbook. Plans would address the following:

  - Development of specific recreation management zones within each special recreation management area.

  - Public education and interpretation. This would include working with the local communities and other land management agencies in public outreach as well as in marketing an areas recreation opportunities.

  - Monitoring.

  - Necessary support actions for the administration of the areas including any business plans, fee programs, permit programs and potential concessionaires.

REC-5: Manage areas not designated as Special Recreation Management Areas as extensive recreation management areas. A majority of the planning area is available for dispersed, backcountry, and undeveloped recreational uses.

REC-6: Manage for recreation facilities and services such as trails, trailheads, staging areas, and associated structures in extensive recreation management areas following activity-level plans and NEPA analysis for the management of designated wilderness, ACECs, the Silver State Off-highway Vehicle Trail, backcountry byways, and where appropriate, for management of recreational impacts to natural and cultural resources.

REC-7: Develop or construct recreation trails and routes in extensive recreation management areas as future needs are identified in site-specific planning.

REC-8: Conduct a study of potential routes for the Silver State Off-highway Vehicle trail in White Pine County in accordance with Subtitle E of the White Pine County Conservation, Recreation, and Development Act of 2006.

REC-9: Continue to provide visitor orientation information, interpretive activities, signage, safety programs, and other visitor outreach activities. Familiarize the public with recreational opportunities throughout the planning area and encourage minimum impact or "Leave No Trace" behavior for recreational activities.

2.4.15.2 Parameter – Special Recreation Permits

Management Actions

REC-10: Monitor the use and number of outfitter and guide permits for geographic regions within the planning area for 3 years following plan implementation. Following the monitoring period, issue outfitter and guide permits with special stipulations and conditions to protect resources and reduce user conflicts.

REC-11: Manage four special recreation permit areas totaling approximately 1.3 million acres to provide opportunities for competitive motorcycle special recreation permit events (see **Map 2.4.15-2**).

REC-12: Manage competitive motorcycle events on designated routes within special recreation permit areas (see **Map 2.4.15-2**).

REC-13: Designate event routes and develop additional mitigation in subsequent activity level plans.

REC-14: Manage for a maximum of two competitive truck events each calendar year.

REC-15: Manage four routes for competitive truck events. Rotate use of routes to lessen impacts (see **Map 2.4.15-2**).

REC-16: Permit non-competitive off-highway vehicle events on a case-by-case basis.

REC-17: Close desert tortoise ACECs to all high-speed, competitive off-highway vehicle use.

REC-18: Close desert tortoise ACECs to all types of organized non-speed, off-highway vehicle events from March 1 to June 15, and September 1 to October 31.

REC-19: Limit non-speed off-highway vehicle events in desert tortoise ACECs as identified in **Table 2.4-13**.

Table 2.4-13
Summary of Limitations for Non-speed Off-highway Vehicle Events Within Desert Tortoise ACECs

Stipulations	Corridors		
	Carp-Elgin, Halfway Wash, and East Halfway Wash	Littlefield	Kane Springs Road
Dates allowed for events	June 16 – August 31 November 1 – February 28-29	November 1 – February 28-29	June 16 – August 31 November 1 – February 28-29
Maximum number of vehicles	100	300 4-wheeled vehicles or 400 motorcycles	300
Maximum number of laps	1	1	1
Maximum number of events allowed per tortoise ACEC	3	4	4

REC-20: Limit vehicle off-loading areas, if authorized within desert tortoise habitat, to areas of existing disturbance. Limit event size by the number of vehicles that can be involved without expanding the disturbed area. Terms and conditions and best management practices describe stipulations that will be attached to all special recreation permits for organized off-highway vehicle events in desert tortoise habitat.

REC-21: Implement the following management actions for desert tortoise habitat (also refer to Section 2.4.7, Special Status Species) (see **Map 2.4.7-1**).

- For speed events: Event participants will be informed that they will not ride their ATVs or motorcycles in the desert after they finish an event. This includes the open desert as well as roads and trails. Failure to comply with this condition by anyone associated with a particular rider will result in the disqualification of that rider.

- For speed events including non-speed sections: If a vehicle breaks down, it will be moved to the side of the race course, avoiding damage to vegetation to the extent possible. Participants who stop to rest will pull over onto side roads or areas devoid of perennial vegetation, if possible. Riders who voluntarily retire from the event will either wait along the course for their crew to pick them up, or travel along the course to a pit area. Chase crews will be limited to retrieving vehicles that are broken down along the course. All chase vehicles must have a pit pass, retrieval pass, or other form of access permission from the Ely Field Office.

- For speed events: No spectators or spectator areas will be allowed in ACECs. Spectator vehicles will be allowed in designated spectator areas only. Spectator areas will be confined to existing disturbed areas or new areas selected in coordination with the U.S. Fish and Wildlife Service. Spectator areas are established for viewing purposes only and vehicles will be prohibited. The promoter will be required to mark the boundaries of the spectator area so that spectators can readily tell where the boundary is located. Rope or wire with warning triangles or other similar sturdy materials will be used. A monitor will be placed at each spectator area to ensure spectators remain within the designated boundary. Anyone found outside of the designated area will be subject to citation.

- For speed events: Pit crews will use only authorized pit areas. Pits shall be confined to existing disturbed areas, unless otherwise approved by the U.S. Fish and Wildlife Service. Pit areas will be marked with a sign stating that a pit pass is required. A maximum of ten pit passes will be issued to each entrant; however, in unusual cases, the Ely Field Office may authorize issuance of additional passes to meet specific needs or conditions. Under no circumstances will the issuance of additional passes create or contribute to expansion of designated pit areas. Pit passes should be identified by color or unique number, the name and date of event, and distinguish the pit to which the pass applies (i.e., main pit or course pit), and will be affixed to the windshield of each vehicle. Vehicles in the pit area without pit passes will be towed at the owner's expense. Unauthorized duplication of pit passes will result in disqualification of the entrant and this will be stated on each pass.

- For speed events including non-speed sections: All event-related activities will be confined to authorized vehicle routes, pit areas, spectator areas, and the course itself, and will not stray into vegetated areas. All major access routes leading into restricted areas will be monitored or marked closed and bannered off. Personnel will be stationed at these areas, as appropriate, to enforce access restrictions. Directional signs to spectator and pit areas will be posted at all main access points. "Race-in-progress" signs will be posted at each location where the race crosses another road. Other disqualification or hazard zones will be monitored periodically during the event.

- For all events, Ely Field Office staff will be present to check for compliance with stipulations of the race permit. The importance of staying on the race course will be stressed to all participants by the Ely Field Office and promoter.

- For all events: A sufficient number of BLM rangers, monitors, and crowd control officials, as determined by the Ely Field Office in coordination with the U.S. Fish and Wildlife Service, will be required to enforce compliance with stipulations of the event permit. Monitors may be Ely Field Office or proponent personnel and will be stationed at all disqualification or hazard areas to record any violations. As a general guideline, the Ely Field Office will provide one law enforcement officer per 50 participants to control unauthorized vehicular travel off existing roads, and ensure that habitat damage does not occur. The number of law enforcement officers present may be increased or decreased based on the event proponent's past history of event management and stipulation compliance, the estimated number of spectators, geographic setting of the event, or experience gained from previous similar events, at the discretion of the BLM's authorizing officer.

- For all events: Permittees will be responsible for trash and litter clean-up along the course and in spectator and pit areas. Stakes, flagging materials, temporary facilities, litter, and all other event-related materials will be removed from the course and pit, parking, and spectator areas. The race courses and parking areas will be restored, at a minimum, to pre-event conditions within 15 days after the event. Garbage and food will be removed from the site of the event at the end of each day, and will be disposed of in authorized sanitary landfills.

- For all events including non-speed sections: To reduce casual use of the race course, the race area may be legally closed to casual use on the day of the race. The promoter will be required to station monitors or post signs at road intersections, prohibiting public access, where the general public is likely to access the race course. A Federal Register notice providing authority to close race areas in the Ely and Las Vegas Field Offices will be issued. This will allow BLM law enforcement officers to enforce regulations. A legal notice will be published in the local newspaper, or other appropriate publication, before the permitted events take place.

- For all events: Any desert tortoise found on or adjacent to the event course will be moved into undisturbed desert within 2 miles by a qualified tortoise biologist or BLM personnel experienced or trained in the handling of tortoises, according to current U.S. Fish and Wildlife Service-approved protocol. Occupied desert tortoise burrows along the event route will be temporarily penned during the event in accordance with U.S. Fish and Wildlife Service approved protocols. Currently, the U.S. Fish

and Wildlife Service-approved protocol is "Guidelines for Handling Desert Tortoises During Construction Projects." Tortoises will be deliberately moved solely for the purpose of moving them out of harm's way. Desert tortoises will not be placed on land not under the ownership of the BLM without written permission of the landowner. All personnel involved in tortoise capture will obtain appropriate permits from Nevada Department of Wildlife prior to handling any desert tortoise. All road repair crews will be accompanied by BLM personnel or their designee to ensure that no tortoises or tortoise burrows are harmed during repair operations.

- For speed events: Publicity runs will not occur within ACECs, and all event-related vehicular activity will be confined to authorized routes and the course itself and will not stray into vegetated areas.

- For all events: To the extent possible, the event course will be cleared of all unauthorized vehicles and personnel prior to each event.

- For all events: Participants in each event who violate any stipulation of that event will be disqualified from the event. Additionally, failure to comply with permit conditions by any member of the support team or spectators associated with a particular driver or rider will result in the disqualification of that driver or rider.

- For all events: Participants will be informed that passing will be limited to the disturbed areas of roads, trails, and washes and will not occur in vegetated areas adjacent to the course.

- For speed events: To help control spectators, the event promoter will station at least one person at the primary entrance to the spectator area for at least 2 hours before the start of the race and 1 hour after the start of the race. This individual will stop all cars coming into the area, give the occupants information on the limits of the spectator area, and advise them where they can and cannot park.

- For non-speed portions of speed events in ACECs: Participants will be escorted through the ACEC at a speed of no greater than 25 miles per hour.

- For organized non-off-highway vehicle events within ACECs (e.g., dog trials, model airplane events, etc.): The event area will be surveyed for desert tortoise immediately prior to the event. If desert tortoise or sign of desert tortoise is observed, the event will be moved to a different location or set up in such way as to avoid adverse effects to desert tortoise.

- Horse endurance rides will be limited to existing roads and trails. Horse endurance rides are considered speed events and will not be permitted in desert tortoise ACECs.

2.4.16 Livestock Grazing

Introduction

The Taylor Grazing Act, as amended and supplemented, is the legislative authority providing for livestock grazing on, and protection of, public land. The Federal Land Policy Management Act of 1976 and the Public Rangeland Improvement Act of 1978 direct the management of public land for multiple use and sustained yield. Rangeland management strategies will provide for the maintenance or restoration of watershed function, nutrient cycling and energy flow, water quality, habitat for special status species, and habitat quality for populations and communities of native plants and animals. These management strategies have been supported by development of Standards for Rangeland Health and Guidelines for Livestock Grazing for the Mojave/Southern Great Basin and Northeastern Great Basin regions, which were adopted and approved by the Secretary of Interior in 1997 (Appendix B).

Goal

Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health.

Northeastern Great Basin Area Standards

- Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form.
- Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.
- Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

Mojave-Southern Great Basin Area Standards

- Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.
- Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Objective

To allow livestock grazing to occur in a manner and at levels consistent with multiple use, sustained yield, and the standards for rangeland health.

Management Actions

LG-1: Make approximately 11,246,900 acres and 545,267 animal unit months available for livestock grazing on a long-term basis (see **Map 2.4.16-1**).

LG-2: The following public lands are unavailable for livestock grazing (see **Map 2.4.16-2**):

- Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs (203,670 acres);
- Baker Archaeological Site ACEC (80 acres) and Snake Creek Indian Burial Cave ACEC (40 acres);
- Leased public lands associated with the Coyote Springs Development (6,200 acres);
- Public lands west of U.S. Highway 93 and west of the Desert National Wildlife Range (6,900 acres); and
- Private/Utah Allotment above Beaver Dam State Park (4,400 acres).

LG-3: Allow allotments or portions of allotments within desert tortoise habitat, but outside of ACECs to remain at current stocking levels as shown in **Table 2.4-14** unless a subsequent evaluation indicates a need to change the stocking level.

LG-4: Continue to monitor and evaluate allotments to determine if they are continuing to meet or are making significant progress toward meeting the standards for rangeland health. **Table 2.4-15** shows the current grazing preference, season-of-use, and kind of livestock for those allotments that currently are evaluated for meeting standards, are making progress towards achieving the standards, or are in conformance with the policies as determined either through the allotment evaluation process or associated with fully processed term permit renewals. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, or kind of livestock. Such changes will continue to meet the RMP goals and objectives, including the standards for rangeland health.

Table 2.4-14
Allotments Within Desert Tortoise Habitat but Outside ACECs

Allotment	Map Unit Number[1]	Season-of-use	Active Use Animal Unit Months
Boulder Spring	22	10/1 to 3/31	416
Breedlove	23	3/1 to 2/28	698
Buckhorn	26	3/1 to 3/28	3,370
Delmar	57	3/1 to 2/28	5,558
Garden Spring	76	10/1 to 5/31	2,809
Gourd Springs	85	10/1 to 5/31	3,458
Grapevine	86	3/1 to 2/28	349
Henrie Complex	91	3/1 to 2/28	1,380
Lime Mountain	102	10/1 to 5/15	6,754
Lower Lake East	106	3/1 to 2/28	640
Lower Lake West	107	3/1 to 2/28	1,247
Lower Riggs	108	5/1 to 3/24	1,408
Mormon Peak	126	3/1 to 2/28	600
Pahranagat East	143	8/1 to 5/31	511
Pahranagat West	144	10/1 to 5/31	2,144
Snow Spring	191	10/1 to 5/31	3,567
Summit Spring	202	10/1 to 5/15	715
Terry	207	11/1 to 5/31	1,511
White Rock	222	10/1 to 5/31	2,880

Source: BLM, Caliente Field Station data, 1996a.

[1] Map unit number refers to livestock grazing allotments shown on **Map 2.4.16-1**.

Table 2.4-15
Allotments Evaluated for Meeting Standards of Rangeland Health

Allotment Name	Map Unit Number[1]	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[2]
Badger Spring	3	00823	24,125	4/15 to 11/30	1,412
Baker Creek	4	10125	55,515	Cattle: 10/16 to 6/18, Sheep: 12/01 to 04/30	4,311
Bassett Creek	7	10114	7,328	3/1 to 2/28	591
Bastian Creek	8	10121	13,527	3/1 to 2/28	1,778
Batterman Wash	9	11018	39,878	Cattle: 11/15 to 6/15, Sheep: 12/1 to 4/15	2,093
Becky Creek	11	00404	12,904	11/1 to 3/15	671
Becky Springs	12	10101	40,621	Cattle: 11/15 to 2/28, Sheep: 11/1 to 4/30	3,842
Bennett Creek	13	00409	1,473	6/1 to 10/31	37
Bennett Spring	14	21006	48,264	10/16 to 4/30	3,498
Big Indian Creek	15	00410	6,144	7/1 to 10/19	99
Big Rock Seeding	16	00428	1,862	5/1 to 7/15, 9/1 to 2/28	621
Big Six Well	17	00812	2,412	12/1 to 5/31	140
Black Bluff	18	10122	32,200	Cattle: 9/1 to 5/15, Sheep: 9/1 to 4/15	1,668
Black Canyon	19	11007	8,438	10/16 to 4/30	1,105
Black Horse	21	10123	15,394	3/1 to 2/28	510
Brown Knoll	24	00831	10,366	11/1 to 5/31	161
Butte Seeding	27	00507	976	6/1 to 10/30	275
Cattle Camp/Cave Valley	29	00903	75,846	5/15 to 11/30	6,878
Cave Valley Ranch	30	00904	38,524	5/1 to 10/31	2,403
Cave Valley Seeding	31	00908	942	5/1 to 8/10	200
Cherry Creek	32	00403	153,107	5/1 to 2/28	6,562
Chimney Rock	33	00914	20,037	Cattle and Sheep: 5/1 to 11/1	1,233
Chin Creek	34	10104	148,017	Cattle: 11/1 to 5/31, Sheep: 11/1 to 10/31	13,115
Chokecherry	35	10131	32,334	10/16 to 6/5	3,327

Table 2.4-15 (Continued)

Allotment Name	Map Unit Number[1]	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[2]
Cleveland Ranch	36	10119	11,656	11/1 to 2/28	1,021
Coal Valley Lake	39	10108	115,176	Cattle: 9/1 to 5/15, Sheep: 11/1 to 4/10	4,821
Cold Creek	40	00603	62,103	Cattle: 4/16 to 10/31, Sheep: 11/01 to 03/31	5,803
Cold Spring	41	00909	10,253	5/1 to 9/30	1,265
Connors Summit	44	00915	27,316	3/1 to 2/28	2,449
Copper Flat	45	00427	40,058	Cattle and Sheep: 4/15 to 11/1	3,033
Cottonwood	46	21021	62,145	5/1 to 10/31	1,296
Cottonwood	46	11015	42,172	10/1 to 12/31, 4/1 to 5/31	1,177
Cottonwood	46	00132	49,975	11/1 to 6/15	2,248
Cove	47	00817	26,538	1/1 to 4/30	1,544
Crescent (N-4)	48	01028	61,502	Cattle: 3/1 to 2/28, Sheep: 10/1 to 2/28	951
Crestline	50	11023	2,415	3/1 to 2/28	55
Crossroads	51	21024	19,201	5/1 to 10/31	689
Crystal Springs	52	21025	7,596	8/1 to 5/31	437
Dark Peak	53	00827	19,477	Cattle and Sheep: 4/1 to 11/1	1,826
Dee Gee Spring	54	00815	4,975	12/1 to 5/31	200
Deep Creek	55	10103	23,932	11/1 to 5/15	2,934
Devil's Gate	58	10115	17,686	11/15 to 4/30	2,316
Douglas Point	60	00810	19,318	4/1 to 5/31	368
Dry Farm	61	11024	32,464	Cattle: 6/1 to 9/30, Sheep: 10/1 to 4/15	1,530
Dry Mountain	62	00609	27,552	Cattle and Sheep: 10/1 to 4/1	1,757
Duckcreek	63	00423	9,531	6/1 to 10/31	498
Duckcreek Basin	64	00419	8,301	4/1 to 9/30	436
Duckcreek Flat	65	00412	32,406	8/1 to 6/15	1,347
Duckwater	66	00701	807,662	Cattle and Sheep: 3/1 to 2/28	23,364
East Wells	67	00830	3,542	12/1 to 5/31	122
Enterprise	70	11031	21,585	5/1 to 10/31	1,261
Forest Moon	72	01010	108,273	Cattle: 6/1 to 3/31, Goats and Sheep: 1/1 to 3/31, 8/16 to 10/15	2,263
Fox Mountain	74	11001	73,412	11/1 to 4/10	6,322
Geyser Ranch	78	01101	237,413	3/1 to 2/28	12,308
Gilford Meadows	79	00424	4,666	5/1 to 9/30	420
Giroux Wash	80	00826	48,200	Cattle: 4/1 to 12/15, Sheep: 4/1 to 11/1	5,326
Gold Canyon	82	00413	23,640	6/20 to 11/30	1,068
Goshute Basin	83	00402	9,397	Cattle: 7/1 to 9/1, Sheep: 7/1 to 10/15	633
Goshute Mountain	84	10102	5,693	11/1 to 3/31 (Administered by Elko Field Office)	465
Gourd Spring[3]	85	01071	57,700	10/1 to 5/31	3,458
Hamblin Valley	88	00133	105,831	Cattle and Sheep: 11/1 to 5/31	8,177
Hardy Spring	89	11022	124,008	10/15 to 5/15	3,478
Henrie Complex[3]	91	11034	165,060	11/1 to 4/30	1,380
Horse Haven	95	00620	25,000	5/1 to 9/30	1,056
Indian Creek	96	00401	3,167	7/1 to 9/1	177
Indian George	97	10112	41,650	10/16 to 4/15	2,860
Indian Jake	98	00804	47,168	3/15 to 6/15, 9/1 to 2/28	2,948
Irish Mountain	99	11006	83,465	Cattle: 3/1 to 2/28, Sheep: 10/1 to 2/28	3,141
Jake's Unit Trail	N/A	00821	15,056	4/1 to 4/30, 11/1 to 11/30	832
Klondike	100	01085	7,072	10/16 to 4/30	678
Lake Area	101	00910	27,556	Cattle and sheep; 5/1 to 11/1	2,978
Little White Rock	104	00913	13,012	Cattle and Sheep: 5/1 to 11/01	904
Lovell Peak	105	00406	2,360	7/1 to 9/30	105
Lower Lake West[3]	107	11013	57,000	3/1 to 2/28	1,247
Majors Allotment	110	10126	99,193	Cattle: 3/1 to 5/31, Sheep: 5/1 to 10/31	12,535
Maybe Seeding	113	00828	941	12/1 to 5/31	300
McCoy Creek	114	10135	5,289	3/1 to 2/28	508
McDermitt Creek	116	00505	2,703	Administered by Elko Field Office	630
McQueen Flat	118	00805	10,403	4/15 to 11/15	496
Meadow Creek	119	10113	8,273	3/1 to 2/28	445
Medicine Butte	121	00501	287,368	Cattle: 3/1 to 2/28, Sheep: 4/15 to 11/15	7,232
Middle Steptoe	122	00411	2,361	7/1 to 10/7	173
Mill Spring	123	10109	5,587	4/1 to 9/30	341
Monte Cristo	124	00614	6,138	6/21 to 9/18	1,125
Moorman Ranch	125	00802	123,491	3/1 to 2/28	10,099
Muncy Creek	127	20111	207,906	3/1 to 2/28	12,384
Murphy Gap	128	10110	35,210	Cattle and Sheep: 10/1 to 4/15	1,951

Table 2.4-15 (Continued)

Allotment Name	Map Unit Number[1]	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[2]
N4/N5	132	01049	43,500	3/1 to 2/28	825
Narrows	133	11002	6,909	12/1 to 2/28	535
Needles	134	11016	85,500	Cattle: 10/1 to 2/28, Sheep: 10/1 to 4/15	2,679
Newark	136	00608	218,105	Cattle: 11/1 to 10/31, Sheep: 11/1 to 4/1	9,061
North Butte	137	00502	26,467	2/15 to 4/15, 8/1 to 10/31	180
North Chokecherry	138	20134	8,692	10/15 to 05/15	770
North Cove	139	00816	25,446	12/1 to 5/31	1,004
North Steptoe	140	00405	12,701	10/1 to 3/15	700
Oak Wells	142	01051	29,139	3/1 to 2/28	511
Pleasant Valley	153	00110	5,113	4/15 to 9/30	405
Preston	154	00806	10,250	4/18 to 5/31	166
Preston Lund Trail	N/A	00822	10,856	4/1 to 4/30, 11/1 to 11/30	1,569
Rabbit Spring	155	01057	20,975	6/1 to 3/15	884
Railroad Pass	156	00601	27,025	Cattle: 6/1 to 9/30, Sheep: 4/5 to 11/15	3,542
Red Hills	160	00108	35,489	11/1 to 4/30	2,600
Rock Canyon	162	00808	7,256	12/1 to 5/31	432
Ruby Valley	165	00619	20,081	3/1 to 4/3, 11/1 to 2/28	467
Sampson Creek	167	10105	13,232	5/1 to 9/30	1,327
Sand Springs	170	01066	249,685	3/1 to 2/28	7,005
Sawmill Bench	171	00807	319	11/10 to 12/17	114
Schellbourne	173	00407	16,316	10/15 to 5/15	685
Schlarman	174	01068	5,345	11/1 to 4/30	240
Sheep Flat	179	01069	74,171	6/1 to 9/30	1,977
Sheep Pass	180	00905	26,800	4/1 to 12/31	1,150
Sheep Springs	181	01070	31,077	6/1 to 3/15	409
Sheep Trail Seeding	182	00829	564	12/1 to 5/31	200
Shoshone Unit Trail	N/A	10140	16,517	5/1 to 5/5, 5/31 to 6/4, 10/25 to 10/29	483
Silverado	185	00623	6,284	11/15 to 2/13	338
Six Mile	188	00613	21,335	Cattle: 4/15 to 10/31, Sheep: 11/1 to 4/15	1,209
Smith Creek	190	20117	68,072	11/16 to 6/15	5,355
Sorensen Well	192	00818	5,880	12/1 to 5/31	193
South Butte	193	00504	26,081	4/15 to 2/28	396
South Butte Seeding	N/A	00506	968	5/1 to 10/31	245
South Coal Valley	195	10120	46,701	Cattle: 9/1 to 5/15, Sheep: 12/1to 4/15	2,205
South Hiko Six-Mile	196	11008	33,018	3/1 to 2/28	858
South Pancake	197	00615	31,088	3/15 to 4/30, 11/15 to 1/15	1,155
South Spring Valley	198	10130	79,323	Cattle: 2/1 to 6/15, Sheep: 5/1 to 6/15, 9/1 to 9/30	6,329
Stephen's Creek	199	10118	3,784	Cattle and Sheep: 6/1 to 10/31	318
Steptoe	200	00415	44,025	3/1 to 2/28	2,836
Strawberry	201	00607	21,135	6/1 to 10/30	1,032
Sunnyside	203	21023	219,519	6/1 to 10/31	5,402
Swamp Cedar	204	00832	6,333	12/1 to 5/31	192
Taft Creek	205	10116	28,294	Cattle: 4/15 to 11/30, Sheep: 11/1 to 2/28	1,831
Tamberlaine	206	00901	31,692	3/15 to 10/15	2,002
Thirty Mile Spring	208	00503	178,716	4/15 to 2/28	8,405
Timber Mountain	209	01004	43,839	Cattle and Sheep: 11/1 to 4/10	2,373
Tippett	210	10106	200,041	Cattle: 3/1 to 2/28, Sheep: 4/16 to 12/15	12,800
Tippett Pass	211	20107	77,161	Cattle: 11/1 to 5/31, Sheep: 10/1 to 6/15	8,177
Uvada	212	01079	13,608	5/1 to 10/31	463
Warm Springs	215	00606	306,971	3/01 to 2/28	7,744
Warm Springs	214	01080	1,401	3/1 to 2/28	74
Warm Spring Trail	N/A	00622	16,385	3/1 to 3/31, 4/15 to 5/1, 11/1 to 11/30, 11/15 to 12/1	2,481
Well's Station	216	00819	5,880	12/1 to 5/31	312
West Schell Bench	217	00433	25,915	5/1 to 11/1	1,389
West Timber Mountain	218	11020	12,570	12/1 to 4/15	735
White River	221	11009	9,725	10/1 to 5/15	501
White River Trail	N/A	11005	19,300	11/1 to 4/20	1,505
White Rock[3]	223	01078	32,916	10/1 to 5/31	2,880
White Rock	222	00902	80,513	3/1 to 12/31	7,473
Willard Creek	226	10127	10,246	4/15 to 11/30	1,132
Willow Springs Addition	228	00825	602	6/1 to 7/1	114
Willow Springs Seeding	229	00824	300	8/31 to 10/6	70

Table 2.4-15 (Continued)

Allotment Name	Map Unit Number[1]	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[2]
Willow Springs	227	10129	46,967	3/1 to 2/28	6,608
Wilson Creek	230	01201	1,077,994	Cattle and Sheep: 3/1 to 2/28	48,250
Worthington Mountain	231	11021	77,798	Cattle: 1/13 to 5/31, Sheep: 12/15 to 4/10	5,641
Total			**8,408,789**		**424,602**

[1] Map unit number refers to livestock grazing allotments shown on **Map 2.4.16-1**.
[2] There are a total of approximately 190,000 suspended animal unit months. These are a matter of record at the Ely Field Office.
[3] Allotments with acres, animal unit months, or season of use adjusted, as a result of the 2000 Caliente Management Framework Plan Amendment for Management of Desert Tortoise Habitat.

LG-5: Maintain the current grazing preference, season-of-use, and kind of livestock until the allotments that have not been evaluated for meeting or making progress toward meeting the standards or are in conformance with the policies are evaluated (see **Table 2.4-16**). Depending on the results of the standards assessment, maintain or modify grazing preference, seasons-of-use, kind of livestock, and grazing management practices to achieve the standards for rangeland health. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, or kind of livestock. Ensure changes continue to meet the RMP goals and objectives, including the standards for rangeland health.

Table 2.4-16
Allotments Not Evaluated for Meeting Standards of Rangeland Health

Allotment Name	Map Unit Number[1]	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[2]
Applewhite	1	21001	28,448	3/1 to 2/28	562
Ash Flat	2	21002	3,247	5/1 to 3/24	74
Bald Mountain	5	21003	269,723	Cattle and Horses: 3/1 to 2/28	5,811
Barclay	6	11004	79,621	5/16 to 11/15	1,971
Big Wash[3]	232	03498	5,218	Closed by U.S. Forest Service	0
Black Hills	20	21008	3,610	3/1 to 2/28	156
Boulder Spring[4]	22	21009	13,537	10/1 to 3/31	416
Breedlove[4]	23	11010	89,500	3/1 to 2/28	698
Buckboard	25	21011	10,842	3/1 to 2/28	263
Buckhorn	26	21012	82,968	3/1 to 2/28	3,370
Caliente	28	21014	2,008	3/1 to 2/28	40
Choke Cherry Forest Service[3]	233	03496	9,898	Closed by U.S. Forest Service	0
Cliff Springs	37	21016	35,821	3/1 to 2/28	2,043
Clover Creek	38	21015	22,876	11/1 to 4/30, 5/1 to 10/27	613
Comet	42	21018	9,146	3/1 to 2/28	214
Condor Canyon	43	21019	44,035	3/1 to 1/24	676
Corta[5]	–	10033	1,130	Administered by Battle Mountain Field Office	128
Crescent (N-5)	49	01062	36,689	11/1 to 4/30	1,540
Currant Ranch[5]	–	00153	10,500	11/1 to 2/28	177
Deer Lodge	56	21026	6,880	3/1 to 2/28	167
Delamar[4]	57	01083	203,000	3/1 to 2/28	5,558
Douglas Canyon	59	00811	11,422	6/9 to 8/30	175
Ely Springs Cattle	68	11029	55,168	3/1 to 2/28	4,248
Ely Springs Sheep	69	21030	22,927	10/16 to 5/15	1,802
Gallagher Gap	75	00418	3,299	11/1 to 2/28	169
Garden Spring[4]	76	01065	38,823	Cattle and Horses: 10/1 to 5/31	2,809
Georgetown Ranch	77	00422	23,688	3/1 to 5/31, 10/1 to 11/30	1,675
Goat Ranch	81	00421	5,524	4/22 to 9/4	213

Table 2.4-16 (Continued)

Allotment Name	Map Unit Number[1]	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[2]
Grapevine[4]	86	11032	22,000	3/1 to 2/28	349
Haggerty Wash	87	00907	904	6/15 to 10/15	194
Haypress	90	11033	7,843	5/1 to 10/31	154
Heusser Mountain	92	00416	33,956	5/1 to 3/31	1,486
Highland Peak	93	11035	45,542	10/16 to 5/15	3,704
Highway	94	01036	4,251	3/1 to 2/28	118
Lexington[3]	234	03497	7,843	Closed by U.S. Forest Service	0
Lime Mountain	102	21005	67,144	10/1 to 5/15	6,754
Little Mountain[4]	103	00414	18,575	Relinquished	0
Lower Lake East[4]	106	21022	41,800	3/1 to 2/28	640
Lower Riggs[4]	108	01087	19,569	5/1 to 3/24	1,408
Mahogany Peak	109	01040	28,441	3/1 to 2/28	718
Mallory Springs	111	00136	12,186	Cattle: 6/1 to 8/31, Sheep: 9/1 to 5/31	940
Maverick Springs	112	00621	42,679	3/1 to 2/28	1,500
McCutcheon Springs	115	01054	18,276	3/1 to 2/28	446
McGuffy	117	01043	22,115	3/1 to 2/28	298
Meadow Valley	120	01041	3,971	Cattle: 11/1 to 4/30, Horses: 3/1 to 2/28	56
Mormon Peak[4]	126	01044	64,700	6/1 to 3/31	600
Murphy Wash[3]	129	03503	54,307	6/5 to 9/10	728
Mustang	130	01047	23,877	3/1 to 2/28	1,134
Mustang Flat	131	01048	5,987	5/1 to 10/31	147
Negro Creek	135	00120	31,985	3/1 to 2/28	3,727
North Steptoe Trail	N/A	00426	1,181	9/15 to 10/15, 3/1 to 3/30	253
Oak Springs	141	01050	193,609	3/1 to 2/28	9,268
Pahranagat East[4]	143	11027	34,146	8/1 to 5/31	511
Pahranagat West[4]	144	01081	70,138	10/1 to 5/31	2,144
Pahroc	145	01052	117,443	3/1 to 2/28	4,783
Panaca Cattle	146	01053	16,275	3/1 to 2/28	453
Peck	148	01055	17,741	3/1 to 2/28	397
Pennsylvania	149	01056	30,971	5/1 to 10/31	588
Pine Cone	150	01045	28,265	8/1 to 2/28	1,205
Pine Creek	151	11012	34,693	5/1 to 12/31	2,667
Pioche	152	01086	13,440	3/1 to 2/28	402
Rainbow	157	11028	7,033	3/1 to 2/28	665
Rattlesnake	158	01058	28,426	10/16 to 5/30	1,180
Red Bluff	159	01059	10,000	9/9 to 2/28, Administered by Tonopah Field Station	34
Road Side	161	01061	1,123	12/1 to 2/28	32
Rocky Hills	163	--	4,375	Relinquished	0
Sacramento Pass/Strawberry[3]	166	00123	40.582	5/1 to 12/30	2,008
Sand Hills	168	01088	11,585	6/1 to 10/31	229
Sawmill Canyon	172	01067	9,177	3/1 to 2/28	181
Schoolhouse Spring	175	00420	7,033	4/1 to 2/28	191
Scotty Meadows	176	10128	17,322	6/1 to 9/30	1,227
Second Creek	177	00417	7,776	5/1 to 2/28	358
Shadow Wells	178	01060	17,862	11/1 to 4/30	577
Shingle Creek[3]	183	03502	9,302	6/20 to 9/10	575
Shingle Pass	184	00906	74,788	5/16 to 10/15	2,724
Simpson	186	21004	8,379	3/1 to 4/30	747
Six Mile	187	01073	34,531	3/1 to 2/28	859
Six Mile Ranch	189	00814	2,232	4/1 to 4/30, 9/15 to 2/28	162
Snake Creek[3]	235	03499	3,086	Closed by U.S. Forest Service	0
Snow Springs[4]	191	01074	44,042	10/1 to 5/15	3,567
Soap Creek[3]	236	03508	1,284	Closed by U.S. Forest Service	0
Summit Spring[4]	202	01077	18,035	10/1 to 5/31	715
Terry[6]	207	--	30,163	11/1 to 5/31, Administered by St. George Field Office	1,511
Tom Plain	212	00803	77,039	3/1 to 2/28	6,039
White Hills	219	01082	2,755	12/1 to 2/28	101

Table 2.4-16 (Continued)

Allotment Name	Map Unit Number[1]	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[2]
White Pine Seeding	220	00602	4,305	Administered by Elko Field Office	258
Whiteman Creek	224	00408	5,417	5/1 to 2/28	384
Wild Horse	225	11017	18,014	3/1 to 2/28	315
Total			**3,247,411**		**120,665**

[1] Map unit number refers to livestock grazing allotments shown on **Map 2.4.16-1**.
[2] There are a total of approximately 190,000 suspended animal unit months. These are a matter of record at the Ely Field Office.
[3] Eight allotments transferred to the BLM through the White Pine County Conservation, Recreation, and Development Act of 2006; availability of two of these allotments for livestock grazing will be determined.
[4] Allotments that had acres, animal unit months, or season of use adjusted, as a result of the 2000 Caliente MFP Amendment for Management of Desert Tortoise Habitat.
[5] Occur outside the planning area.
[6] Southern portion of Terry allotment has a season-of-use of 11/1 to 3/15 (critical desert tortoise habitat).

LG-6: When changes to BLM grazing permits are being considered in Rocky Mountain and desert bighorn sheep occupied habitat, manage domestic sheep and goats in accordance with current BLM policy.

LG-7: Manage allotments that become vacant, for any reason including relinquishment by the permittee, to best meet site-specific and land use planning objectives. Authorized uses may include new grazing permits, forage reserve allotments, dedication to purposes that preclude livestock grazing, and others such as offsetting allotments for permittees who are displaced for any reason.

LG-8: Implement the following management actions for desert tortoise habitat outside the Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs (also refer to Section 2.4.7, Special Status Species; and Section 2.4.12, Lands and Realty) (see **Map 2.4.7-1**).

- From March 1 to October 31, livestock use may occur as long as forage utilization management levels do not exceed 40 percent on key perennial grasses, shrubs and perennial forbs; and between November 1 and February 28/29, provided forage utilization management levels do not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs. If the utilization management levels are reached, livestock will be moved to another location within the allotment or taken entirely off the allotment.

- All vehicle use in desert tortoise habitat associated with livestock grazing, with the exception of range improvements, will be restricted to existing roads, trails, and large sandy washes. Permittees and associated workers will comply with posted speed limits on access roads. No new access roads will be created.

- Tortoises discovered by the permittee to be in imminent danger during routine cattle movement or maintenance activities, may be removed out of harm's way by the permittee provided the permittee has received the required training.

- Use of hay or grains as a feeding supplement will be prohibited within grazing allotments. Mineral and salt blocks are authorized subject to Title 43 Code of Federal Regulations Section 4130.6-2(c) and should be placed in previously disturbed areas wherever possible to minimize impacts to desert tortoise and its habitat. In some cases, blocks may be placed in areas that have a net benefit to tortoise by distributing livestock more evenly throughout the allotment, and minimizing concentrations of livestock that result in habitat damage.

- Regular site visits will be made to available allotments that are actively grazed by livestock by BLM rangeland specialists and other qualified personnel, including U.S. Fish and Wildlife Service biologists, to ensure compliance with the terms and conditions of the grazing permit. Any item in non-compliance will be rectified by the BLM and reported to the U.S. Fish and Wildlife Service.

- Livestock levels will be adjusted to reflect significant, unusual climatic conditions that result in a dramatic change in range conditions (e.g., drought and fire) and negatively impact the ability of the allotment to support both tortoise and cattle.

- The permittee is required to take action to remove any livestock that move into areas unavailable for grazing back into the available areas of the allotment. If straying of livestock becomes problematic, the BLM, in consultation with the U.S. Fish and Wildlife Service, will take measures to ensure straying is prevented.

2.4.17 Forest/Woodland and Other Plant Products

Introduction

The Federal Land Policy and Management Act of 1976 directs BLM to ". . . manage public lands according to the principles of multiple-use and sustained yield . . ." One of the multiple uses of resources within the planning area includes the use of forest/woodland areas for fuelwood collection, pinyon nut harvesting, Christmas tree harvesting, posts and poles, seed collection, cactus and yucca collection, and other vegetation product collection. Vegetation management tools (e.g., prescribed fires, thinning) will allow for the regeneration of forest/woodland vegetation types and the selective thinning of these communities to improve their overall health within the planning area and achievement of applicable Resource Advisory Council standards and the desired ranges of conditions for various types of woodlands. Commercial collection of cacti, yucca, and evergreen trees within the state also is regulated under Nevada Revised Statutes (N.R.S. 527.060.120) and the Nevada Administrative Code Chapter 527.

Goal

Provide opportunities for traditional and non-traditional uses of vegetation products on a sustainable, multiple-use basis.

Objective

To make healthy forest/woodlands and populations of other plants available for the responsible harvesting of forest/woodland and plant products by the public, commercial interests, and American Indians and allow access for traditional and non-traditional uses.

2.4.17.1 General Forest/Woodland and Other Plant Product Management

Management Actions

FP-1: Do not allow bristlecone pine, limber pine, or swamp cedar to be harvested except for education, scientific, research purposes; for salvage; or for the purpose of preventing or limiting insect or disease problems. Do not permit the cutting of rare or unique trees and shrubs including bearing trees.

FP-2: Allow the sale and salvage of desert vegetation (primarily cactus and yucca) based on NEPA analysis and, if necessary, Section 7 consultation with the U.S. Fish and Wildlife Service.[4]

FP-3: Allow the harvest of desert vegetation for educational or scientific research purposes.[4]

FP-4: Limit vehicle traffic associated with woodland and vegetation product harvesting to existing roads and trails except in areas where completed site-specific analysis or activity plans (e.g., watershed analysis, forestry management plans, etc.) allow. Specific areas would be identified as a condition of the permits/contracts for large quantity sales of vegetation products. These areas generally would be in locations where such activity would assist in meeting watershed objectives.

2.4.17.2 Parameter – Fuelwood Collection

Management Actions

FP-5: Allow collection of fuelwood from both live and dead trees for personal use (pinyon, juniper, and mountain mahogany) and commercial use (pinyon and juniper) throughout the planning area, except in closed areas (e.g., wilderness study areas, designated wilderness).[4]

FP-6: Allow harvest/collection of other tree species (e.g., aspen, ponderosa pine, and white fir) on a case-by-case basis or through the watershed analysis process.[4]

[4] Implementation level decision.

2.4.17.3 Parameter – Pinyon Pine Nut Harvesting

Management Actions

FP-7: Allow personal use collection of pine nuts throughout the planning area.[5]

FP-8: Utilize commercial harvest sale areas that have been designated throughout the planning area after coordination with American Indian tribes to avoid traditional use areas. Sell these sites through a competitive bidding process. When the competitive bidding is complete and the sales are awarded, the specific sale area will be documented on the permittee's contract.

2.4.17.4 Parameter – Christmas Tree Harvesting

Management Actions

FP-9: Make pinyon, juniper, and white fir available for personal use throughout the planning area, except in closed areas (e.g., wilderness study areas, designated wilderness).[5]

FP-10: Allow commercial use to only pinyon and juniper throughout the planning area.[5]

FP-11: Make white fir available for commercial harvest if future site-specific planning activities (e.g., watershed analysis) determine that harvest will assist in achieving the desired range of conditions, health and resiliency of the stand, and site-specific objectives for the site.

2.4.17.5 Parameter – Post and Pole Harvesting

Management Actions

FP-12: Make pinyon and juniper available for personal and commercial use throughout the planning area, except in closed areas.[5]

FP-13: Allow the use of aspen, fir, and spruce on a case-by-case basis, and if harvest will improve the health of the stand.[6]

FP-14: If harvest will assist in achieving site-specific objectives, designate areas open to harvest with specified limitations until desired conditions are achieved.

[5] Implementation level decision.
[6] Implementation level decision.

2.4.17.6 Parameter – Seed Collection

Management Actions

FP-15: Allow commercial collection on a case-by-case basis.

FP-16: Do not allow harvesting of more than 50 percent of the annual seed crop available in any one area.

FP-17: Do not allow seed harvest of special status plants except for research, federally/state endorsed propagation for restoration, or case-specific small scale commercial/personal use regulated under permit process. All special status seed harvest will be monitored by the Ely Field Office, in the form of permit requirements.

FP-18: Encourage hand collection methods, and allow mechanical collection on a limited basis.

2.4.17.7 Parameter – Other Vegetation Products (i.e., wildings, boughs, etc.) Collection

Management Actions

FP-19: Allow personal and commercial collection on a case-by-case basis.

FP-20: Specify areas for collection on the vegetation sales contract.

FP-21: Limit collection methods to those with the least surface disturbing activities.

2.4.17.8 Parameter – Biomass Products

FP-22: Allow biomass harvest in areas where vegetation projects require vegetation removal and meet project objectives.

2.4.18 Geology and Mineral Extraction

Introduction

The general mining laws give the public the right to locate and develop mining claims on public land. The Mining and Minerals Policy Act of 1970 declares that it is the continuing policy of the federal government to foster and encourage private enterprise in the development of domestic mineral resources. Section 102 of the Federal Land Policy and Management Act of 1976 directs that the public land will be managed in a manner that recognizes the Nation's need for domestic sources of minerals and other commodities from the public lands, while protecting scientific, scenic, historic, archeological, ecological, environmental, air and atmospheric, and hydrologic values. The BLM's mineral and national energy policy states that public lands

shall remain open and available for mineral exploration and development unless withdrawal or other administrative action is justified in the national interest.

Federally owned minerals in the public domain are classified into three categories: leasable minerals, locatable minerals, and mineral materials as discussed below. The classifications are based on acts passed by the U.S. Congress. These acts provide the opportunity for the public to explore for, develop, and produce publicly owned minerals.

Leasable minerals are those minerals on public lands where the land is leased to individuals for their exploration and development. The leasable minerals have been subdivided into two classes, fluid and solid. Fluid minerals include oil and gas; geothermal resources and associated by-products; and oil shale, native asphalt, oil impregnated sands, and any other material in which oil is recoverable only by special treatment after the deposit is mined or quarried. Solid leasable minerals are those leased under the mineral leasing acts and those hardrock minerals leased under Reorganization Plan No. 3 of 1946 (acquired lands). Solid leasable minerals are specific minerals such as coal and phosphates. All minerals on acquired lands are considered to be leasable minerals. Leasable minerals are associated with the following laws: Mineral Leasing Act of 1920, as amended and supplemented, Mineral Leasing Act for Acquired Lands of 1947, as amended, and the Geothermal Steam Act of 1970, as amended.

Locatable minerals are those "minerals acquired through the General Mining Law of 1872, as amended" (National Research Council 1999). Locatable minerals can include gold, silver, platinum, lead, zinc, magnesium, nickel, tungsten, bentonite, barite, feldspar, uranium, and uncommon varieties of sand, gravel, and stone. Locatable minerals on public lands (if open to mineral entry) can be acquired by initially staking claims over the deposits. However, before mining can occur, permits from various state and federal agencies must be obtained.

Mineral materials are common varieties of minerals such as sand, gravel, rock, cinders, and common clay. Mineral materials are disposed of through sales contracts or free use permits and are regulated under the Mineral Material Act of July 23, 1947, as amended, and the Surface Use and Occupancy Act of July 23, 1955. Disturbance of public lands in association with mineral material sales is considered a discretionary activity. This means that the action may be denied if resource concerns cannot be protected or mitigated.

Goal

Allow for meeting the Nation's energy needs while providing environmentally responsible production of fluid leasable minerals, and geophysical exploration for energy resources on public lands. Allow development of solid leasable and locatable minerals in a manner to prevent unnecessary or undue degradation. Allow development of mineral materials in a manner that will prevent unnecessary or undue degradation, meet public demand, and minimize adverse impacts to other resource values.

Objective

To provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses.

2.4.18.1 General Geology and Mineral Management

Management Actions

MIN-1: Implement the following management actions for desert tortoise habitat (also refer to Section 2.4.7, Special Status Species; and Section 2.4.12, Lands and Realty) (see **Map 2.4.7-1**). This decision applies to fluid and solid leasable minerals, locatable minerals and mineral materials parameters.

- Within desert tortoise ACECs: Exploration will be allowed only on existing roads and trails. Unless otherwise authorized, access to mineral operations will be limited to existing roads and trails. All proposed surface disturbance and vehicular travel will be limited to the approved operation plan and access route. Upon determination of an impending field development, a transportation plan will be requested to reduce unnecessary access roads. No blading or other dirt work will be allowed without prior approval of the BLM authorized officer. A qualified biologist will monitor cross country travel for tortoise and will move them as needed.

- Within desert tortoise ACECs: Drilling fluids and cuttings will be contained in portable mud pits or lined reserve pits in all operations.

- Within desert tortoise habitat: Vibriosis, drill hole shot, or surface shot will not be completed within 100 yards of known tortoise burrows.

- When a permitted activity results in residual impacts to desert tortoise habitat, compensation will be required. The compensation rate will be determined during the NEPA process for each proposed action. The amount to be paid will be calculated according to the formula identified in the "Compensation for the Desert Tortoise" report approved by the Desert Tortoise Management Oversight Group in November 1991.

- Ensure, through the review of the proposed action and development of the mitigation measures, that the impacts from the proposed action will not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. The operator, U.S. Fish and Wildlife Service, and BLM will need to reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that the proposed action will not be below the jeopardy or adverse modification threshold, the project will not go forward.

2.4.18.2 Parameter – Fluid Leasable Minerals

Introduction

Areas available for fluid mineral leasing are identified through management determinations during the planning process. These determinations designate the land as closed or open to leasing, and if open, what stipulations should be applied to the lease. All leases are subject to the terms and conditions of the standard lease form which allows for up to 60-day timing deferments and 200 meter (656 feet) displacements (Title 43 Code of Federal Regulations Section 3101.1-2). Stipulations modify the lease rights beyond the standard lease terms. Constraints are considered to be either major, such as no surface occupancy, or moderate. Moderate constraints consist of timing limitations (seasonal restrictions) and controlled surface use restrictions. Timing limitations indicate that a leased area generally is open to development activities except during a specified period of time to protect identified resource values such as wildlife. Controlled surface use stipulations may require operating constraints to protect resources year round; for example, staying on existing roads.

A lease notice may be attached to the lease to inform potential lessees of important resource issues under existing laws and regulations that may result in delays associated with subsequent permitting, and appropriate mitigation of those resource concerns.

Resources are further protected during operational activities through the application of best management practices, as contained in the Gold Book (U.S. Department of the Interior and U.S. Department of Agriculture 2006) and the development of site-specific conditions of approval.

Under certain conditions, waivers, exceptions, and modification to lease stipulations may be granted. The circumstances for granting an exception, waiver, or modification are attached to each stipulation.

Any lease stipulation may be waived or modified as per Title 43 Code of Federal Regulations Section 3101.1-4. A waiver or modification is allowable only if the authorized officer determines that the factors leading to its inclusion in the lease have changed sufficiently to make requirements of the stipulation(s) no longer justified, or mitigation contained in individual permits will preclude unacceptable impacts. If the waiver or modification is of major concern to the public, such modification will be subject to a 30-day public review. This review can be held concurrent with the required 30-day posting of applications for permit to drill. Plan amendments are not required to waive, modify, or provide exception to lease stipulations.

A waiver eliminates a stipulation from the lease. The stipulation waiver can be considered concurrent with application for permit to drill approvals and can be accomplished with any NEPA vehicle available such as an environmental assessment, documentation of NEPA adequacy, categorical exclusion, or any similar process available to the Ely Field Office. Waivers can be found in Appendix F, Section 2, for various resource concerns.

A modification usually is considered a long-term change in the stipulation to fit the new conditions for which the stipulation was applied; however, it can be short term as well. Depending upon the site conditions, the

stipulation may or may not apply to all actions or authorizations on the leasehold. An example of a modification could be a greater sage-grouse lek site that may no longer need a no surface occupancy stipulation on drilling and construction operations if BLM, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting the sage grouse lek. Public notice is required only if the authorized officer determines it is of major public concern.

An exception is a one-time exception to all or part of the stipulation for a particular action due to changed environmental conditions at the time and place of the action being considered. For example, a seasonal restriction on drilling in critical winter range could be excepted if the winter is mild and the target species have not moved onto the critical portions of the winter range (near the drilling location). In subsequent years, the conditions could change and preclude an exception being granted. Normally, exceptions are considered minor actions and, therefore, are not subject to a 30-day public review.

Table 2.4-17 summarizes the acres open and closed to fluid mineral leasing under the Proposed RMP.

Table 2.4-17
Summary of Fluid Mineral Leasing Acreages

	Acres[1]
Open to Fluid Mineral Leasing	
Standard Lease Terms and Conditions	6,073,400
Moderate Restrictions (Timing/Surface Use Limitations)	3,728,200
Major Restrictions (No Surface Occupancy)	233,600
Open – Total	**10,035,200**
Closed to Fluid Mineral Leasing	
Designated Wilderness/Wilderness Study Areas	1,153,500
Discretionary Closures	311,300
Closed – Total	**1,464,800**
Total	**11,500,000**

Note: There will be about 807,770 acres of lease notices that could apply to any of the above open categories.

[1] Rounded to hundreds.

Management Actions

MIN-2: Open to Leasing – Allow leasing on approximately 6.0 million acres open to leasing subject to existing laws, regulations, and formal orders and the terms and conditions of the standard lease form. A lease notice will be attached, where applicable, to inform potential lessees of important resource issues under existing laws and regulations that may result in delays associated with subsequent permitting and appropriate mitigation of those resource concerns. Lease notices will consist of:

Cultural Site – Areas of known high potential for cultural sites. Properties known at the time of lease announcements that are listed on or eligible for the National Register of Historic Places will be avoided where possible using lease exclusions or limits on surface use. The preferred avoidance option is to

exclude areas containing National Register of Historic Places-eligible sites from leasing and all forms of surface disturbance. The next preferred option is to establish no surface occupancy around these sites, including an adequate buffer. Similar constraints may be placed on proposed lease areas based on probability models and the likelihood of encountering properties eligible for the National Register of Historic Places. Cultural sites not avoided may require consultation with State Historic Preservation Officer and potential treatment plans.

Historic Sites – Areas include the Pony Express Trail, the Hastings Cutoff, the Lincoln Highway, and the Osceola Ditch. Any activity planned within 1 mile of these sites must undergo a visual assessment in conjunction with environmental review to determine if the activity will adversely affect the visual integrity. Appropriate mitigation will take place as necessary to keep the management corridor in as natural a condition as possible. Nondiscretionary activity will be mitigated as needed to preserve the visual integrity.

Desert Tortoise Habitat – All proposed projects in desert tortoise habitat will require Section 7 consultation with the U.S. Fish and Wildlife Services.

See **Map 2.4.18-1** for Lease Notices.

MIN-3: Open to leasing, subject to moderate constraints – Protect resources beyond the standard lease terms and conditions by requiring timing and controlled surface use restrictions as indicated in **Table 2.4-17**. **Table 2.4-18** and **Map 2.4.18-1** contain a complete description of all the lease stipulations. There is considerable overlap of acreages associated with various types of timing restrictions. Including this overlap, the cumulative acreage of the separate timing and surface use stipulations totals approximately 3.7 million acres.

Table 2.4-18
Timing and Surface Use Stipulations

Resource	Potential Restriction	Acres[1]
Greater Sage-grouse Nesting Habitat Associated with Leks	Timing Limitation. No surface activity will be allowed within two miles of a greater sage-grouse lek from March 1 through May 15.	1,244,200
Greater Sage-grouse Winter Range	Timing Limitation. No surface activity will be allowed within winter range for greater sage-grouse from November 1 through March 31.	100,300
Big Game Calving/Fawning/ Kidding/Lambing Grounds	Timing Limitation. No surface activity will be allowed within big game calving/fawning/kidding/lambing grounds from April 15 through June 30.	794,200
Big Game Crucial Winter Range	Timing Limitation. No surface activity will be allowed within big game crucial winter range from November 1 through March 31.	756,800
Desert Tortoise Habitat	Timing Limitation. No surface activity will be allowed within desert tortoise habitat from March 1 to October 31.	314,700
Desert Bighorn Sheep Habitat	Timing Limitation. No surface activity will be allowed within occupied desert bighorn sheep habitat from March 1 through May 31 and from July 1 through August 31.	477,600
Raptor Nest Sites	Timing Limitations. No surface activity will be allowed from May 1 through July 15 within 0.5 mile of a raptor nest site that has been active within the past 5 years.	40,900
Totals of Individual Categories (including overlap)		3,728,700

[1] Rounded to hundreds.

Timing stipulations apply to the following wildlife species:

- **Greater Sage-grouse** – The greater sage-grouse is a Nevada BLM sensitive species and was petitioned for listing under the Endangered Species Act as a threatened or endangered species. Timing limitations are required to protect greater sage-grouse breeding and nesting activities and habitat during the crucial winter period.

- **Raptors** – Raptors (i.e., hawks, eagles, owls, etc.) are protected under numerous laws including the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and the Endangered Species Act of 1973. Timing limitations are required to protect raptor nesting activities.

- **Big Game** – Elk, mule deer, pronghorn antelope, and Rocky Mountain bighorn sheep are priority species in the planning area. Timing limitations are required to protect elk, mule deer, pronghorn antelope, and Rocky Mountain bighorn sheep from disturbance during calving, fawning, kidding, and lambing and from disturbance during the crucial winter period.

- **Desert Bighorn Sheep Habitat** – The desert bighorn sheep is a Nevada BLM sensitive species and is a priority species in the planning area. Timing limitations are required to protect desert bighorn sheep from disturbance during lambing and the crucial hot summer months.

- **Desert Tortoise Habitat** – The desert tortoise is listed as a threatened species under the Endangered Species Act. Timing limitations are required to protect desert tortoise during the most active period.

MIN-4: Stipulation Maintenance – Regularly maintain wildlife databases of species subject to the above stipulations to reflect current inventory status. For example an updated greater sage-grouse lek inventory may show the location of a new lek for which the lease stipulation will be applied in subsequent lease sales.

MIN-5: Existing leases – Apply the constraints and requirements identified in this RMP (and ongoing stipulation maintenance) to new use authorizations on existing leases provided that they are within the authority reserved by the terms and conditions of the lease.

MIN-6: Open to leasing, subject to major constraints. Apply a no surface occupancy restriction as shown in **Table 2.4-19** and **Map 2.4.18-1**. The no surface occupancy for greater sage-grouse leks is a 0.25-mile buffer.

MIN-7: Closed to leasing – Close approximately 1.5 million acres to leasing including designated wilderness/wilderness study areas, Congressionally mandated closures, and additional discretionary closures. It is BLM policy to apply the least restrictive constraint to meet the resource protection objective. However, for ACECs (other than desert tortoise ACECs) that exceed 1 mile in length and width, the outer 0.5-mile perimeter is proposed as no surface occupancy and the remainder closed. Areas closed to leasing are shown in **Table 2.4-20**.

Table 2.4-19
No Surface Occupancy for Fluid Mineral Leasing

Name	Acres
Andies Mine Trilobite Site	180
Ash Springs Proposed Withdrawal	80
Baker Archaeological Site Proposed ACEC	80
Baking Powder Flat Proposed ACEC	6,620
Beaver Dam Slope ACEC[1]	36,800
Blue Mass Scenic Area Proposed ACEC	950
Caliente Field Station	2
Cleve Creek Recreation Area	90
Condor Canyon Proposed ACEC	2,880
Egan Crest Trailhead	250
Garnet Hill	160
Hendry's Creek/Rock Animal Corral Proposed ACEC	3,650
Highland Range Proposed ACEC	3,700
Honeymoon Hill/City of Rocks Proposed ACEC	3,900
Illipah Reservoir	290
Kirch Wildlife Management Area	5,000
Lower Meadow Valley Wash Proposed ACEC	25,000
Mormon Mesa ACEC[1]	66,430
Mount Irish Proposed ACEC	8,000
Pahroc Rock Art Proposed ACEC	2,400
Pony Springs Fire Station	10
Rose Guano Bat Cave Proposed ACEC	40
Sacramento Pass Recreation Site	440
Greater Sage-grouse Leks	31,520
Schlesser Pincushion Proposed ACEC	4,930
Shooting Gallery Proposed ACEC	5,800
Shoshone Ponds Proposed ACEC	1,240
Snake Creek Indian Burial Cave Proposed ACEC	40
Sunshine Locality National Register District[1]	6,460
Swamp Cedar Proposed ACEC	3,200
Ward Mountain Recreation Site	240
White Pine County Shooting Range	255
White River Archaeological District	230
White River Valley Proposed ACEC	13,100
Total[2]	**233,967**

[1] See Appendix F, Section 2 for exception.
[2] Total acres differ from summary table due to overlap among individual areas and categories.

Table 2.4-20
Areas Closed to Fluid Mineral Leasing

Name	Acres
Baker Proposed Withdrawal	6,720
Baking Powder Flat Proposed ACEC	7,020
Condor Canyon Proposed ACEC	1,625
Designated Wilderness/Wilderness Study Areas	1,153,500
Highland Range Proposed ACEC	3,200
Kane Spring ACEC	57,190
Coyote Springs leased public lands (Congressional)	6,200
Lincoln County Conservation, Recreation, and Development Act State Park	4,780
Lincoln County Conservation, Recreation, and Development Act Utility Corridors	113,425
Lincoln County Proposed Disposals	57,000
Mount Irish Proposed ACEC	7,100
Murry Spring Watershed	1,260
Shooting Gallery Proposed ACEC	9,800
Steptoe Valley Wildlife Management Area Expansion	6,265
Sunshine Locality National Register District	12,640
White Pine County Conservation, Recreation, and Development Act Airport Expansion	1,550
White Pine County Conservation, Recreation, and Development Act Industrial Park Expansion	200
White Pine County Conservation, Recreation, and Development Act Additional Withdrawals	98,125
White Pine County Conservation, Recreation, and Development Act Disposals	18,600
Total*	**1,566,200**

* Total acres differ from summary table due to overlap among individual areas and categories.

MIN-8: Evaluate geophysical exploration on a case-by-case basis. Geophysical exploration will not necessarily be subject to the same restrictions as shown for fluid leasing.

MIN-9: Apply the following special management actions for leasing within desert tortoise habitat:

a. Continue closure of the Kane Springs ACEC to leasing.

b. Manage the Mormon Mesa and Beaver Dam Slope ACECs as no surface occupancy with exceptions granted upon completion of Section 7 consultation with the U.S. Fish and Wildlife Service.

c. Attach a lease notice for all areas within desert tortoise habitat, to alert the lessee that a Section 7 consultation with U.S. Fish and Wildlife Service will be completed prior to any surface disturbance within desert tortoise habitat.

d. Impose a timing stipulation for all areas within desert tortoise habitat. The stipulation will involve no surface occupancy from March 1 to October 31.

e. Unless otherwise authorized, all vehicular traffic will be restricted to existing roads and trails.

2.4.18.3 Parameter – Solid Leasable Minerals

Management Actions

MIN-10: Open to leasing – Allow solid mineral leasing on approximately 9.9 million acres of federal mineral estate, subject to best management practices. **Table 2.4-21** and **Map 2.4.18-2** show the areas that will be available to leasing

Table 2.4-21
Summary of Solid Mineral Leasing

	Acres[1]
Open to Solid Mineral Leasing	9,852,000
Closed – Designated Wilderness/Wilderness Study Areas	1,153,500
Closed – Discretionary	494,500
Total	**11,500,000**

[1] Rounded to hundreds.

MIN–11: Issue mineral use authorizations for prospecting permits, exploration licenses, preference right leases, competitive leases, lease modifications, and use permits.

MIN–12: Closed to leasing – Close approximately 1.6 million acres to solid mineral leasing. This includes designated wilderness and wilderness study areas. Closed areas include existing closed areas carried forward (i.e., Lincoln County Conservation, Recreation, and Development Act). **Table 2.4-22** and **Map 2.4.18-2** show the areas that will be closed to leasing.

MIN–13: Apply the following special management actions for solid mineral leasing within desert tortoise ACEC habitat:

a. Continue closure of the Kane Springs ACEC to solid mineral leasing.

b. Close the Mormon Mesa and Beaver Dam Slope ACECs to solid mineral leasing.

2.4.18.4 Parameter – Locatable Minerals

For lands that are open to the location of mining claims, the claimant has statutory authority under the mining laws to ingress, egress, and development of those claims. This authority means that those areas open to mineral entry for the purposes of exploration or development of locatable minerals cannot be unreasonably restricted.

Table 2.4-22
Areas Closed and Proposed for Closure for Solid Leasable, Locatable, and Mineral Materials

Name	Acres
Andies Mine Trilobite Site	180
Ash Springs Proposed Withdrawal	80
Baker Archaeological Site Proposed ACEC	80
Baker Proposed Withdrawal	6,720
Baking Powder Flat Proposed ACEC	13,640
Beaver Dam Slope ACEC[1]	36,800
Blue Mass Scenic Area Proposed ACEC	950
Caliente Field Station	2
Cleve Creek Recreation Site	90
Condor Canyon Proposed ACEC	4,500
Designated Wilderness/Wilderness Study Areas	1,153,500
Egan Crest Trailhead	250
Garnet Hill	160
Hendry's Creek Rock Animal Corral Proposed ACEC	3,650
Highland Range Proposed ACEC	6,900
Honeymoon Hill / City of Rocks Proposed ACEC	3,900
Illipah Reservoir	290
Kane Spring ACEC[1]	57,190
Kirch Wildlife Management Area	5,000
Coyote Springs leased public lands (congressional)	6,200
Lincoln County Conservation, Recreation, and Development Act Corridors	113,425
Lincoln County Conservation, Recreation and Development Act State Park	4,780
Lincoln County Proposed Disposals	57,000
Lower Meadow Valley Wash Proposed ACEC[2]	25,000
Mormon Mesa ACEC[1]	66,430
Mount Irish Proposed ACEC	15,100
Murry Spring Watershed	1,255
Pahroc Rock Art Proposed ACEC	2,400
Pony Springs Fire Station	10
Rose Guano Bat Cave Proposed ACEC	40
Sacramento Pass Recreation Site	440
Schlesser Pincushion Proposed ACEC	4,930
Shooting Gallery Proposed ACEC	15,600
Shoshone Ponds Proposed ACEC	1,240
Snake Creek Indian Burial Cave Proposed ACEC	40
Steptoe Valley Wildlife Management Area	6,265
Swamp Cedar Proposed ACEC	3,200
Ward Mountain Recreation Site	240
White Pine County Conservation, Recreation, and Development Act Additional Withdrawal	98,125
White Pine County Conservation, Recreation, and Development Act Airport Expansion	1,550
White Pine County Conservation, Recreation, and Development Act Industrial Park Expansion	200
White Pine County Conservation, Recreation, and Development Act Proposed Disposals	18,600
White Pine County Shooting Range	255
White River Archaeological District	230
White River Valley Proposed ACEC	13,100
Total*	**1,749,537**

* Total acres differ from summary table due to overlap among areas and categories.

[1] Subject to exception for existing valid claims.

[2] Closed for solid leasable and locatable minerals, but open with special stipulations for mineral materials. Mineral materials activities subject to controlled surface use, seasonal timing restrictions, restricted or no use in avoidance areas (e.g., riparian areas, live water, areas with special wildlife or plant features, and sensitive viewsheds), additional NEPA analysis, and Section 7 consultation.

See **Table 2.4-23** for a summary of closed and open acres.

Table 2.4-23
Summary of Locatable Minerals

	Acres
Open to Locatable Minerals	9,852,000
Closed – Designated Wilderness/Wilderness Study Areas	1,153,500
Closed – Discretionary	494,500
Total	**11,500,000**

[1] Rounded to hundreds.

Management Actions

MIN-14: Open to locatable – Allow locatable mineral development on approximately 9.9 million acres of federal mineral estate, subject to the prevention of unnecessary or undue degradation of public lands.

MIN-15: Closed to locatable – Manage approximately 1.6 million acres of federal mineral estate from operation of the mining law as closed to locatable mineral entry. Review any lands with closures that expire to determine whether the withdrawals should be extended, revoked, or modified. **Table 2.4-22** describes the areas that are closed or proposed to be closed.

MIN-16: Apply the following special management actions for locatable minerals within desert tortoise habitat:

a. Close the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs to locatable mineral entry. Existing mining claims that have valid existing rights and mining operations could occur in the ACEC. The BLM will be required to perform validity exams on the existing claims to determine if they are valid claims before any operation may proceed within the ACEC. The operation could proceed once the review of the plan of operation, NEPA review, and Section 7 consultation have occurred.

b. Inform operators submitting a notice for activities within desert tortoise habitat, but outside of ACECs, of their responsibilities to comply with specific provisions of the Endangered Species Act.

2.4.18.5 Parameter – Mineral Materials (Salable Minerals)

The same areas are closed for mineral materials as for locatable minerals with the exception of Lower Meadow Valley Wash.

Acreage totals are shown in **Table 2.4-24** and **Map 2.4.18-3** shows the areas that will be open or closed.

Table 2.4-24
Summary of Mineral Materials

	Acres[1]
Open to Mineral Materials	9,857,700
Closed – Designated Wilderness/Wilderness Study Areas	1,153,500
Closed – Discretionary	488,800
Total	**11,500,000**

[1] Rounded to hundreds.

Management Actions

MIN-17: Open to mineral materials – Allow disposal of mineral materials on approximately 9.9 million acres of federal mineral estate, subject to best management practices.

MIN-18: Space mineral material sites appropriately to accommodate public and private needs while preserving environmental qualities.

MIN-19: Maintain and locate community pits and common use areas to provide for the needs of local communities as they develop.

MIN-20: Closed to mineral materials – Close approximately 1.6 million acres to mineral materials disposal as shown in **Table 2.4-22** and **Map 2.4.18-3**.

MIN-21: Apply the following special management actions for mineral material disposal within desert tortoise habitat:

a. Close the Kane Springs, Mormon Mesa and Beaver Dam Slope ACECs to mineral material disposal except for a 1-mile-wide corridor, 0.5-mile each side of the road, on designated roads (U.S. Highway 93, Carp-Elgin, and Kane Springs roads). Space mineral material site developments to provide approximately 10 miles between adjacent sites. This corridor will be open only for free use permits and federal highway material site rights-of-way. Within desert tortoise ACECs, allow mineral materials disposal within the three designated 1-mile-wide corridors only from November 1 through February 28/29.

b. Close and reclaim existing pits and designations identified as not needed to meet current and future demand.

2.4.19 Watershed Management

Introduction

The planning area has been divided into 61 watershed units (entire watersheds or manageable portions thereof). Watershed conditions are controlled by climate, geology, topography, vegetation, and soil characteristics. Vegetation and soil conditions change naturally over time in response to climate, fire, and other natural processes and management. The rate water is captured by the watershed, the amount of storage available, and the rate and location of water release depends on the amount and type of vegetation and type and condition of soil. Thus, healthy watersheds are dependent on achieving or maintaining land health standards.

Goal

Manage watersheds to achieve and maintain resource functions and conditions required for healthy lands and sustainable uses.

Northeastern Great Basin Resource Advisory Council Standards

- Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form.
- Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.
- Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics; to provide suitable feed, water, cover, and living space for animal species; and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.
- Land use plans will recognize cultural resources within the context of multiple use.

Mojave/Southern Great Basin Resource Advisory Council Standards

- Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.
- Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.
- Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover; capture sediment; and capture, retain, and safely release water (watershed function).

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Objective

To manage watersheds that display physical and biological conditions or functions required for necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.

Management Actions

WS-1: Perform watershed analysis initially on the following watersheds: North Spring Valley, Antelope Valley, Gleason Creek, Smith Valley, South Steptoe Valley, Clover Creek South, North Antelope Valley, Steptoe A, and Spring Valley. When these analyses are complete, analyze the high priority watersheds listed in **Table 2.4-25** followed by the low priority watersheds.

WS-2: Additional forage resulting from implementation of vegetation restoration projects identified through the watershed analysis process will be allocated to livestock and wild horses and/or reserved for watershed maintenance and wildlife depending on the degree of watershed function required to maintain rangeland health standards.

Table 2.4-25
Watershed Priority for Analysis and Treatment

Watershed Name	Priority	Watershed Name	Priority	Watershed Name	Priority
Antelope Valley	High	North Spring Valley	High	Big Sand Springs Valley	Low
Beaver Dam Wash	High	Panaca Valley	High	Butte	Low
Cave Valley	High	Patterson Wash	High	Central Little Smoky Valley	Low
Clover Creek North	High	Rose Valley	High	Coal Valley	Low
Clover Creek South	High	Smith Valley	High	Deep Creek	Low
Coyote Springs	High	Snake Valley South	High	Delamar Valley	Low
Dry Lake Valley	High	South Spring Valley	High	Duck Creek Basin	Low
Dry Valley	High	South Steptoe Valley	High	Egan Basin	Low
Duck Water	High	Spring Valley	High	Emmigrant	Low
Eagle Valley	High	Spring Valley South East	High	Fox-gap Mountain	Low
Escalante Desert	High	Spring Valley South West	High	Garden Valley	Low
Gleason Creek	High	Steptoe A	High	Jakes Valley	Low
Hamblin Valley	High	Steptoe B	High	North Little Smoky Valley	Low
Huntington	High	Steptoe C	High	Park Range	Low
Kane Spring Wash	High	Tikaboo Valley	High	Railroad Valley	Low
Lake Valley	High	Toquop Wash	High	Ruby Valley	Low
Long Valley	High	Tule Desert	High	Sand Hollow Wash	Low
Meadow Valley Wash N	High	White River Central	High	Sand Spring Valley	Low
Meadow Valley Wash S	High	White River North	High	Snake Valley North	Low
Newark	High	White River South	High	South Little Smoky Valley	Low
North Antelope Valley	High				

2.4.20 Fire Management

Introduction

The BLM is charged with clearly defining fire management goals, objectives, and actions in comprehensive fire management plans. Strategic watershed-scale fuel management and fire use planning that integrates a variety of treatment methods, will cost-effectively reduce fuel hazards to acceptable levels and benefit ecological system health. Fire management programs and activities should be based upon safety to fire fighters and the public, protecting resources, minimizing costs, and achieving land management objectives.

Goal

Provide an appropriate management response to all wildland fires, with emphasis on firefighter and public safety, consistent with overall management objectives. Return fire to its natural role in the ecological system and implement fuels treatments, where applicable, to aid in returning fire to the ecological system. Establish a community education program that includes fuels reduction within the wildland urban interface to create fire-safe communities.

Objective

To manage wildland and prescribed fires as one of the tools in the treatment of vegetation communities and watersheds to achieve the desired range of condition for vegetation, watersheds, and other resource programs (e.g., livestock, wild horses, soils, etc.).

Management Actions

FM-1: Use prescribed fire and wildland fire in compliance with applicable smoke management requirements as specified by the Nevada Smoke Management program. Obtain annual permits and provide daily evaluation of the fire conditions to ensure applicable air quality regulations are not violated.

FM-2: Coordinate with the Department of Defense when planning prescribed burns utilizing aircraft within their military operating air spaces in the planning area.

FM-3: Implement and update the Ely Fire Management Plan, as needed. Tier the Ely Fire Management Plan to the general fire management actions in this RMP. Fire management units within the planning area have been identified on the basis of similar vegetation type and condition, management constraints, issues, and objectives and strategies (see **Map 2.4.20-1** and **Table 2.4-26**). The following management actions will take place within those fire management units.

1) **Wildland fire suppression** – provide Appropriate Management Response on all wildland fires that occur within the fire management jurisdiction of the Ely Field Office;

Table 2.4-26
Summary of Fire Management Units for the Ely Field Office

Number	Name	Type[1]
NV-040-01	Meadow Valley-Deerlodge	Vegetation
NV-040-02	Irish/Timber/Worthington Mountains	Vegetation
NV-040-03	Northern Mountains	Vegetation
NV-040-04	Southern Benches	Vegetation
NV-040-05	Seaman Range-Murphy Gap	Vegetation
NV-040-06	Elgin/Blue Nose/Kane Spring Pinyon Juniper	Vegetation
NV-040-07	Southern Valleys	Vegetation
NV-040-08	Northern Valleys	Vegetation
NV-040-09	Lincoln County	Wildland Urban Interface
NV-040-10	Ely/Lund/Duckwater	Wildland Urban Interface
NV-040-11	Cherry Creek/Goshute	Wildland Urban Interface
NV-040-12	Ely/Lund Watershed and Wildland Urban Interface	Wildland Urban Interface
NV-040-13	Caliente Watershed and Wildland Urban Interface	Wildland Urban Interface
NV-040-14	Southern Benches	High Value Habitat
NV-040-15	Northern Benches	High Value Habitat
NV-040-16	Buck and Bald/Diamond Mountains	High Value Habitat
NV-040-17	North Pahroc and Pahranagat	High Value Habitat
NV-040-18	Bullwhack	High Value Habitat
NV-040-19	Illipah/Wells Station/Horse and Quinn	High Value Habitat
NV-040-20	Clover/Delamar/South Pahroc/Irish	High Value Habitat
NV-040-21	Highlands and South Egan Range	High Value Habitat
NV-040-22	Kern/Snake/Cherry Creek/Park Mountain	High Value Habitat
NV-040-23	Mojave	Special Management Area
NV-040-24	Mojave and Highlands	Special Management Area
NV-040-25	Alamo and Hiko	Wildland Urban Interface

[1] A fire management type is assigned to each fire management unit to clearly define its primary resource management objective and fire protection values.

2) **Fuels treatments** – develop and implement prescribed fire and non-fire fuels treatments (mechanical, chemical, and biological) to create fire-safe communities, protect private property, achieve resource management objectives (Section 2.4.5, Vegetation Resources), and restore ecological system health;

3) **Wildland fire use** – manage, to the extent practical for resource benefit, to improve ecological system function, and to allow fire to function as a natural part of the ecological system, approximately 8.9 million acres would be available for wildland fire use;

4) **Emergency stabilization and rehabilitation** – design and implement to achieve vegetation, habitat, soil stability, and watershed objectives in accordance with the Programmatic Emergency Stabilization and Rehabilitation Plan; and

5) **Community assistance/protection** – establish an active community education and assistance program where needed to create fire-safe communities and prevent catastrophic impacts on sensitive natural resources.

FM-4: Incorporate and utilize Fire Regime Condition Class methodologies (Appendix C) as a major component in fire and fuels management activities. Use Fire Regime Condition Class ratings in conjunction

with vegetation objectives (Section 2.4.5, Vegetation Resources) and other resource objectives to determine appropriate response to wildland fires and to help determine where to utilize prescribed fire, wildland fire use, or other non-fire (e.g., mechanical) fuels treatments.

FM-5: In addition to fire, implement mechanical, biological, and chemical treatments along with other tools and techniques outlined in Appendix G to achieve vegetation, fuels, and other resource objectives.

FM-6: Base fire management priorities on: 1) firefighter and public safety, and 2) resource protection objectives.

FM-7: Implement the following management actions for desert tortoise habitat (also refer to Section 2.4.7, Special Status Species) (see **Map 2.4.7-1**).

- Within desert tortoise habitat, initiate full suppression activities using appropriate techniques/tools (engines, equipment off road, burning out, etc.) with the minimum necessary surface disturbances to limit the size of a wildland fire, reduce loss of tortoise cover and minimize the spread of exotic annual grasses.

- Assign a qualified resource advisor to each wildland fire to provide relevant information on the occurrence of desert tortoise and important habitat to the incident commander. The resource advisor serves as the field contact representative responsible for coordination with the U.S. Fish and Wildlife Service.

- Do not authorize burning out of unburned fingers or islands of vegetation, unless it is necessary for safety.

- Establish fire camps, staging areas, and helispots in previously disturbed areas outside of ACECs, where possible, and in consultation with a qualified resource advisor. Prior to use of any area, allow a resource advisor to survey 100 percent of the area. If a desert tortoise or desert tortoise burrow is found, the area will be adjusted, if possible, to avoid the tortoise or burrow. If avoidance is not possible, a qualified desert tortoise biologist will examine the burrow for occupancy by tortoise. Any tortoise found in burrows or within the area will be relocated.

- Restrict off-road travel and use of tracked vehicles to the minimum necessary to suppress wildland fires. All vehicles will be parked as close to the road as possible using disturbed areas or wide spots in the road to turn around. All tracks will be obliterated immediately following fire suppression activities, to the extent possible.

- Provide all firefighters and support personnel with a briefing on desert tortoises and their habitat to minimize take, particularly those associated with vehicle use.

- Control the speed of fire suppression vehicles to ensure that tortoises on roads can be seen and avoided.

- If possible, rehabilitate fire lines and disturbances associated with fire suppression activities. Determine seed mixtures on a site-specific basis dependent on the probability of successful establishment. Use native and adaptive species that compete with annual invasive species or meet other objectives.

- Conduct post-fire suppression surveys to identify desert tortoise mortalities and report any take of desert tortoise.

2.4.21 Noxious and Invasive Weed Management

Introduction

The Federal Land Policy and Management Act of 1976 and Pesticide Registration Improvement Act of 2003 direct the BLM to ". . . manage public lands according to the principles of multiple-use and sustained yield . . ." and ". . . manage the public lands to prevent unnecessary degradation . . . so they become as productive as feasible." The "Carlson-Foley Act" (Public Law 90-583) and the "Federal Noxious Weed Act" (Public Law 93-629) direct weed control on public land. Executive Order 13112, Invasive Species, was authorized to prevent the introduction of invasive species, provide for their control, and to minimize the economic, ecological, and human health impacts caused by these species. Nevada Revised Statute 555, Control of Insects, Pests, and Noxious Weeds, provides information regarding the designation and eradication of and inspection for noxious weeds within the State of Nevada.

Goal

Prevent the introduction and spread of noxious and invasive weeds. Control or eradicate existing populations.

Objectives

To reduce introduction of, and the areal extent of, noxious and invasive weed populations and the spread of these populations.

Management Actions

WEED-1: Continue to use integrated weed management to treat weed infestations and use principles of integrated pest management to meet management objectives and to reestablish resistant and resilient native vegetation communities.

WEED-2: Develop weed management plans that address weed vectors, minimize the movement of weeds within public lands, consider disturbance regimes, and address existing weed infestations.

WEED-3: When manual weed control is conducted, remove the cut weeds and weed parts and dispose of them in a manner designed to kill seeds and weed parts.

WEED-4: All straw, hay, straw/hay, or other organic products used for reclamation or stabilization activities, must be certified that all materials are free of plant species listed on the Nevada noxious weed list or specifically identified by the Ely Field Office.

WEED-5: Where appropriate, inspect source sites such as borrow pits, fill sources, or gravel pits used to supply inorganic materials used for construction, maintenance or reclamation to ensure they are free of plant species listed on the Nevada noxious weed list or specifically identified by the Ely Field Office. Inspections will be conducted by a weed scientist or qualified biologist.

WEED-6: Where appropriate, vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; for emergency fire suppression; or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. Vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Vehicles used for emergency fire suppression will be cleaned as a part of check-in and demobilization procedures. Cleaning efforts will concentrate on tracks, feet or tires, and on the undercarriage. Special emphasis will be applied to axles, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the Ely Field Office Weed Coordinator or designated contact person.

WEED-7: Animals used on public lands by special recreation permittees or by contractors for weed control or reclamation will be cleaned, quarantined, and fed weed-free feed prior to being used or released on public lands. The length of this quarantine will be specified in the special recreation permit or contract.

WEED-8: Prior to the entry of vehicles and equipment to a planned disturbance area, a weed scientist or qualified biologist will identify and flag areas of concern. The flagging will alert personnel or participants to avoid areas of concern.

WEED-9: To minimize the transport of soil-borne noxious weed seeds, roots, or rhizomes, infested soils or materials will not be moved and redistributed on weed-free or relatively weed-free areas. In areas where infestations are identified or noted and infested soils, rock, or overburden must be moved, these materials will be salvaged and stockpiled adjacent to the area from which they were stripped. Appropriate measures will be taken to minimize wind and water erosion of these stockpiles. During reclamation, the materials will be returned to the area from which they were stripped.

WEED-10: Prior to project approval, a site-specific weed survey will occur and a weed risk assessment will be completed. Monitoring will be conducted for a period no shorter than the life of the permit or until bond release and monitoring reports will be provided to the Ely Field Office. If the presence and/or spread of noxious weeds is noted, appropriate weed control procedures will be determined in consultation with Ely Field Office personnel and will be in compliance with the appropriate BLM Handbook sections and applicable laws and regulations. All weed control efforts on BLM-administered lands will be in compliance with BLM Handbook H-9011, H 9011-1 Chemical Pest Control, H-9014 Use of Biological Control Agents of

Pests on Public Lands, and H-9015 Integrated Pest Management. Submission of Pesticide Use Proposals and Pesticide Application Records will be required.

2.4.22 Special Designations

This section deals with a variety of special designations mandated by a number of laws, regulations, and policies. Included are ACECs, the BLM's Back Country Byway program, wilderness designated by Congress, wilderness study areas, wild and scenic rivers, and other special designations such as National Historic Trails.

Goal

Evaluate areas of interest for special designation and appropriately manage those areas that meet necessary requirements.

Objective

To ensure that multiple use activities within the planning area are consistent with the management plans developed for special designation areas such as ACECs.

2.4.22.1 Parameter – Areas of Critical Environmental Concern

Section 202(c)(3) of Federal Land Policy and Management Act mandates that priority be given to the designation and protection of ACECs. These areas are defined in section 103(a) as areas where special management attention is required to protect and prevent irreparable damage to important values, resources, systems or processes, or to protect life and safety from natural hazards. Appendix D contains a detailed description of each existing and proposed ACEC.

Management Actions

SD-1: Manage the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs primarily for the recovery of the desert tortoise (203,670 acres) (see **Map 2.4.22-1** and Appendix D). These ACECs were designated through the Approved Caliente MFP Amendment and Record of Decision for the Management of Desert Tortoise Habitat (BLM 2000a) and corresponding Biological Opinion (U.S. Fish and Wildlife Service 2000). See **Table 2.4-27**.

SD-2: Develop management plans for the Kane Springs, Beaver Dam Slope, Mormon Mesa, and Lower Meadow Valley Wash ACECs within 3 years to address and implement multiple-use management actions and conservation measures for desert tortoise and Southwestern willow flycatcher. When completing the management plan for Lower Meadow Valley Wash ACEC, all Union Pacific rights-of-way (approximately 2,675 acres) located within the ACEC will receive special consideration noting the legal limitations contained in the right-of-way grants.

SD-3: Designate 17 new ACECs totaling an additional 114,120 acres. See **Table 2.4-28** for additional information including management prescriptions for each of the newly-designated ACECs.[7]

2.4.22.2 Parameter – Back Country Byways

Management Actions

SD-4: Retain the Mount Wilson Back Country Byway. In addition, designate the Rainbow Canyon and the Silver State Trail as back country byways (see **Map 2.4.22-2**).

2.4.22.3 Parameter – Designated Wilderness

Management Actions

SD-5: Manage 22 designated wilderness areas in accordance with the Wilderness Act of 1964; the Nevada Wilderness Protection Act of 1989; the Lincoln County Conservation, Recreation, and Development Act of 2004; the White Pine County Conservation, Recreation and Development Act of 2006.

Twenty-two designated wilderness areas totaling approximately 1.1 million acres have been designated by Congress in this decision area. This includes six citizen-proposed areas of wilderness quality that were not managed by the Ely Field Office as wilderness study areas.

2.4.22.4 Parameter – Wilderness Study Areas

Management Actions

SD-6: The Ely Field Office currently manages the Park Range and Riordan's Well wilderness study areas in Nye County. Portions of the Blue Eagle and Antelope Range wilderness study areas, which are managed by the Battle Mountain Field Office, also overlap with the planning area. Wilderness study areas within the planning area total approximately 81,000 acres. Manage wilderness study areas under the Interim Management Policy for Lands Under Wilderness Review until such time as Congress makes a determination regarding wilderness designations. Manage lands identified as having wilderness characteristics to protect those characteristics through a variety of other land use plan decisions such as establishing visual resource management class objectives to preserve the existing landscape; attaching conditions to permits, leases, and other authorizations; and establishing limited or closed off-highway vehicle designations. Manage lands released from wilderness study area designation by Congress in the same manner as surrounding lands. In the event that lands released from wilderness study area designation are protected under some other special designation, those lands will retain those protections (e.g., ACECs within a wilderness study area). Wilderness study area lands not retained under some other special designation will be released for other purposes and uses. These other special designations are not a substitute for wilderness designation but provide specific management prescriptions to protect important resources.

[7] Implementation level decision.

Table 2.4-27
Management Prescriptions for Existing ACECs[1]

Beaver Dam Slope (36,800 acres)	
Management Activities	**Management Prescriptions**
Land Use Authorization	Limited[2]/avoidance area[3]
Off-highway vehicle use	Closed/limited[4]
Visual resource management class	IV
Plant collecting	Limited[5]
Road maintenance	Limited[6]
Leasable minerals	No surface occupancy with exception[7]
Locatable minerals	Closed[8]
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Limited[9]
Transportation	Limited
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[10]
Kane Springs (57,190 acres)	
Management Activities	**Management Prescriptions**
Land Use Authorization	Limited[2]/avoidance[3]/exclusion area
Off-highway vehicle use	Closed/limited[4]
Visual resource management class	I, II, III, IV
Plant collecting	Limited[5]
Road maintenance	Limited[6]
Leasable minerals	Closed
Locatable minerals	Closed[8]
Mineral materials	Limited[11]
Lands disposal	No disposal
Fire management	Limited[9]
Transportation	Limited
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[10]

Table 2.4-27 (Continued)

Mormon Mesa (109,680 acres)	
Management Activities	**Management Prescriptions**
Land Use Authorization	Limited[2]/avoidance[3]/exclusion area
Off-highway vehicle use	Closed/limited[4]
Visual resource management class	I, II, III, IV
Plant collecting	Limited[5]
Road maintenance	Limited[6]
Leasable minerals	No surface occupancy with exception[7]
Locatable minerals	Closed[8]
Mineral materials	Limited[11]
Lands disposal	No disposal
Fire management	Limited[9]
Transportation	Limited
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[10]

1 Acres within the existing Beaver Dam Slope, Kane Springs, and Mormon Mesa ACECs are those within the planning area.
2 Rights-of-way; limit authorization of future communication sites to existing established rights-of-way unless technically unfeasible and encourage use of existing corridors for all future rights-of-way when possible.
3 Avoidance area; granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.
4 Off-highway vehicle use will be limited to designated roads and trails. Areas within ACECs designated as wilderness would be closed to off-highway vehicle use.
5 Plant materials, including common species, may be collected by permit only.
6 Road maintenance would be limited to the designated roadway; shoulder barrow/ditch construction will be limited to only that necessary to ensure public safety and serviceability of the road.
7 Exception requires Section 7 consultation with a no adverse impact conclusion.
8 Subject to exception for existing valid claims.
9 Limits could be placed on fire management activities.
10 Closed to renewable energy facilities. Avoidance area for ancillary rights-of-way for access roads, transmission lines, and pipelines.
11 Closed except for free use permits and federal highway material site rights-of-way on a 1-mile corridor, 0.5 mile each side of road on three designated roads.

Table 2.4-28
Management Prescriptions for Proposed ACECs

Baker Archaeological Site – 80 acres designated for the protection of prehistoric architectural sites	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]
Baking Powder Flat – 13,640 acres designated for the protection of the Baking Powder Flat blue butterfly, a BLM sensitive species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]
Blue Mass Scenic Area – 950 acres designated for the protection of exceptional scenic qualities	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	I
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Limited[8]
Transportation	Limited, no new roads
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]

Table 2.4-28 (Continued)

Condor Canyon – 4,500 acres designated for the protection of the Big Spring spinedace, a federally threatened species, and its designated critical habitat	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Limited[8]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Hendry's Creek/Rock Animal Corral – 3,650 acres designated for the protection of prehistoric values	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed with exception of community pit[9]
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open
Renewable energy	Closed[6]
Highland Range – 6,900 acres designated for the protection of the basin waxflower, a BLM sensitive plant species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Limited[8]
Transportation	Limited
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]

Table 2.4-28 (Continued)

Honeymoon Hill/City of Rocks – 3,900 acres designated for the protection of prehistoric values	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Lower Meadow Valley Wash – 25,000 acres designated for the protection of federally endangered, threatened, and candidate species such as the southwestern willow flycatcher (endangered), western yellow-billed cuckoo (candidate), Meadow Valley Wash desert sucker (sensitive), Meadow Valley Wash speckled dace (sensitive), and Arizona southwestern toad (sensitive)	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III, IV
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Open[10]
Lands disposal	No disposals
Fire management	Limited[8]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Mount Irish – 15,100 acres designated for the protection of historic values including historic mine and mill sites and prehistoric values including petroglyphs, lithic scatters, pottery scatters, and pictographs	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	Limited
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]

Table 2.4-28 (Continued)

Pahroc Rock Art – 2,400 acres designated for the protection of prehistoric values including petroglyphs, rock shelters, and other artifacts	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II/III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Rose Guano Bat Cave – 40 acres designated for the protection of the Brazilian free-tailed bat, a BLM sensitive species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Schlesser Pincushion – 4,930 acres designated for the protection of Schlesser pincushion, a BLM sensitive species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Limited[8]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]

Table 2.4-28 (Continued)

Shooting Gallery – 15,600 acres designated for the protection of prehistoric values including rock art sites, habitation areas, and a game-drive complex	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]; valid existing rights will remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Shoshone Ponds – 1,240 acres designated for the protection of the Pahrump poolfish, a federally listed species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Exclusion area; rights-of-way will not be granted within the area
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Limited[8]
Transportation	Limited
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Snake Creek Indian Burial Cave – 40 acres designated for the protection of zooarchaeology, geology, and archaeology	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]

Table 2.4-28 (Continued)

Swamp Cedar – 3,200 acres designated for the protection of rare plant species including Rocky Mountain juniper and the slender thelopody, prehistoric sites, and the site of the Goshute War of 1863	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Limited[8]
Transportation	Limited
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
White River Valley – 13,100 acres designated for the protection of the Sunnyside green gentian, Charleston grounddaisy, Parish phacelia, Tiehm blazingstar, and White River catseye, BLM sensitive plant species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Limited[8]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]

1 Avoidance area; granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.
2 Off-highway vehicle use would be limited to designated roads and trails.
3 Plant materials, including common species, may be collected by permit only.
4 Road maintenance will be limited to the designated roadway; shoulder barrow/ditch construction will be limited to only that necessary to ensure public safety and serviceability of the road.
5 The activity is allowed in the area. NEPA compliance and clearances for cultural resources and threatened and endangered species required for some activities.
6 Closed to renewable energy facilities; avoidance area for ancillary rights-of-way for access roads, transmission lines, and pipelines.
7 Livestock grazing will be controlled through terms and conditions on the grazing permit.
8 Limits could be placed on fire management activities.
9 Continue sales within existing community pit.
10 Open with special stipulations. Open to mineral material activities subject to controlled surface use, seasonal timing restrictions, restricted or no uses in avoidance areas (e.g., riparian areas, live water, areas with special wildlife or plant features, and sensitive viewsheds), additional NEPA analysis, and Section 7 consultation.

2.4.22.5 Parameter – Other Special Designations

This section describes management for special designations other than those described in the previous subsections. The types of special designations include scenic areas, geologic areas, natural areas, research natural areas, and rock hound areas. No herd management areas are recommended for designation as wild horse ranges.

No rivers have been identified for wild and scenic designation within the planning area. A full inventory and evaluation has not occurred, however, it is planned for fiscal year 2008. This evaluation potentially could identify rivers or river segments within the Ely Field Office jurisdiction that are eligible for inclusion under the Wild and Scenic Rivers Act. If appropriate, management actions associated with these locations will be amended to the RMP.

Management Actions

SD-7: Manage the two special designation areas that are retained as follows:

- White River Narrows Archaeological District (500 acres)

    1. Roads – Maintenance of existing roads (except State Route 318) will only be allowed if it is determined that maintenance will not have an effect on the setting and features that placed this site on the National Register of Historic Places in 1978. New roads will not be permitted.

    2. Structures – Maintenance and construction of structures is allowed if identified in existing habitat management plans or if needed for management of natural values.

- The Garnet Hill Rock Hounding Area (totaling 1,210 acres)

    1. This entire area will be segregated from disposal under the public land laws. The recreation site (160 acres) will be closed to solid leasable, locatable, and mineral materials. In addition, the 160 acres will have a no surface occupancy condition for fluid minerals leasing.

SD-8: Designate the following 8 areas as ACECs (see Management Action SD-3):

- Scenic Areas – Blue Mass
- Natural Areas – Shoshone Ponds, Swamp Cedar
- Archaeological Sites – Rose Guano Bat Cave, Snake Creek Indian Burial Cave, Baker, Hendry's Creek/Rock Animal Corral, Mount Irish

SD-9: Drop the following nine areas, totaling 2,275 acres from special designation status:

- Scenic Areas – Kious Spring, Weaver Creek
- Geologic Areas – Goshute Cave, Leviathan Cave, Cave Valley Cave, Whipple Cave

- Research Natural Areas – Pygmy Sage
- Archaeological Sites – Baker Creek, Garrison

2.4.23 Monitoring

Introduction

Monitoring is an essential component of natural resource management because it provides information on the relative success of management strategies. The following proposed monitoring does not constitute the final monitoring plan for the Ely RMP. The proposed monitoring plan will be modified, as necessary, based on any protests that are received on the Proposed RMP, and included in the Approved RMP and Record of Decision.

Monitoring and Adaptive Management

Monitoring is an integral part of adaptive management and is key to achieving the management goals of the RMP. Tracking the progress of actions and measuring changes resulting from these activities is important in either determining success or the need for a different management approach.

Monitoring results will provide information to determine whether objectives have been met, and whether to continue or modify the management actions. Findings obtained through monitoring, together with research and other new information, will provide a basis for adaptive management changes. The processes of monitoring and adaptive management share the goal of improving effectiveness and permitting dynamic response to increased knowledge within the planning area.

Methods of Monitoring

The monitoring process will be designed to collect information in the most cost-effective manner, and may involve sampling or remote sensing. It is not necessary to monitor every management action. Unnecessary detail and unacceptable costs will be avoided by focusing on key monitoring questions and proper sampling methods. The level and intensity of monitoring will vary, depending on the sensitivity of the resource or area and the scope of the proposed management activity.

The following are program-specific monitoring direction.

Air Resources

On a project-specific basis, monitoring may be required to comply with state permit requirements.

Water Resources

Cooperation with state agencies, municipalities, industry, agriculture, universities, and other federal agencies in the planning area will occur to collect and interpret water resources data, and to participate in local, state, and regional water resources management. Aquifer recharge will be monitored at selected

representative wells and springs throughout the planning area, and on nearby lands as access agreements allow. Water levels and spring flows and durations will be monitored periodically either individually or cooperatively. Existing historical data will be retrieved as available and archived with new data. Stream channel geometry and flow data also will be collected periodically at selected perennial, intermittent, and ephemeral locations of interest. Meteorological data (e.g., precipitation, temperature, wind speed and direction, solar radiation, and relative humidity) also will be collected at selected locations. Site selection, data collection procedures, and the frequency of data collection will depend on the data type, prior knowledge of suitable and significant monitoring locations, budget and personnel considerations, and anticipated resource activities within specific locales. Water resources trends within the planning area will be reviewed periodically.

Water quality monitoring will be conducted at selected sites (wells, springs, and streams) for various parameters to compare applicable water quality requirements and objectives to current conditions. Data collection and interpretations will be performed either by the Ely Field Office individually or cooperatively. Water quality data collection will be conducted in coordination with the water quantity monitoring described above. Water quality constituents to be analyzed will be determined with due consideration of planning needs and the Memorandum of Understanding between the BLM and the State of Nevada. Sampling and analysis will follow standard field and laboratory protocols approved by the U.S. Environmental Protection Agency. Drinking water sources will be protected by developing and implementing wellhead protection plans and assessing the presence and effects of fertilizers, pesticides, herbicides, and other contaminants released to water resources by agriculture, municipalities, industry, and the agency itself. Water quality trends will be reviewed periodically within the planning area for management purposes.

Soil Resources

Soil health and condition will be monitored by conducting reviews of ground-disturbing projects for implementation and effectiveness of best management practices, and by periodically assessing selected undisturbed sites for various parameters including erosion and sedimentation, topsoil characteristics, and groundcover. Monitoring the effects of other resource management actions such as livestock grazing and watershed projects will consider soil condition and health. Baseline soil condition data will be provided through the ecological site inventories and watershed analyses. Site selection, data collection procedures, and the frequency of data collection will depend on the data type, prior knowledge of suitable and significant monitoring locations, budget and personnel considerations, and anticipated resource activities within specific locales. Soil quality trends within the planning area will be reviewed periodically for management purposes.

Vegetation Resources

Vegetation communities in both treated and untreated areas will be monitored to determine progress toward attaining desired range of conditions. Monitoring to determine success in meeting vegetation management objectives will shift to measuring cover, composition, and structure of the community (i.e., the parameters essential for identification of phases within the state and transition model concept). Periodic measurements of vigor and productivity will continue (Natural Research Council 1994, Swanson 2006).

Fish and Wildlife

Baseline wildlife use patterns and estimated population levels will be calculated using information collected annually by the Nevada Department of Wildlife. These will be compared with post-treatment use patterns and population numbers to determine relative effectiveness of watershed restoration. Forage production will be monitored on an allotment basis during livestock allotment evaluations. Annual livestock and wild horse utilization records gathered by Ely Field Office staff and wildlife observations reported by Nevada Department of Wildlife and Ely Field Office will be used to determine possible conflicts. Conflicts between livestock, wild horses, and wildlife will be resolved during the assessments and subsequent management actions including appropriate management level adjustments in herd management areas, cooperative habitat management actions with Nevada Department of Wildlife, and grazing permit renewals. Impacts to wildlife populations will take into account changes in herd management objectives as set by the Nevada Department of Wildlife.

Periodic inventories of fisheries are conducted by the Nevada Department of Wildlife on perennial streams and reservoirs. The Ely Field Office will coordinate with the Nevada Department of Wildlife in review of information relating to management of fisheries habitat on public lands.

Special Status Species

In conjunction with other private, state, or federal agencies, monitoring of known populations of special status species that are considered to be important indicators or obligates to a particular habitat community type (such as greater sage-grouse for sagebrush communities) will continue. Monitoring could consist of intensive research projects or passive population inventories designed to help identify the extent of the populations and habitats being used. Inventories for special status species will be completed within the planning area and information will be used to measure the effectiveness in meeting management objectives on a landscape level and watershed basis.

Wild Horses

Aerial and ground census information periodically will be gathered to determine the number of adults and foals, colors, special characteristics, and overall health of each wild horse herd. Aerial counts will occur at a minimum of once every 3 years. Other herd data, including the ratio of mares to studs, age classes, colors, special characteristics, and overall health will be collected during gathers and at the time wild horses are processed for adoption. Wild horse actual use of forage will be estimated by multiplying inventoried or estimated numbers of horses by the length of grazing period on their summer and winter ranges. Utilization and trend study methods are the same in the monitoring section for Livestock Grazing Management. Data collected in other studies, such as watershed analyses, monitoring of vegetation treatments, special status plants and animals, microbiotic crusts, wildlife, water resources, weeds, riparian, and wetland sources may be used to determine the effects of wild horses on these resources.

Cultural Resources

Monitoring will continue, with assistance from the Nevada Heritage Site Stewardship Program and/or other volunteer groups, of identified sites to determine condition, impacts, deterioration, and use of such sites. The condition of the sites and other data collected will be entered into the cultural database. If a site is listed on or is eligible to the National Register of Historic Places, consultation with the State Historic Preservation Office will be conducted, when necessary, to determine the appropriate action to stop the deterioration of the site or to assist with mitigation. The effectiveness of presentations to the public, educational brochures, interpretative materials, informational materials and displays, scientific research collections and materials, and the site steward program will be monitored. In addition, the effectiveness of archaeological predictive models developed to assist the Ely Field Office in predicting site locations and densities will be monitored.

Paleontological Resources

Paleontological resource sites will be monitored to determine if site conditions are stable and to assist in management actions to mitigate deteriorating conditions.

Visual Resources

Monitoring will be conducted for all projects (including, but not limited to projects associated with any developments, land alterations, vegetation manipulation, etc.) that could potentially affect visual resources. These projects will be monitored to ensure compliance with established visual resource management classes. Monitoring will include the use of the visual contrast rating system, described in BLM Manual 8400 (BLM 1984).

Lands and Realty

Rights-of-way and other land use authorizations will be monitored as proposals are evaluated through the NEPA process. Individual projects will be monitored to ensure compliance with the terms and conditions of the authorizing document and through the BLM accomplishment tracking process.

Renewable Energy

Wildlife Monitoring Protocol for Wind Energy Development. Local differences in wildlife populations and movement patterns, habitats present, area topography, weather, and facility design, result in each proposed development site being unique and requiring detailed individual evaluation. Data on wildlife use and mortality at one wind energy facility are not necessarily applicable to others. Monitoring protocols will be developed in accordance with current BLM policies.

Travel Management and Off-highway Vehicle Use

Roads will be monitored, usually on an annual basis in coordination with other resource programs, to determine maintenance needs. Monitoring of closed roads will be done in conjunction with monitoring

associated with other resource uses such as watershed condition or off-highway vehicle use. The purpose of this monitoring is to ensure that closed roads are not being used and that resource damage, such as erosion, is not occurring.

Monitoring off-highway vehicle uses within the planning area will focus on compliance with specific designations, and will determine whether these uses are causing adverse effects on various resources (i.e., soils, water, air, vegetation, fish and wildlife, etc.). Roads and trails are common vectors for noxious and invasive species and monitoring will routinely occur. Methods of monitoring may include visitor contacts, permit review, visual surveillance, traffic counters, periodic patrols to check boundaries, signing, and visitor use, limits of acceptable change, and/or aerial reconnaissance. Closures will be monitored to ensure public safety and protect affected roadbeds or areas. Baseline data will be established for sites where off-highway vehicle use is occurring, and sites will be rehabilitated or closed as necessary.

Recreation

Monitoring will include periodic patrols to check boundaries, signing, and visitor use; ensure visitor compliance with rules and regulations; and establish baseline data and observation points for determining impacts from recreation use. Studies will be developed to help determine appropriate levels and patterns of recreational use. Monitoring will focus on visitation levels, compliance with rules, regulations, and permit stipulations for specific sites (developed sites), dispersed uses, and prescribed standards and guidelines as set in the respective recreation opportunity spectrum classes. Methods of monitoring may include the use of traffic counters, surveillance at developed recreation sites, limits of acceptable change studies, user contacts, and photo documentation of the changes in resource conditions over time. Monitoring data will be used to manage visitor use, develop plans and projects to reduce visitor impacts, and meet visitor demand.

Livestock Grazing

Monitoring to assess rangeland health standards will include records of actual livestock use, measurements of forage utilization, ecological site inventory data, cover data, soil mapping, and allotment evaluations or rangeland health assessments. Conditions and trends of resources affected by livestock grazing will be monitored to support periodic analysis/evaluation, site-specific adjustments of livestock management actions, and term permit renewals. Monitoring will determine when grazing will be authorized in burned areas, and will contribute to the selection of prescribed burn treatments or other types of treatments based on attainment of resource objectives.

Forest/Woodland and Other Plant Products

Periodic monitoring will ensure that commercial use of forest/woodland products within designated areas is in accordance with specifications provided in the contract and that public use throughout the planning area occurs in accordance with the RMP. If monitoring shows that harvest in a specific area is causing nonattainment of vegetation objectives, the area will be closed until it is determined that objectives are being met and harvest could be allowed to resume. Outbreaks of disease and infestations of insects affecting woodland species will be monitored to ensure timely implementation of management actions to limit the spread and level of damage related to such problems.

Geology and Mineral Extraction

Monitoring of mineral action disturbances will ensure compliance with Title 43 Code of Federal Regulations Subparts 3100 (oil and gas leasing), 3200 (geothermal leasing), 3500 (solid mineral leasing), 3600 (mineral materials disposal), 3715 (mining occupancy), 3802 (mining, wilderness review), and 3809 (surface management) regulations. Monitoring activities will consist of periodic field inspections of mineral disturbances.

Monitoring for leasable minerals will ensure compliance with applicable laws and regulations, term and conditions of leases, standard practices and procedures for geophysical exploration, and conditions of approval for drilling and production operations. On producing leases, monitoring is intended to ensure an accurate accounting of material produced and protect the environment and public health and safety. Monitoring will include field inspection of leasable mineral activities as authorized under Title 43 Code of Federal Regulations Subparts 3161 and 3590.

Monitoring for locatable minerals will include periodic field inspections of mining and exploration operations. BLM policy establishes minimum inspection frequencies for mining operations as follows: quarterly inspections are required for all operations using cyanide, and biannual inspections for all other active operations. Operations in sensitive areas or operations with a high potential for greater than usual impacts will be inspected more often. Reclamation should be in accordance with the Title 43 Code of Federal Regulations Subpart 3809, 3715, and BLM Handbook H3042-1. Any noncompliance items will be noted and resolved in accordance with Title 43 Code of Federal Regulations Subparts 3809 and 3715.

Monitoring for mineral materials will ensure compliance with applicable laws, regulations, BLM policy contained in BLM Manual Section 3600 and Handbook H-3600-1, the Title 43 Code of Federal Regulations Subpart 3600 regulations, and the requirements of approved contracts and operation plans. An accurate accounting of material removed, reclamation, protection of the environment, public health and safety, and identification and resolution of mineral material trespass issues will be ensured. Monitoring activities will include periodic field inspection of common use areas and other mineral material extraction operations. Operations in sensitive environmental areas or operations with a high potential for greater than usual impacts will be inspected more often and noncompliance items will be noted under procedures as directed by Title 43 Code of Federal Regulations Subpart 3600.

Watershed Management

Most parameters essential for evaluating watershed health (e.g., vegetation cover, species composition and community structure, erosion features, resistance to disturbance, etc.) will be monitored in conjunction with other resource programs such as vegetation.

Fire Management

Monitoring will determine whether fire management strategies, practices, and activities are meeting resource management objectives, concerns, and land health standards. Pre-fire condition and post-fire effects will be determined by monitoring plant community composition and trends in burn areas to determine natural recovery, responses from seed planting, and weed and cheatgrass expansion. Monitoring methods may include photo points, density, cover, frequency plots (pre- and post-burn), fire regime condition class (degree of departure from natural regime), and ocular estimates.

Noxious and Invasive Weeds Management

Monitoring of vegetation treatments will continue in cooperation with the State of Nevada, counties, and private interests as well as other federal agencies. Inventories to identify new introductions, distribution, and density of noxious weed populations will be carried out on an annual basis in cooperation with these entities:

- Known noxious weed sites that are identified for treatment will be visited each year and evaluated for effectiveness of control.
- Known sites not identified for treatment will be visited as funding is available.
- All known sites visited will be located with a global positioning system unit (or other suitable technology), measured, and a determination of the need for future treatment will be made.
- Inventories for new noxious weeds will be conducted within the planning area subject to funding. Emphasis will be placed on areas having a high potential for weed introduction and dispersal, such as road corridors and off-highway vehicle trails.
- All burned areas (natural and prescribed) will be surveyed for noxious weeds following the burn as funding becomes available. Any newly discovered sites will be located with a global positioning system unit, measured, and a determination of the need for future treatment will be made.

Special Designations Management

Areas managed as a special designation will be monitored annually to determine if the resource values for which the area was designated are stable. Monitoring will focus on threats to resource values and the effectiveness of management provisions in protecting and preserving those resource values. Monitoring will assist the BLM in tracking resource conditions, and making effective decisions to improve conditions for the special resource over time. Where necessary, the monitoring strategy for special designation areas will be refined during activity level planning, e.g., ACEC management plans and designated wilderness management plans.

2.5 Alternative A

2.5.1 Overview of Alternative A

Alternative A is the continuation of existing management in the decision area and is called the "No Action Alternative" in this RMP/EIS per NEPA regulations. This alternative would continue present management based on existing land use plans and other decision documents. Decisions contained in the Egan RMP, the Egan RMP Oil and Gas amendment, and the Schell and Caliente MFPs would continue to be implemented. Direction contained in existing laws, regulation, and policy also would continue to be implemented, sometimes requiring amendment of the Egan RMP and Schell and Caliente MFPs.

The descriptions that follow are arranged by resource or resource use and will only describe the differences from the Proposed RMP.

2.5.2 Air Resources

Management Actions

Same as the Proposed RMP.

2.5.3 Water Resources

Management Actions

Same as the Proposed RMP.

2.5.4 Soil Resources

Management Actions

Same as the Proposed RMP.

2.5.5 Vegetation Resources

2.5.5.1 General Vegetation Management

Management Actions

Same as the Proposed RMP.

2.5.5.2 Parameter – Pinyon-Juniper Woodlands

Management Actions

Case-by-case management to reduce the amount of overmature woodlands or woodlands near the threshold of mature/overmature would continue. Priority treatments would occur near wildland urban interface areas, with wildlife habitat and livestock needs being second priority. Management emphasis would focus on changing woodlands from the mature and overmature phases (tree state) to the herbaceous state to improve understory composition and reduce the risk of crown fires.

Most common tools used to attain desired range of conditions for pinyon-juniper woodlands would include prescribed fire and mechanical methods (e.g., sawing and chipping).

Table 2.5-1 shows the desired range of conditions of pinyon-juniper for Alternative A.

Table 2.5-1
Desired Range of Conditions of Pinyon-Juniper (Distribution of Woodland Phases and States)

State and Phase	Herbaceous State	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)[1]	Altered State
Canopy Description[2]	0 to 10% canopy cover-includes herbaceous, herbaceous-shrub, and sapling phase	11 to 20% canopy cover	21 to 35% canopy cover	>36 to 50% canopy cover	Site dominated by invasive species or weeds
LANDFIRE classes	A and B	C	D and E	E	Uncharacteristic
Alternative A[3]	10% (359,300 acres)	10% (359,300 acres)	30% (1,078,000 acres)	50% (1,796,700 acres)	0% (0 acres)

[1] Overmature woodland refers to woodlands exhibiting greater than 35 percent canopy cover. This classification is not the same as "old growth" although the two classifications may coincide in some situations.
[2] Canopy descriptions derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Settings models for Great Basin Pinyon-juniper Woodland. Altered state is an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but is part of current conditions.

2.5.5.3 Parameter – Aspen

Management Actions

Select aspen communities would be managed to increase regeneration of aspen trees and understory species. Sites where conifer tree species dominate the tree overstory would be priority areas for treatment. Most common treatment methods would include mechanical (e.g., sawing), grazing management, and prescribed fire treatments.

Table 2.5-2 shows the desired range of conditions of aspen for Alternative A.

Table 2.5-2
Desired Range of Conditions of Aspen (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous, and Herbaceous-Shrub and Sapling Phase)	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)
Canopy Cover[1]	0 to 15% tree canopy cover	16 to 29% tree canopy cover.	30 to 45% tree canopy cover	45% or greater tree canopy cover (includes conifer dominated)
LANDFIRE classes	A	B	C and D	D and E
Alternative A[2]	10% (700 acres)	10% (700 acres)	35% (2,450 acres)	45% (3,150 acres)

[1] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[2] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Rocky Mountain aspen forest and Inter-mountain Basin aspen-mixed conifer forest and woodland. Description of LANDFIRE CLASSES can be found at www.landfire.gov.

2.5.5.4 Parameter – High Elevation Conifer Species

Management Actions

Management actions would focus on introducing fire into high elevation conifer sites through wildland fire management or use of prescribed fire. Priority treatment areas would be ponderosa pine sites. Wood product collection would be restricted for all high elevation conifer species. Treatments such as rehabilitation of burned areas would be the main focus for treatments in most high elevation conifer sites. The most common treatment tool would be fire. Desired range of conditions for ponderosa pine are the same as the Proposed RMP.

Table 2.5-3 shows the desired range of conditions of high elevation conifer for Alternative A.

Table 2.5-3
Desired Range of Conditions of High Elevation Conifer (Distribution of States and Phases)

State and Phase	Herbaceous State, (Herbaceous, and Herbaceous/Sapling Phase)	Herbaceous State (Immature Phase)	Tree State (Mature Phase)	Tree State (Overmature Phase)[1]
Canopy Cover[2]	0 to 15% canopy Cover	16 to 31% canopy cover	31 to 40% canopy cover	41 to 60% canopy cover
LANDFIRE classes	A	B	C	C
Alternative A[3]	5% (2,800 acres)	5% (2,800 acres)	50% (28,000 acres)	40% (22,400 acres)

[1] Overmature high elevation conifer refers to stands with canopy cover exceeding 40 percent. This classification is not the same as "old growth," although the two classifications may coincide in some situations.
[2] Canopy cover derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain white fir limber-bristlecone pine woodland (47,000 acres).

2.5.5.5 Parameter – Salt Desert Shrub

Management Actions

Salt desert shrub habitat invaded with annual invasive or exotic species (e.g., halogeton and cheatgrass) would be treated and restored on a mid-scale basis (watershed level). Treatments could necessitate the use of herbicide on invasive species. Fire would not be considered a useful tool to use in this vegetation type.

Table 2.5-4 shows the desired range of conditions of salt desert shrub for Alternative A.

Table 2.5-4
Desired Range of Conditions of Salt Desert Shrub (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State Annual Invasive/Exotic State	Altered State Perennial Nonnative Seeded
LANDFIRE classes	A	B and C	Uncharacteristic	Uncharacteristic
Alternative A[1]	18% (219,800 acres)	64% (781,400 acres)	0% (0 acres)	18% (219,800 acres)

[1] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins mixed salt desert shrub and Inter-Mountain Basins greasewood flat. Altered state (invasive species/weeds) is an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but is part of current conditions.

2.5.5.6 Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

Management Actions

Approximately 4.3 million acres would be maintained in the herbaceous, shrub, tree, and seeding states. Treatments would be applied in areas where pinyon or juniper have increased in approximately 1.3 million acres of sagebrush community (20 percent). Native range or seedings would be managed to meet shrub cover needs on some big game winter ranges. In other instances, the presence of special status species would be used as rationale for meeting the desired range of conditions. Fire use would increase in this alternative and seeding of burned areas would increase to prevent infestation of annual invasive and noxious weeds and to prevent soil erosion. Treatment of noxious weeds would be by herbicides.

Table 2.5-5 shows the desired range of conditions of sagebrush for Alternative A.

Table 2.5-5
Desired Range of Conditions of Sagebrush (Distribution of Phases and States)

State/Phase Name	Total Herbaceous State (Early, Mid, and Late Phases)[1]	Total Shrub State	Total Tree State	Altered State Annual/Perennial Invasive	Altered State Nonnative Perennial Seeded
LANDFIRE classes	A, B, and C	D	E	Uncharacteristic	Uncharacteristic
Alternative A[2]	35% (1,966,800 acres)	55% (3,090,700 acres)	2% (112,400 acres)	0% (0 acres)	8% (449,600 acres)

[1] Sagebrush in the mid-late phase of the herbaceous state is desired for wildlife habitat.
[2] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Great Basin xeric mixed sagebrush and Inter-Mountain Basin big sagebrush. Altered states (annual/perennial invasive and nonnative perennial seeded) are an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but are part of current conditions.

2.5.5.7 Parameter – Mountain Mahogany

Management Actions

This alternative includes minimal direction for mountain mahogany site management. These sites would continue to be managed similar to the associated or surrounding sagebrush communities. Fuelwood collection would be allowed in mountain mahogany areas that are reaching threshold canopy cover values.

Fuelwood cutting would continue in sites where canopy cover is exceeding ranges listed above. Prescribed fire and wildland fire use would be allowed in some mountain mahogany sites.

Table 2.5-6 shows the desired range of conditions of mountain mahogany for Alternative A.

Table 2.5-6
Desired Range of Conditions of Mountain Mahogany (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous Phase)	Shrub State (Shrub/ Herbaceous Phase)	Shrub State (Shrub Phase)	Shrub/Tree-like State (No Understory Phase)[1]
Canopy Cover[2]	0-15% mahogany canopy cover	15-25% mahogany canopy cover (desired mix of herbaceous and shrub species in understory)	30-45% mahogany canopy cover (approaching threshold with no understory)	45-60% mahogany cover (shrub/tree-like and tree dominant)
LANDFIRE classes	A and C	B	D	E
Alternative A[3]	10% (4,600 acres)	10% (4,600 acres)	40% (18,400 acres)	40% (18,400 acres)

[1] Refers to savanna sites.
[2] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins Mountain Mahogany woodland and shrubland.

2.5.5.8 Parameter – Mojave Desert Vegetation

Management Actions

Resource uses (e.g., livestock grazing) in the Mojave Desert areas would be managed to maintain or improve vegetation composition and protect critical desert tortoise habitat.

Tables 2.5-7 and **2.5-8** show the desired range of conditions of creosotebush, bursage, and blackbrush for Alternative A.

Table 2.5-7
Desired Range of Conditions of Creosotebush and Bursage (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State (Annual Invasive and Exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Alternative A[1]	42% (153,510 acres)	43% (157,165 acres)	0% (0 acres)	15% (54,825 acres)

[1] In creosotebush/bursage communities, the herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Sonora-Mojave creosotebush-white bursage description. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

Table 2.5-8
Desired Range of Conditions of Blackbrush (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered state (annual invasive and exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Alternative A[1]	60% (229,500 acres)	30% (114,750 acres)	0% (0 acres)	10% (38,250 acres)

[1] The herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Mojave mid-elevation desert scrub. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

2.5.5.9 Parameter – Riparian/Wetlands

Desired Range of Conditions

The Ely Field Office is directed to follow the appropriate rangeland health standards, which in the case of the Northeastern Great Basin Resource Advisory Council, states, "Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria." In addition to achieving riparian proper functioning condition, composition, structure, and cover of riparian vegetation would occur within

potential of the site. Ground cover and species composition would be appropriate to the site. Riparian areas with free-flowing water (i.e., undeveloped springs) that are non-functional or functioning at risk would show improving trends toward proper functioning condition. Factors that prevent proper functioning condition have been addressed and mitigated, whenever possible. Restoration or maintenance of riparian areas would be a management priority applicable to all alternatives.

Management Actions

Resource uses (e.g., grazing) would be managed to maintain, achieve, or make progress toward proper functioning condition. Treatment emphasis would be in riparian areas that are functioning at risk or are non-functional on a case-by-case basis. Approximately 713 acres (23 percent) are estimated to exist in this condition (functioning at risk). The treatment would include the removal of exotic species such as tamarisk (salt cedar). This could involve the use of herbicides labeled for this use and in concert with "current biological opinions."

Construction of new and maintenance or improvement of existing riparian/wetland livestock exclosures would continue. Areas not in proper functioning condition would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel and wetland soils. Uses and activities in riparian/wetland areas would be adjusted if current management does not allow for the maintenance or measurable progress toward achieving proper functioning condition.

2.5.5.10 Parameter – Nonnative Seedings

Management Actions

Management of nonnative seedings would focus on appropriate uses and treatments to maintain or improve understory species (i.e., grass and forbs) composition for multiple use objectives.

Treatments would primarily be in sites with increasing shrub composition and decreasing herbaceous composition. Areas would continue to be seeded with native and nonnative species as appropriate. The preferred treatment method would be prescribed fire.

Table 2.5-9 shows the desired range of conditions of seedings for Alternative A.

Table 2.5-9
Desired Range of Conditions of Seedings (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Tree State	Altered State (Annual Invasive)
Alternative A	25% (67,400 acres)	66% (177,900 acres)	9% (24,200 acres)	0% (0 acres)

2.5.6 Fish and Wildlife

2.5.6.1 General Wildlife Habitat Management (Aquatic and Terrestrial)

Management Actions

Same as the Proposed RMP, except priority wildlife species and associated priority habitats would not be designated in the RMP, and the mitigation goal of 2:1 acreage for disturbance of priority habitat would not be a management action.

Within the historic Schell Resource Area, streams would be retained in public ownership for wildlife values unless environmental assessments show clear overriding values to warrant land disposal.

Habitat management plans would be prepared for nine streams in the historic Schell Resource Area.

Special riparian use restrictions or limitations would be implemented on a case-by-case basis to protect fisheries habitat. Examples of restrictions or limitations include fencing, grazing exclusions, and no fire retardant allowed within 100 yards of riparian areas.

2.5.6.2 Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitats

Management Actions

Habitat management plans would be prepared and implemented to support reasonable numbers of big game species. Increases in forage bases would occur through implementation of existing land use plans, activity plans (including local elk plans), allotment evaluations, and watershed restoration strategies. Additional forage would be divided 70 percent to livestock and wild horses and 30 percent to wildlife in the historic Schell Resource Area. In the rest of the planning area, additional forage would be allocated to livestock and/or wild horses, and/or reserved for watershed maintenance and wildlife depending on the degree of watershed function needed to maintain rangeland health standards.

Timing limitations would be implemented in certain areas within the planning area to protect crucial mule deer and pronghorn antelope winter range and pronghorn antelope kidding areas.

Elk would be managed through procedures and actions identified in the Central Nevada, Lincoln County, and White Pine County Elk Plans.

Rocky Mountain bighorn sheep habitat would be managed in all occupied ranges, including Mount Grafton. When changes to BLM grazing permits within unoccupied Rocky Mountain bighorn sheep range are being considered, domestic sheep and goats would be managed in accordance with current BLM policies.

The needs of nongame species would not be factored heavily into habitat management actions.

2.5.6.3 Parameter – Desert Bighorn Sheep Habitat

Management Actions

Habitat management plans would be prepared and implemented to support reasonable numbers of desert bighorn sheep habitat in occupied range. When changes to BLM grazing permits in unoccupied desert bighorn sheep range are being considered, domestic sheep and goats would be managed in accordance with current BLM policies.

2.5.6.4 Parameter – Migratory Bird Habitat

Management Actions

Same as the Proposed RMP.

2.5.6.5 Parameter – Wildlife Water Developments

Management Actions

Same as the Proposed RMP except the Ely Field Office would use the following Nevada Department of Wildlife criteria to identify artificial wildlife water developments:

- Promote sound scientific wildlife management;
- Ensure projects incorporate all reasonable and practical ecological and wildlife diversity considerations;
- Construct functional, durable projects using up-to-date designs, materials, and techniques;
- Maximize federal aid revenues;
- Ensure maintenance and upgrade work are programmed to be completed in a timely and efficient manner;
- Increase opportunity for consumptive and non-consumptive recreation;
- Increase wildlife species numbers and distribution;
- Avoid disease issues and maintain herd/population health and reduce inter/intra specific competition between wildlife species;
- Mitigate for loss, degradation, or fragmentation of habitat;
- Meet various wildlife species plan objectives; and
- Retain the effectiveness of identified wildlife movement corridors.

2.5.7 Special Status Species

2.5.7.1 Parameter – Special Status Species Habitat

Management Actions

Same as the Proposed RMP except:

In most cases, special status species management would address an immediate need or habitat niche for the maintenance, mitigation, or restoration of a single special status species. Special status species management would be implemented on a case-by-case basis predominately at the fine scale (i.e., allotment, project, portion of a watershed), and occasionally at the planning area level.

Within the Egan Resource Area, only ferruginous hawks, and no other raptors, would receive protection as a result of a timing limitation and no surface occupancy stipulation on mineral leases.

Within the Egan Resource Area, several BLM sensitive species would receive protection as a result of a no surface occupancy stipulation on mineral leases.

Bats would be managed on a case-by-case basis and through actions identified in the Ely Cave Management Plan.

Springsnail habitat would be managed on a case-by-case basis as a result of proposed actions in other programs.

2.5.7.2 Parameter – Great Basin Riparian Habitat

Special Status Species

Pahrump poolfish
White River spinedace
Railroad Valley springfish
Big Spring spinedace
Ute ladies'-tresses

Management Actions

Same as the Proposed RMP except:

Within the Egan Resource Area, the Railroad Valley springfish would receive protection as a result of a no surface occupancy stipulation on mineral leases.

Management for the Ute ladies'-tresses would only occur if the species is documented in the planning area through some other activity.

2.5.7.3 Parameter – Mojave Desert and Great Basin Riparian Habitats

Special Status Species

Southwestern willow flycatcher
Western yellow-billed cuckoo
Meadow Valley Wash desert sucker
Meadow Valley Wash speckled dace
Arizona southwestern toad

Management Actions

Same as the Proposed RMP except livestock grazing would not be limited in Lower Meadow Valley Wash.

2.5.7.4 Parameter – Mojave Desert Riparian Habitat

Special Status Species

White River springfish
Hiko White River springfish
Pahranagat roundtail chub

Management Actions

Same as the Proposed RMP.

2.5.7.5 Parameter – Mojave Desert Scrub Habitat

Special Status Species

Desert tortoise
Banded Gila monster

Management Actions

Same as the Proposed RMP except active season for desert tortoise would be from March 15 to October 15.

2.5.7.6 Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Special Status Species

Western burrowing owl
Sunnyside green gentian

Management Actions

Western burrowing owl habitat would be managed on a case-by-case basis as a result of proposed actions in other programs.

The Sunnyside green gentian would be managed on a case-by-case basis as a result of proposed actions in other programs.

2.5.7.7 Parameter – Great Basin Sagebrush Habitat

Special Status Species
Greater sage-grouse
Pygmy rabbit

Management Actions

Same as the Proposed RMP except sagebrush habitat maintenance would be performed in consideration of the priorities identified in the BLM National Sage Grouse Conservation Strategy.

Sagebrush restoration would be centered on restoring potential sagebrush habitats encroached by pinyon or juniper and in consideration of the restoration priorities identified in the BLM National Sage Grouse Conservation Strategy.

The Ely Field Office would consider the standard operating procedures in Appendix J of the Ely Draft RMP/EIS (July 2005).

2.5.8 Wild Horses

2.5.8.1 General Wild Horse Management

Management Actions

Same as the Proposed RMP.

2.5.8.2 Parameter – Herd Management Area Establishment

Management Actions

Wild horses would continue to be managed within the existing 24 herd management areas covering approximately 5.4 million acres (see **Map 2.5.8-1** and **Table 2.5-10**). The appropriate management level of wild horses is 2,141 animals (including the maximum number on some herd management areas where the appropriate management level is currently listed as a range).

Table 2.5-10
Herd Management Areas Under Jurisdiction of the Ely Field Office

Herd Management Areas	Public Acres	Appropriate Management Level
Antelope	389,000	324
Applewhite	30,300	1
Blue Nose Peak	84,600	1
Buck and Bald	799,500	423
Butte	427,800	95
Cherry Creek	35,000	0
Clover Creek	33,000	1-14
Clover Mountains	168,000	1-16
Deer Lodge Canyon	105,300	30-50
Delamar Mountains	183,600	51-85
Diamond Hills South	19,500	22
Dry Lake	487,800	94
Highland Peak	136,100	20-33
Jakes Wash	153,700	1-21
Little Mountain	53,000	9-15
Meadow Valley Mountains	94,500	0
Miller Flat	89,400	9-15
Monte Cristo	369,800	236
Moriah	53,300	1-29
Rattlesnake	71,400	1
Sand Springs East	476,100	257
Seaman	358,800	159
White River	116,300	90
Wilson Creek	624,500	160
Totals	**5,361,300**	**1,986-2,141**

2.5.8.3 Parameter – Population Management

Management Actions

Populations would be managed within existing appropriate management level ranges, where applicable. For areas with single appropriate management level numbers, gather when necessary to reduce the population approximately 40 percent below that number to allow for natural population growth before the next gather cycle.

Population growth rates of approximately 20 percent have been observed for several of the larger wild horse populations in the planning area. It is neither economically practical nor desirable from an animal stress and health standpoint to conduct annual gathers to remove excess animals. Hence, gathers of greater numbers of animals are typically conducted on 3- to 4-year cycles. At a 20 percent annual population growth rate, approximately 40 percent of the population would need to be removed every 3 years to prevent population growth beyond the upper appropriate management level. For populations with growth rates less than 20 percent, the population reduction at gathers would be less than 40 percent and the cycle time between gathers would be extended until the population level again reached the upper appropriate management level. This population range would ensure that a thriving natural ecological balance is obtained since wild

horses would be managed in a manner designed to not exceed habitat limitations. Wild horses would be managed within the existing herd management areas regardless of whether habitat conditions can support a long-term self-sustaining healthy population or not.

2.5.9 Cultural Resources

2.5.9.1 General Cultural Resources Management

Management Actions

Same as the Proposed RMP.

2.5.9.2 Parameter – Cultural Resource Use Allocation: Historic Roads, Trails, Railways, Highways, and Associated Sidings and Stations

Management Actions

The cultural historic landscape (setting) around National Historic Trails would be managed according to the National Historic Preservation Act and current policy regarding Historic Landscape Management along National Historic Trails and current policy regarding the Determination of the Direct Effects Analysis Area for National Historic Trails. The area of direct effect around national historic trails is established as 1 mile from centerline, although in some cases, the area of effect may be larger or smaller than 1 mile from centerline. Designated national historic trails would be managed according to the National Scenic and Historic Trail Act (16 USC sections 1241-1251) and the BLM's National Scenic and Historic Trails Strategy and Work Plan (BLM 2006).

Historic roads, trails, railways, highways, and associated sidings and stations would continue to be managed for future Cultural Resource Use Allocations. No established fee sites.

2.5.9.3 Parameter – Cultural Resource Use Allocation: Rock Art Sites

Management Actions

The Ely Field Office would manage cultural resources for future resource use allocations, continue to develop interpretative sites at White River Narrows and Mount Irish, and conduct a Class II inventory of areas identified as high potential for prehistoric site occurrence.

No surface occupancy lease stipulations will be in effect for approximately 29,700 acres to protect the integrity of cultural properties that contribute to the National Register eligibility of the resource, which includes the Black Point Complex (1,200 acres) and City of Rocks Archaeological District (6,514 acres).

No fee sites currently exist.

2.5.9.4 Parameter – Cultural Resource Use Allocations: Historic Townsites, Historic Mining Camps, Historic Mining Districts, and Related Historic Buildings and Standing Structures, and Historic Racetracks

Management Actions

The Ely Field Office would manage for future Cultural Resource Use Allocations and would inventory the Delamar townsite and cemetery for its cultural and historical values.

No fee sites currently exist.

2.5.9.5 Parameter – Cultural Resource Use Allocations: Historic Cemeteries and Isolated Historic Gravesites

Management Actions

The Ely Field Office would manage cultural resources for future Resource Use Allocations.

No fee sites currently exist.

2.5.9.6 Parameter – Cultural Resource Use Allocations: Ethnic Arboreal Narratives and Graphics, and Bow Stave Trees

Management Actions

The Ely Field Office would manage cultural resources for future Resource Use Allocations.

2.5.9.7 Parameter – Cultural Resource Use Allocations: Paleoindian Sites

For the purposes of this RMP, the term Paleoindian would be defined as follows: "Paleoindian or Pre-Archaic has been attributed to include both fluted and stemmed complexes as well as being reserved for complexes containing fluted points and extinct megafauna. The term Paleoindian would be used here to denote archeological sites and artifact assemblages dating between 12,000 to 8,000 years Before Present, which include fluted or stemmed points, and possibly crescents. Under this broad Paleoindian umbrella there are several local traditions and possible variants that may represent different peoples using the land in different ways. This includes Clovis, Folsom, Western Pluvial Lakes Tradition, and Stemmed Complex" (Sherve 2001).

Management Actions

The Ely Field Office would manage cultural resources for future Resource Use Allocations.

No surface occupancy lease stipulations will be in effect for approximately 29,700 acres to protect the integrity of cultural properties that contribute to the National Register eligibility of the resource, which includes the Little Smoky Valley Paleoindian Quarry (3,100 acres).

No surface occupancy lease stipulations will be in effect for 17,860 acres of the Sunshine Locality National Register District for the protection of fragile prehistoric resources inclusively listed on the National Register of Historic Places and to provide integrity to the surface and subsurface environmental context in which the resources occur.

A lease notice describing special cultural resource compliance requirements to operate on the remaining 16,160 acres of the Sunshine Locality National Register District shall be issued and in effect.

2.5.9.8 Parameter – Cultural Resource Use Allocations: Formative Puebloan Sites

Management Actions

The Ely Field Office would manage for future Cultural Resource Use Allocations.

No fee sites currently exist.

2.5.9.9 Parameter – Cultural Resource Use Allocations: Rockshelter and Cave Sites

Management Actions

The Ely Field Office would manage for future Cultural Resource Use Allocations.

No surface occupancy lease stipulations will be in effect for approximately 29,700 acres to protect the integrity of cultural properties that contribute to the National Register eligibility of the resource, which includes the Newark Cave (120 acres).

No fee sites currently exist.

2.5.9.10 Parameter – Cultural Resource Use Allocations: Prehistoric Complex Sites, Campsites, or Specialized Activity Areas

Management Actions

The Ely Field Office would manage cultural resources for future Resource Use Allocations and a Class II inventory of areas identified as high potential for aboriginal site occurrence would be conducted.

2.5.9.11 Parameter – Cultural Resource Use Allocations: Toolstone Sources or Quarries

Management Actions

The Ely Field Office would manage for future Cultural Resource Use Allocations and a Class II inventory of areas identified as high potential for aboriginal site occurrence would be conducted.

2.5.9.12 Parameter – Cultural Resource Use Allocations: Historic Ranching and Livestock Related Historic Sites, Buildings, Standing Structures, and Landscapes

Management Actions

The Ely Field Office would manage for future Cultural Resource Use Allocations.

2.5.9.13 Parameter – Cultural Resource Use Allocations: Ethnohistoric Sites, Sacred Sites, Traditional Use Areas, Traditional Cultural Properties

Management Actions

The Ely Field Office would manage for future Cultural Resource Use Allocations.

No surface occupancy lease stipulations would be in effect for approximately 29,700 acres to protect the integrity of cultural properties that contribute to the National Register eligibility of the resource, which includes the Huntington Valley Village (640 acres).

The Snake Creek Indian Burial Cave (ethnohistoric site) would receive partial protection under the Fire Management Action Modification Plan.

2.5.9.14 Parameter – Cultural Resource Use Allocations: "Other" Sites

"Other" is defined as those sites not falling into any of the above 12 site types.

Management Actions

The Ely Field Office would manage for future Cultural Resource Use Allocations in a Class II inventory of areas identified as high potential for aboriginal site occurrence would be conducted.

No surface occupancy lease stipulations would be in effect for approximately 29,700 acres to protect the integrity of cultural properties that contribute to the National Register eligibility of the resource, which includes the Little Smoky Valley Antelope Wall (340 acres).

2.5.10 Paleontological Resources

2.5.10.1 General Paleontological Resource Management

Management Actions

Same as the Proposed RMP.

2.5.10.2 Parameter – Trilobite Collecting

Management Actions

No registration system currently is in place for trilobite collecting.

2.5.11 Visual Resources

Management Actions

Visual resources would be managed in accordance with the following visual resource management classes (approximate acreages – see **Map 2.5.11-1**).

Class I: 1,450,900 acres
Class II: 283,700 acres
Class III: 678,700 acres
Class IV: 5,466,300 acres
No visual resource management class: 3,577,000 acres

Management would continue under the existing visual resource management classes for the Schell and Caliente resource areas. The Egan Resource area would establish visual resource management classes at the site-specific project level.

2.5.12 Lands and Realty

2.5.12.1 Parameter – Retention

Management Actions

Big game habitat, upland game habitat, and wild horse herd management areas would be retained. Lands would be retained to prevent adverse effects on threatened or endangered species or their habitat. Lands would be retained where necessary to prevent loss, occupancy, destruction, or degradation of wetlands or riparian areas that would lead to the modification, or loss of the natural and beneficial functions of floodplains.

2.5.12.2 Parameter – Disposal (Sales, Exchanges, and Recreation and Public Purposes Act)

Management Actions

A total of 31,912 acres are identified to be available for potential disposal under this alternative: 3,580 acres in Lincoln County; 3,893 acres in Nye County; and 24,438 acres in White Pine County. Approximately 10,958 acres would be available under the Federal Lands Transaction Facilitation Act in White Pine County (see **Maps 2.5.12-1**, **2.5.12-2**, **2.5.12-3**, and **2.5.12-4**). Known unauthorized use of public lands would be resolved. Federal Land Policy and Management Act of 1976, Sections 203 and 209, state that sales are the preferred method of disposal.

Criteria for disposal under Alternative A:

- Disposal of additional lands would be allowed on a case-by-case basis under existing land use plans.
- Disposal of lands outside designated big game habitat, upland game habitat, and wild horse herd management areas would be allowed on a case-by-case basis (Egan RMP).
- Lands that contain National Register eligible archaeological resources or historic properties would not be considered for disposal (Caliente MFP).
- Land for agricultural production would be disposed of only in those areas that have been determined to have development potential in the Caliente MFP.
- New applications for Carey Act, Desert Land Entries, and Indian Allotments would be processed on a case-by-case basis (Egan RMP and Schell MFP).

2.5.12.3 Parameter – Acquisitions

Management Actions

Same as the Proposed RMP.

2.5.12.4 Parameter – Withdrawals

Management Actions

Requests for new withdrawals, withdrawal relinquishments, or modifications would be considered on a case-by-case basis. Approximately 31,900 acres of lands identified for potential disposal would be recommended for withdrawal from mineral entry.

2.5.12.5 Parameter – Corridors

Management Actions

No new utility corridors would be designated. All rights-of-way would be encouraged to locate within existing designated corridors (**Map 2.5.12-5**).

Existing corridors would be managed as follows:

A. Maintain a corridor 1,000 feet wide, 500 feet on either side of the centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 20 running easterly to the Arizona state line. This corridor crosses portions of the Beaver Dam Slope ACEC and the management is consistent with the Arizona Strip Field Office.

B. Maintain the Falcon to Gonder corridor as 0.5 mile wide, as an east-west corridor to interconnect with the Ely to Utah state line portion of the Southwest Intertie Project corridor.

C. Maintain the Ely to Utah state line portion of the Southwest Intertie Project corridor as 0.5 mile wide.

D. Maintain the approved Southwest Intertie Project corridor as 0.5 mile wide from the Elko/White Pine County line to the point where it parallels Highway 93 and the Pahranagat Wildlife Refuge at which point it will remain 0.5 mile wide, but will be oriented so that the centerline defining that corridor is 50 feet from the eastern edge of the corridor.

E. Maintain the Moapa corridor at 0.5 mile wide.

F. Maintain the corridors designated by the Lincoln County Conservation, Recreation, and Development Act as 0.5 mile wide.

2.5.12.6 Parameter – Communication Sites

Management Actions

New communication sites would be authorized on a case-by-case basis.

2.5.12.7 Parameter – Land Use Authorizations (Rights-of-Way, Permits, Leases, Easements, and Unauthorized Use)

Management Actions

Land use authorizations would be issued on a case-by-case basis.

Areas outside of proposed corridors within existing ACECs for the protection of desert tortoise would be right-of-way avoidance areas.

Designated wilderness would be considered right-of-way exclusion areas.

2.5.13 Renewable Energy

2.5.13.1 Parameter – Wind, Solar, and Biomass Energy

Management Actions

Same as the Proposed RMP.

2.5.14 Travel Management and Off-highway Vehicle Use

2.5.14.1 Parameter – Transportation Plan

Management Actions

Outside desert tortoise habitat, road and trail designation would be on a case-by-case basis. Resource impacts resulting from motorized vehicle travel would be handled through emergency closures.

2.5.14.2 Parameter – Off-highway Vehicles

Management Actions

Off-highway vehicles would be managed in accordance with the following designations (see **Map 2.5.14-1**):

- Open to cross-country off-highway vehicle use: 9,798,300 acres.
- Off-highway vehicle use limited to designated roads and trails: 589,000 acres. This acreage reflects wilderness study areas and the area addressed in the Caliente MFP Amendment.
- Closed to off-highway vehicle use: approximately 1,072,700 acres. This acreage reflects designated wilderness.

2.5.15 Recreation

2.5.15.1 Parameter – Special Recreation Management Areas

Management Actions

An estimated 550,000 acres would continue to be managed as one special recreation management area. Emphasis for the special recreation management area would be on maintaining existing developed facilities.

Only the Loneliest Highway Special Recreation Management Area would exist. The Loneliest Highway Special Recreation Management Area is located within White Pine County and is comprised of four

separate areas: Illipah Reservoir, Cold Creek Reservoir, Garnet Fields Rockhound Area, and the Pony Express Trail. All remaining public land would be managed as an extensive recreation management area. Existing recreation sites would remain open and would be maintained at current levels. Closure of sites would remain an option in the case of public safety or resource condition issues. Dispersed use management would remain reactive rather than proactive. The Ely Field Office would continue to work as a member of the diversified interagency recreation team to promote recreational opportunities in the planning area. Tourism and recreation opportunities would not be emphasized.

2.5.15.2 Parameter – Special Recreation Permits

Management Actions

No limitations would be placed on outfitter and guide permits for hunting. No areas would be identified for off-highway vehicle emphasis areas. Motorcycle events would be limited to twelve races based on available staff time. A maximum of two truck events would be permitted each year on race routes subject to NEPA.

Desert tortoise ACECs would be closed to all types of organized off-highway vehicle events from March 15 to June 15 and August 31 to October 15. The maximum number of events allowed within desert tortoise ACECs would be more than allowed in the Proposed RMP.

2.5.16 Livestock Grazing

Management Actions

Approximately 11,247,000 acres are available for livestock grazing subject to modification associated with disposal actions.

Changes to livestock grazing use resulting from reduced land acreage due to land disposals could include one or more of the following actions: reduction in stocking levels; distribution of livestock to other areas; a shorter grazing period; more intensive management practices (e.g., water hauling, fencing, and water development); or no changes in grazing management practices. No areas in addition to the 203,670 acres in the three existing ACECs would be unavailable (see **Map 2.5.16-1**), but various acres are proposed for potential land disposal as discussed in Section 2.5.12.2, and would no longer be public lands.

Authorized active use would fluctuate above and below the total active use or level of use authorized in the grazing permit. Authorized active use above the total active use is temporary nonrenewable. Active use not activated is nonuse. Authorized active use would fluctuate based on annual forage production.

Allotments would continue to be monitored and evaluated to determine if they are continuing to meet or are making significant progress toward meeting the standards for rangeland health.

Domestic sheep and goats would continue to be managed in accordance with current BLM policies for management of domestic sheep and goats in bighorn sheep habitat when proposed changes to BLM

grazing permits are being considered. This would apply relative to both Rocky Mountain bighorn and desert bighorn sheep.

2.5.17 Forest/Woodland and Other Plant Products

2.5.17.1 General Forest/Woodland and Other Plant Product Management

Management Actions

Direction for management of forest/woodland and other plant products is outlined in three land use plans (i.e., Caliente MFP, Egan RMP, and the Schell MFP), individual forest activity plans, and a field office policy implemented in 2000. Decisions in each land use plan direct the preparation of forest management plans, which identified areas suitable for sales of forest products. Several forest management plans were developed that identified specific areas for harvest of forest/woodland and other plant products. Prior to year 2000, live (greenwood) fuelwood cutting was allowed only in areas identified in forestry management plans or other similar activity plans. A decision was issued in 2000 that allowed fuelwood harvest of live pinyon and juniper throughout the entire planning area except wilderness study areas, ACECs, and some other restricted areas.

Generally, harvest of forest/woodland products would be restricted in designated wilderness, wilderness study areas, ACECs, or scenic or natural areas. Harvest of seed species would be allowed in such areas on a case-by-case basis.

With the exception of travel in designated cutting areas that have been specified in forestry management plans, all vehicle traffic would be limited to existing roads and trails.

2.5.17.2 Parameter – Fuelwood Collection

Management Actions

Fuelwood collection of live and dead pinyon and juniper and dead and down mountain mahogany would continue to be allowed throughout the planning area except in designated wilderness, wilderness study areas, ACECs, and other restricted areas. Cutting of live (greenwood) trees of species other than pinyon and juniper would be allowed only within areas designated through site-specific activity or forestry management plans and if cutting would improve the health of the stand. Dead and down other species (e.g., fir, spruce, aspen) would be cut on site-specific case-by-case basis where the health of the stand would be enhanced by the removal of such material. Cutting of live and dead wood would be permitted within active unpatented mining operations as salvage, by the general public if no interference or safety hazard is created with mining operations.

Commercial fuelwood permits would be issued to members of the public who intend to resale the product, or to those who harvest more than ten cords annually.

2.5.17.3 Parameter – Pinyon Pine Nut Harvesting

Management Actions

Free personal use of up to 25 pounds per person would be allowed within the planning area. Commercial harvest sale areas would be designated throughout the planning area and sold through a competitive bidding process. When the competitive bidding is complete and the sales are awarded, the specific sale area would be documented on the permittee's contract. Mechanical harvesters would not be allowed.

2.5.17.4 Parameter – Christmas Tree Harvesting

Management Actions

Pinyon and juniper would continue to be available for personal and commercial use throughout the planning area. Commercial harvest permits would be issued to members of the public who plan to sell the trees or to those who purchase more than twenty trees. Permits would be issued throughout the planning area except for certain excluded areas as marked on the ground. For commercial permits, the specific harvest site would be designated on the contract at the time of sale.

2.5.17.5 Parameter – Post and Pole Harvesting

Management Actions

Pinyon and juniper would continue to be available for personal and commercial use throughout the planning area, except in restricted areas. Commercial harvest locations would be designated on the contract at the time of sale.

2.5.17.6 Parameter – Seed Collection

Management Actions

Commercial use would be allowed on a case-by-case basis.

Hand collection methods would be encouraged, and mechanical collection would be allowed on a limited basis.

2.5.17.7 Parameter – Other Vegetation Product (i.e., wildings, boughs, etc.) Collection

Management Actions

Wildings would be sold on a non-commercial basis. Aspen and fir trees would be sold only where the sale is needed to enhance maintenance of the stand. Petrified wood would be allowed on a non-commercial basis at the rate of 25 pounds plus 1 piece per day, up to 250 pounds per year without a permit.

All other products would be sold on a case-by-case basis.

2.5.17.8 Parameter – Biomass Products

Management Actions

Same as the Proposed RMP.

2.5.18 Geology and Mineral Extraction

2.5.18.1 General Geology and Mineral Management

Management Actions

Same as the Proposed RMP.

2.5.18.2 Parameter – Fluid Leasable Minerals

Management Actions

Existing land use plans include: the Oil and Gas Leasing Amendment to the Egan RMP, the Schell MFP, the Caliente MFP, and the Caliente MFP Amendment and Record of Decision for the Management of Desert Tortoise Habitat, which identify 7,752,700 acres open to leasing. Older environmental assessments are no longer valid to support leasing under NEPA on approximately 3.2 million acres. Areas that are open to leasing could be leased with appropriate NEPA coverage on a case-by-case basis.

Current valid leasing documents in the Ely Field Office are the Egan Oil and Gas Amendment (BLM 1994a) and the Caliente MFP Amendment and Record of Decision for the Management of Desert Tortoise Habitat (BLM 2000a). Existing leases in other areas are being honored.

The following areas currently are available for leasing:

Historic Egan Resource Area:	3,804,230 acres
Desert Tortoise Habitat:	736,805 acres
Total	4,541,035 acres

Table 2.5-11 presents a summary of the distribution of acres for Alternative A. **Map 2.5.18-1** shows the location of the leasing stipulations for this alternative.

Leases would continue to be issued in the Egan and Caliente MFP Amendment areas for those areas open to fluid mineral leasing. Current stipulations would be carried forward. Geothermal leasing would be allowed in desert tortoise habitat as provided for in the Caliente MFP Amendment for the Management of the Desert

Tortoise Habitat. Additional site-specific NEPA analysis would be conducted prior to issuing geothermal leases in the remainder of the planning area.

Table 2.5-11
Summary of Fluid Mineral Leasing
(Geothermal Not Included)

	Acres[1]
Open to Fluid Mineral Leasing	
Standard Lease Terms and Conditions	2,715,200
Moderate Restrictions (Timing Limitations)	1,188,100
Major Restrictions (No Surface Occupancy)	46,000
Open – Total	3,949,300
Closed to Fluid Mineral Leasing	
Designated Wilderness/Wilderness Study Areas	471,900
Discretionary Closure	119,800
Closed – Total	591,700
Total for Leasing Areas	**4,541,000**
Currently Unavailable to Leasing	**6,959,000**
Total	**11,500,000**

[1] Rounded to hundreds.

Open to Leasing

There would be approximately 2.8 million acres open for leasing subject to standard lease terms and conditions.

Lease Notices

Alternative A has a cultural notice for the Pony Express Trail and for the Sunshine Locality National Register District. The Pony Express Trail lease notice lets the operator know that there could be special visual mitigations required within the viewshed of the Pony Express Trail. The Sunshine Locality Lease Notice surrounds the core area of the Sunshine Locality National Register District, which has a no surface occupancy designation. The lease notice lets the operator know that there still could be a high density of potentially significant cultural artifacts around that core area that may require consultation, mitigation, or treatment plans.

In desert tortoise habitat, a lease notice is in effect which informs the lessee that Section 7 consultation will be completed prior to any surface disturbance. **Table 2.5-12** shows the areas that are listed as lease notices in Alternative A.

Table 2.5-12
Lease Notices for Fluid Mineral Leasing

Area	Acres
Pony Express Trail	70,460
Sunshine Locality National Register District	17,280
Desert Tortoise Habitat	736,800
Total	**824,540**

Moderate Restrictions – Traditional Surface Use/Timing

There would be approximately 1.3 million acres open for leasing with surface use and/or timing restrictions. Surface use and/or seasonal timing restrictions would be in place for the protection of greater sage-grouse leks and greater sage-grouse winter habitat, ferruginous hawk nesting territories, and desert tortoise habitat as shown in **Table 2.5-13** and **Map 2.5.18-1**. Timing restrictions for the protection for other raptors, big game, and desert bighorn sheep habitat, as listed in the Egan Oil and Gas Amendment, would be applied as best management practices during ground disturbing activities.

Table 2.5-13
Timing and Surface Use Stipulations for Fluid Mineral Leasing

Resource	Restriction	Acres
Greater Sage-grouse Nesting Areas	Timing Limitation. No surface activity would be allowed within 2 miles of a greater sage-grouse lek from March 15 through May 30.	615,800
Greater Sage-grouse Winter Range	Timing Limitation. No surface activity would be allowed within winter range for greater sage-grouse from November 1 through March 31.	104,430
Hawk Nesting Territories	No surface activity within 0.5 mile of an occupied ferruginous hawk nest March 15 to July 1 or until the birds have fledged. At all other times, avoid damage to nests.	146,200
Desert Tortoise	No surface activity March 15 to October 15, stay on existing roads and trails.	462,720
Total[1]		**1,329,150**

[1] Total differs from summary table due to overlap among categories.

Major Restrictions – No Surface Occupancy

Major restrictions under this alternative consist of 46,000 acres of no surface occupancy for the resources shown in **Table 2.5-14** and **Map 2.5.18-1**.

Table 2.5-14
No Surface Occupancy for Fluid Mineral Leasing

Name	Acres
Antelope Summit Recreation Sites	80
Bald Eagle Habitat	45
Bassett Lake Recreation Site	214
Black Point Archaeological Site	1,204
Bonneville Cutthroat Trout Threatened and Endangered Species Habitat	460
City of Rocks Archaeology Site	6,514
Comins Lake Recreation Area	120
Ferruginous Hawk Nest Sites (40 acres each)	9,058
Garnet Hill Recreation Site	166
Highway 6 Threatened and Endangered Species Habitat	247
Huntington Valley Archaeology Site	623
Little Smokey Valley Antelope Wall	345
Little Smokey Valley Paleo Indian Quarry	3,100
Monte Neva Paintbrush Threatened and Endangered Habitat	154
Newark Cave	120
Newark Valley Tui Chub Threatened and Endangered Species Habitat	40
Orchard Canyon Riparian Area	360
Ragged Ridge Scenic Area	2,210
Railroad Valley Springfish Threatened and Endangered Species Habitat	2
Sunnyside Green Gentian Threatened and Endangered Species Habitat	640
Sunshine Locality National Register District	17,856
Swamp Cedar Threatened and Endangered Species Habitat	150
Ward Recreation Site	1,630
Welshes Cateye Threatened and Endangered Species Habitat	650
White River Spinedace Threatened and Endangered Species Habitat	360
Total	**46,348**

* Totals differ from summary table due to overlap among areas and categories.

Closed to Leasing

There would be approximately 528,900 acres closed to leasing. The areas closed to leasing include approximately 471,900 acres within designated wilderness and wilderness study areas, and 57,000 acres of additional closures outside of the designated wilderness/wilderness study areas as shown in **Table 2.5-15** and **Map 2.5.18-1**.

Proposed actions for geophysical exploration would be evaluated on a case-by-case basis and would not necessarily be subject to the same restrictions as shown for fluid leasing.

Table 2.5-15
Closed to Fluid Mineral Leasing

Name	Acres
Cave Valley Cave	40
Cold Creek Reservoir Recreation Area	220
Designated Wilderness/Wilderness Study Areas	471,940
Illipah Reservoir Recreation Area	320
Kane Springs ACEC	57,190
Lincoln County Conservation, Recreation, and Development Act Corridors	25,320
Nevada Division of Forestry Honor Camp	180
Nevada State Prison	1,470
Steptoe Valley Wildlife Management Area Expansion	6,275
White Pine County Conservation, Recreation, and Development Act Airport Expansion	1,530
White Pine County Conservation, Recreation, and Development Act Industrial Park Expansion	200
White Pine County Shooting Range	80
Total	**564,765**

* Totals differ from summary table due to overlap among areas and categories.

Oil and gas and geothermal well drilling, production, and geophysical exploration would be subject to the standard operating procedures for Alternative A listed in Appendix M of the Ely Draft RMP/EIS (July 2005) as well as the Gold Book Best Management Practices for Oil and Gas (U.S. Department of Interior and U.S. Department of Agriculture 2006).

2.5.18.3 Parameter – Solid Leasable Minerals

Management Actions

There would be approximately 10.1 million acres of federal mineral estate open for development of solid leasable minerals. Leasing would be allowed in desert tortoise habitat as provided for in the Caliente MFP Amendment for the Management of the Desert Tortoise Habitat. Additional site-specific NEPA analysis would be conducted prior to issuing solid minerals leases in the remainder of the planning area.

Table 2.5-16 presents a summary of the distribution of acres for Alternative A.

Table 2.5-16
Summary of Solid Leasable Minerals Leasing

Solid Leasable	Acres
Open to Solid Leasable	10,134,100
Closed to Solid Leasable	1,365,900
Total	**11,500,000**
Acres closed outside of designated wilderness/wilderness study areas	212,400

Map 2.5.18-2 shows the location of the leasing stipulations for this alternative.

There are no solid leasable minerals operations to date within the planning area. Most existing withdrawals closed to locatable mineral entry are not closed to solid leasing unless specifically designated. Even so, under Alternative A, those areas closed to locatable minerals likely would not be made available for solid mineral leasing.

There would be approximately 1.4 million acres closed to solid mineral leasing. This includes approximately 1.15 million acres of designated wilderness and wilderness study areas and approximately 212,400 acres outside of designated wilderness/wilderness study areas. **Map 2.5.18-2** shows the location of areas that would be closed to both locatable minerals and solid leasable minerals. See **Table 2.5-18** for the areas that would be closed to solid mineral leasing.

Standard practices and procedures for solid leasable operations under this alternative would be compiled on a site-specific basis from the standard operating procedures for Alternative A that are listed in Appendix M of the Ely Draft RMP/EIS (July 2005).

2.5.18.4 Parameter – Locatable Minerals

Locatable minerals management would be the same as the Proposed RMP except for the following:

Management Actions

There would be approximately 10.1 million acres of federal mineral estate open for development of locatable minerals. Lands currently open for mineral activities would continue to be available.

Table 2.5-17 summarizes the acres of locatable minerals for Alternative A.

Table 2.5-17
Summary of Locatable Minerals

	Acres[1]
Locatable Minerals – Open	10,134,100
Locatable Minerals – Closed	1,365,900
Total	**11,500,000**
Acres closed outside of designated wilderness/wilderness study areas	212,400

[1] Rounded to hundreds.

See **Map 2.5.18-2**.

There would be approximately 1.4 million acres proposed for withdrawal to mineral development. This includes approximately 1.15 million acres that are currently designated as designated wilderness and wilderness study areas and 212,400 acres outside of designated wilderness/wilderness study areas.

Map 2.5.18-2 shows the location of areas that would be proposed for withdrawal to locatable minerals. **Table 2.5-18** lists the areas that would be withdrawn from locatable mineral entry.

Standard operating procedures for locatable mineral operations under this alternative would be compiled from the standard operating procedures list in Appendix M of the Ely Draft RMP/EIS (July 2005).

Table 2.5-18
Areas Proposed for Withdrawal to Solid, Locatable, and Mineral Materials Disposal

Name	Acres*
Ash Springs Proposed Withdrawal	80
Baca disposals in Lincoln County	155
Baca disposals in White Pine County	10,090
Blue Mass Scenic Area	950
Caliente Field Station	2
Cave Valley Cave	40
Cleve Creek	90
Designated Wilderness/Wilderness Study Areas	1,153,500
Disposals in desert tortoise habitat	640
Disposal for Toquop	640
Illipah Reservoir	290
Kane Spring ACEC	57,190
Kirch Wildlife Withdrawal	400
Lincoln County Conservation and Development Act Corridors	113,425
Lincoln County Conservation and Development Act State Park	4,780
Lincoln County Withdrawals	18,240
Murry Spring Watershed	1,260
Pony Springs Fire Station	10
Pygmy Sage Natural Area	165
Rose Guano Cave Natural Area	55
Sacramento Pass Recreation Area	440
Shoshone Ponds Natural Area	1,245
Snake Creek Indian Burial Cave	60
Steptoe Valley Withdrawal	6,275
Swamp Cedar Natural Area	3,300
White Pine County Conservation, Recreation, and Development Act Additional Withdrawal	98,135
White Pine County Conservation, Recreation, and Development Act Airport Withdrawal	1,535
White Pine County Conservation, Recreation, and Development Act Industrial Park Withdrawal	200
Total	**1,473,192**

* Totals differ from summary table due to overlap of closed areas.

2.5.18.5 Parameter – Mineral Materials (Salable Minerals)

Mineral materials management would be the same as the Proposed RMP except for the following:

Management Actions

There would be approximately 10.0 million acres of federal mineral estate open for mineral materials disposal, subject to best management practices and standard operating procedures. Lands currently open for mineral material disposal would continue to be available. Mineral materials pits could not be located closer than 10 miles apart in the old Schell Resource area and would remain unregulated in other areas of the planning area.

There would be approximately 1.5 million acres closed to mineral materials disposal. This includes approximately 1.15 million acres of designated wilderness and wilderness study areas and approximately 391,300 acres outside of designated wilderness/wilderness study areas. **Table 2.5-19** summarizes the acreages open and closed to mineral materials disposal for Alternative A.

Table 2.5-19
Summary of Mineral Materials

	Acres[1]
Mineral Material Open	9,955,200
Mineral Material Closed	1,544,800
Total	**11,500,000**
Acres closed outside of designated wilderness/wilderness study areas	391,300

[1] Rounded to hundreds.

The management of the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs would be the same as the Proposed RMP except the seasonal closures would not apply.

Any authorizations through free use permits or federal highway material site rights-of-way will be subject to operating procedures described in the right-of-way management section. BLM must ensure through the review of the plan of operation and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. The operator, U.S. Fish and Wildlife Service, and BLM also must reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined through the review of the plan of operation and the use of mitigation measures, that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward. These operating procedures include reclamation requirements that will outline the standards that must be met before the reclamation is released. These standards are subject to change based on the site-specific conditions and consultation with the U.S. Fish and Wildlife Service.

Map 2.5.18-3 shows the location of areas that would be closed.

Site-specific best management practices for mineral materials sales under this alternative would be compiled from the complete list of best management practices that are shown in Appendix M of the Draft Ely RMP/EIS (July 2005).

2.5.19 Watershed Management

2.5.19.1 Parameter – Allocation of Additional Forage as a Result of Restoration Actions

Management Actions

Prioritization of watershed analyses is the same as described in the Proposed RMP.

Following watershed analysis and assessment of rangeland health, additional forage would be divided 70 percent to livestock and wild horses and 30 percent reserved for wildlife in the Schell Resource Area. In the rest of the planning area, additional forage would be allocated to livestock and wild horses, and reserved for watershed maintenance and wildlife, as appropriate, depending on the objectives of the project.

2.5.20 Fire Management

2.5.20.1 Parameter – Fire Management

Management Actions

The Ely Field Office would continue to implement the current fire management plan, which incorporates the Ely Managed and Prescribed Fire Plan, and which includes areas where fires would be beneficial and where they may have negative effects. The Ely Fire Management Plan would be revised/updated periodically on a fire management unit basis. These revisions would tier to the general fire management actions in this resource management plan, and prescribe the appropriate management response. Currently the plan identifies areas where fires would have negative effects, where fires would be beneficial after vegetation treatments to increase resiliency, and where fires are beneficial. Management actions would continue to include full suppression, suppression of certain areas on the fire, directing fire away from other sensitive areas, and monitoring with no suppression. A combination of all management actions could be used on a fire incident. The plan also identifies conditions and potential locations for wildland fire use and for prescribed fires.

The planning area is classified into general fire management units based on current fuel types, distribution, and amounts (see **Map 2.5.20-1**). Wildland fire is managed in each unit based on general fire management goals. Some areas have constraints, such as fire size, to conserve wildlife habitat features (**Map 2.5.20-1**) (BLM 2000b) and other areas can be managed for wildland fire use (approximately 3.6 million acres). Some areas are full suppression (approximately 726,000 acres in desert tortoise habitat); the majority of the areas are managed with appropriate management responses.

Appropriate management response is applied to all wildland fire incidents occurring in the planning area. The Wildland Fire Management Policy (U.S. Department of the Interior et al. 2001), and more specifically, the Ely Fire Management Plan (BLM 2004a) provides for a full range of responses and for the opportunity

for all wildland fires to be managed for resource benefits. Appropriate management responses are based on land management objectives, relative risk, complexity, and defensibility of fire management boundaries and are continually updated as conditions change.

When selecting an appropriate management response, firefighter and public safety is always the highest concern. Minimum impact suppression tactics are used on all planning area wildland fires in order to incur the least possible impact to the land while achieving fire and resource management objectives. Minimum impact techniques might include using existing roads for fire breaks rather than building new lines or watching dying fires rather than disturbing them during "mop-up" operations. However, mechanized equipment also may be used on fire management actions and deemed as the minimum tool based on safety or values at risk.

2.5.21 Noxious and Invasive Weed Management

2.5.21.1 Parameter – Invasive and Nonnative Plant Species Management

Management Actions

Same as the Proposed RMP.

2.5.22 Special Designations

2.5.22.1 Parameter – Areas of Critical Environmental Concern

Management Actions

Retain the three current ACECs managed primarily for the recovery of the desert tortoise for a total of 203,670 acres (see **Map 2.5.22-1**). See the Proposed RMP for management actions and **Table 2.5-20** for specific management prescriptions.

2.5.22.2 Parameter – Back Country Byways

Management Actions

The Mount Wilson Back Country Byway would be retained. No additional Back Country Byways would be designated (see **Map 2.5.22-2**).

2.5.22.3 Parameter – Designated Wilderness

Management Actions

Same as the Proposed RMP.

Table 2.5-20
Management Prescriptions for Existing ACECs[1]

Beaver Dam Slope (36,800 acres)	
Management Activities	**Management Prescriptions**
Land use authorizations	Limited/Avoidance area[2]
Off-highway vehicle use	Closed/Limited[3]
Visual resource management class	IV
Plant collecting	Limited[4]
Road maintenance	Limited[5]
Leasable minerals	Open
Locatable minerals	Open
Mineral Materials	Closed
Lands disposal	No disposal
Fire management	Limited[6]
Transportation	Limited
Livestock management	Unavailable for livestock grazing
Fuelwood cutting	Not applicable
Renewable energy	Closed[7]
Kane Springs (57,190 acres)	
Management Activities	**Management Prescriptions**
Land use authorizations	Limited/Avoidance[2]/Exclusion area
Off-highway vehicle use	Closed/Limited[3]
Visual resource management class	I, III, IV
Plant collecting	Limited[4]
Road maintenance	Limited[5]
Leasable minerals	Closed
Locatable minerals	Closed
Mineral Materials	Limited[8]
Lands disposal	No disposal
Fire management	Limited[6]
Transportation	Limited
Livestock management	Unavailable for livestock grazing
Fuelwood cutting	Not applicable
Renewable energy	Closed[7]

Table 2.5-20 (Continued)

Mormon Mesa (109,680 acres)	
Management Activities	**Management Prescriptions**
Land use authorizations	Limited/Avoidance[2]/Exclusion area
Off-highway vehicle use	Closed/Limited[3]
Visual resource management class	I, IV
Plant collecting	Limited[4]
Road maintenance	Limited[5]
Leasable minerals	Open/Closed
Locatable minerals	Open/Closed
Mineral Materials	Limited[8]
Lands disposal	No disposal
Fire management	Limited[6]
Transportation	Limited
Livestock management	Unavailable for livestock grazing
Fuelwood cutting	Not applicable
Renewable energy	Closed[7]

1 Acres within the existing Beaver Dam Slope, Kane Springs, and Mormon Mesa ACECs are those within the planning area.

2 Avoidance area; granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.

3 Off-highway vehicle use would be limited to designated roads and trails. Areas within ACECs designated as wilderness would be closed to off-highway vehicle use.

4 Plant materials, including common species, may be collected by permit only.

5 Road maintenance would be limited to the designated roadway; shoulder barrow/ditch construction would be limited to only that necessary to ensure public safety and serviceability of the road.

6 Limits could be placed on fire management activities.

7 Closed to renewable energy facilities. Avoidance area for ancillary rights-of-way for access roads, transmission lines, and pipelines.

8 Closed except for free use permits and federal highway material site rights-of-way on a 1-mile corridor, 0.5 mile each side of road on three designated roads.

2.5.22.4 Parameter – Wilderness Study Areas

Management Actions

The Ely Field Office currently manages the Park Range and Riordan's Well wilderness study areas in Nye County. Portions of the Blue Eagle and Antelope Range wilderness study areas, which are managed by the Battle Mountain Field Office, also overlap with the planning area.

2.5.22.5 Parameter – Other Special Designations

Management Actions

1. Any special designation areas would be managed within released wilderness study areas under their specific management prescriptions. The following special designation areas occur within wilderness study areas: North Creek, Mount Grafton, Goshute Cave, Leviathan Cave, Whipple Cave, and Goshute Canyon. These areas have been designated to preserve their unique recreational, historical, archeological, geological, and natural features. Should the wilderness study areas be released from further consideration of wilderness, these special designation areas would continue to be managed under their special management provisions.

2. Management procedures for the special designation areas that are retained would be the same; these include scenic areas, geologic areas, natural areas, research natural areas, and rockhound areas.

3. No herd management areas are recommended for designation as wild horse ranges.

No existing special designation areas would be changed, and no existing special designation areas would be designated as ACECs.

The following 23 existing special designation areas, totaling 34,495 acres, would be retained under their current designations.

- Scenic Areas: Blue Mass, North Creek, Kious Spring, Mount Grafton, and Weaver Creek.
- Geologic Areas: Goshute Cave, Leviathan Cave, Whipple Cave, and Cave Valley Cave.
- Rockhounding Area: Garnet Hill.
- Natural Areas: Goshute Canyon, Shoshone Ponds, and Swamp Cedar.
- Research Natural Areas: Pygmy Sage and Heusser Bristlecone.
- Archaeological Sites: Snake Creek Indian Burial Cave, Hendry's Creek/Rock Animal Corral, Baker Creek, Baker, Bat Cave Guano Mine, Garrison, White River Petroglyph, and Mount Irish.

The following management procedures would apply to all the above special designation areas.

- Roads – the Ely Field Office would not build new or maintain existing roads unless deemed absolutely necessary for management of natural values. Likewise, the Ely Field Office would not allow the building or maintenance of roads.

- Structures – the Ely Field Office would not build, or allow to be built, any type of structure except 1) those already identified in existing habitat management plans, or 2) those deemed absolutely necessary for management of natural values.

- Range Improvements – Land treatment projects would be prohibited. Other projects that would cause undue soil disturbance also would be prohibited.

- Livestock Grazing – Livestock grazing management would be used as a tool to enhance desirable vegetation composition.

- All personnel would assist the Ely Field Manager by identifying and reporting actions of private individuals or organizations that adversely affect the natural values.

The following 17 areas, totaling 12,705 acres, would be segregated from disposal under the public land laws, including the general mining laws, but not the Recreation and Public Purposes Act or the mineral leasing and material sale laws: Goshute Cave, Leviathan Cave, Goshute Canyon, Blue Mass Canyon, Shoshone Ponds, Bat Cave Guano Mine, Kious Spring, Snake Creek Indian Burial Cave, Hendry's Creek/Rock Animal Corral, Baker Creek, Baker, Garrison, White River Petroglyphs, Whipple Cave, Cave Valley Cave, Heusser Bristlecone, and Pygmy Sage.

The following three areas, totaling 2,490 acres, would be segregated from disposal under the public land laws, but not the general mining laws, the Recreation and Public Purposes Act, or the mineral leasing and material sale laws: Weaver Creek, Garnet Field, and Mount Irish.

No rivers have been identified for wild and scenic designation within the planning area. A full inventory and evaluation has not occurred, however, it is planned for fiscal year 2008. This evaluation could potentially identify rivers or river segments within the Ely Field Office jurisdiction that are eligible for inclusion under the Wild and Scenic Rivers Act. If appropriate, management actions associated with these locations will be amended to the RMP.

2.6 Alternative B

2.6.1 Overview of Alternative B

Alternative B would emphasize the maintenance of those systems that are functioning and healthy and the restoration of ecological systems and their historic mosaic patterns that have been degraded or altered. The descriptions that follow are arranged by resource or resource use and will only describe the differences from the Proposed RMP.

2.6.2 Air Resources

Management Actions

Same as the Proposed RMP.

2.6.3 Water Resources

Management Actions

Same as the Proposed RMP.

2.6.4 Soil Resources

Management Actions

Same as the Proposed RMP.

2.6.5 Vegetation Resources

2.6.5.1 General Vegetation Management

Management Actions

Same as the Proposed RMP.

2.6.5.2 Parameter – Pinyon-Juniper Woodlands

Management Actions

Same as the Proposed RMP.

2.6.5.3 Parameter – Aspen

Management Actions

Same as the Proposed RMP.

2.6.5.4 Parameter – High Elevation Conifer Species

Management Actions

Same as the Proposed RMP.

2.6.5.5 Parameter – Salt Desert Shrub

Management Actions

Same as the Proposed RMP.

2.6.5.6 Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

Management Actions

Same as the Proposed RMP.

2.6.5.7 Parameter – Mountain Mahogany

Management Actions

Same as the Proposed RMP.

2.6.5.8 Parameter – Mojave Desert Vegetation

Management Actions

Same as Alternative A, except that livestock grazing would be eliminated (for the life of the RMP) on the remainder of the Mojave Desert, and all Mojave Desert vegetation (approximately 850,000 acres) would be protected from deterioration or conversion to annual invasive species by managing uses or applying treatments where appropriate. Appropriate treatments of annual invasive species would be with herbicides, minimal use of prescribed burning to prevent reburn cycle, and re-seeding with native species suitable for tortoise.

Table 2.6-1 and **Table 2.6-2** show the desired range of conditions of creosotebush, bursage, and blackbrush for Alternative B.

Table 2.6-1
Desired Range of Conditions of Creosotebush and Bursage (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State (Annual Invasive and Exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Alternative B[1]	Same as the Proposed RMP	Same as the Proposed RMP	Same as the Proposed RMP	Same as the Proposed RMP

[1] In creosotebush/bursage communities, the herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Sonora-Mojave creosotebush-white bursage description. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

Table 2.6-2
Desired Range of Conditions of Blackbrush (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered state (annual invasive and exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Alternative B[1]	Same as the Proposed RMP	Same as the Proposed RMP	Same as the Proposed RMP	Same as the Proposed RMP

[1] The herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Mojave mid-elevation desert scrub. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

2.6.5.9 Parameter – Riparian/Wetlands

Desired Range of Conditions

Same as the Proposed RMP.

Management Actions

Same as the Proposed RMP.

2.6.5.10 Parameter – Nonnative Seedings

Management Actions

Same as the Proposed RMP.

2.6.6 Fish and Wildlife

2.6.6.1 General Wildlife Habitat Management (Aquatic and Terrestrial)

Management Actions

Same as the Proposed RMP.

2.6.6.2 Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitats

Management Actions

Same as the Proposed RMP except:

Additional forage created through restoration actions would be reserved for watershed maintenance and wildlife, and not allocated to livestock and wild horses.

Rocky Mountain bighorn sheep habitat would be managed in all historic range, occupied and unoccupied. All domestic livestock grazing would be eliminated in all Rocky Mountain bighorn sheep ranges.

2.6.6.3 Parameter – Desert Bighorn Sheep Habitat

Management Actions

Same as the Proposed RMP except desert bighorn sheep habitat would be managed in all historic range, occupied and unoccupied. All domestic livestock grazing would be eliminated in all desert bighorn sheep ranges.

2.6.6.4 Parameter – Migratory Bird Habitat

Management Actions

Same as the Proposed RMP.

2.6.6.5 Parameter – Wildlife Water Developments

Management Actions

Water availability would be increased through the restoration of riparian habitats and through proper livestock and wild horse management. No emphasis for artificial wildlife water developments would occur to increase wildlife species numbers or distribution beyond what natural water sources could support. Artificial wildlife water developments would only be used to mitigate loss of natural water sources or loss of wildlife

habitat as a result of other multiple uses. Existing artificial wildlife water developments that do not mitigate for loss of natural water sources would be removed.

2.6.7 Special Status Species

2.6.7.1 Parameter – Special Status Species Habitat

Management Actions

Same as the Proposed RMP.

2.6.7.2 Parameter – Great Basin Riparian Habitat

Special Status Species

Pahrump poolfish
White River spinedace
Railroad Valley springfish
Big Spring spinedace
Ute ladies'-tresses

Management Actions

Same as the Proposed RMP.

2.6.7.3 Parameter – Mojave Desert and Great Basin Riparian Habitats

Special Status Species

Southwestern willow flycatcher
Western yellow-billed cuckoo
Meadow Valley Wash desert sucker
Meadow Valley Wash speckled dace
Arizona southwestern toad

Management Actions

Same as the Proposed RMP except livestock grazing would be excluded in the Lower Meadow Valley Wash ACEC.

2.6.7.4 Parameter – Mojave Desert Riparian Habitat

Special Status Species

White River springfish
Hiko White River springfish
Pahranagat roundtail chub

Management Actions

Same as the Proposed RMP.

2.6.7.5 Parameter – Mojave Desert Scrub Habitat

Special Status Species

Desert tortoise
Banded Gila monster

Management Actions

Same as the Proposed RMP except livestock grazing also would be excluded from critical and non-critical desert tortoise habitat outside the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs (see Section 2.6.16, Livestock Grazing).

2.6.7.6 Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Special Status Species

Western burrowing owl
Sunnyside green gentian

Management Actions

Same as the Proposed RMP.

2.6.7.7 Parameter – Great Basin Sagebrush Habitat

Special Status Species

Greater sage-grouse
Pygmy rabbit

Management Actions

Same as the Proposed RMP.

2.6.8 Wild Horses

2.6.8.1 General Wild Horse Management

Management Actions

Same as the Proposed RMP.

2.6.8.2 Parameter – Herd Management Area Establishment

Management Actions

Wild horses would be managed within herd management areas similar to the Proposed RMP with the portions identified for community development under the Proposed RMP retained in herd management area status (mainly Silver King and Eagle herd management areas) around Pioche.

2.6.8.3 Parameter – Population Management

Management Actions

Same as the Proposed RMP.

2.6.9 Cultural Resources

2.6.9.1 General Cultural Resources Management

Management Actions

Same as the Proposed RMP.

2.6.9.2 Parameter – Cultural Resource Use Allocation: Historic Roads, Trails, Railways, Highways, and Associated Sidings and Stations

Management Actions

Same as the Proposed RMP.

2.6.9.3 Parameter – Cultural Resource Use Allocation: Rock Art Sites

Management Actions

Same as the Proposed RMP except no fee sites would be established.

2.6.9.4 Parameter – Cultural Resource Use Allocations: Historic Townsites, Historic Mining Camps, Historic Mining Districts, and Related Historic Buildings and Standing Structures, and Historic Racetracks

Management Actions

Same as the Proposed RMP except all National Register eligible sites with standing structures would be allocated and managed for Conservation Use and no fee sites would be established.

2.6.9.5 Parameter – Cultural Resource Use Allocations: Historic Cemeteries and Isolated Historic Gravesites

Management Actions

All sites would be managed for Conservation Use.

No fee sites would be established.

2.6.9.6 Parameter – Cultural Resource Use Allocations: Ethnic Arboreal Narratives and Graphics, and Bow Stave Trees

Management Actions

Same as the Proposed RMP.

2.6.9.7 Parameter – Cultural Resource Use Allocations: Paleoindian Sites

Management Actions

Same as the Proposed RMP.

2.6.9.8 Parameter – Cultural Resource Use Allocations: Formative Puebloan Sites

Management Actions

Same as the Proposed RMP.

2.6.9.9 Parameter – Cultural Resource Use Allocations: Rockshelter and Cave Sites

Management Actions

Same as the Proposed RMP except no fee sites would be established.

2.6.9.10 Parameter – Cultural Resource Use Allocations: Prehistoric Complex Sites, Campsites, or Specialized Activity Areas

Management Actions

Same as the Proposed RMP.

2.6.9.11 Parameter – Cultural Resource Use Allocations: Toolstone Sources or Quarries

Management Actions

Same as the Proposed RMP.

2.6.9.12 Parameter – Cultural Resource Use Allocations: Historic Ranching and Livestock Related Historic Sites, Buildings, Standing Structures, and Landscapes

Management Actions

Same as the Proposed RMP.

2.6.9.13 Parameter – Cultural Resource Use Allocations: Ethnohistoric Sites, Sacred Sites, Traditional Use Areas, Traditional Cultural Properties

Management Actions

Same as the Proposed RMP.

2.6.9.14 Parameter – Cultural Resource Use Allocations: "Other" Sites

"Other" is defined as those sites not falling into any of the above 12 site types.

Management Actions

- Management common to all cultural resource use allocations:
  - Fire potential would be evaluated and fuels would be removed where there is threat of loss.
  - Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
  - Use of site stewards for monitoring would be encouraged.

- Public use:
  - Due to sensitivity of some of these resources, public use on these sites (excluding the agave roasting pits) may be monitored.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Management Actions

All National Register eligible sites would be allocated and managed for Scientific and/or Conservation Use with public use being monitored. Scientific Use would be permitted if it does not destroy features.

All of the agave roasting pits would be allocated to Scientific, Conservation, and/or Public Use.

2.6.10 Paleontological Resources

The BLM has authority to manage and protect paleontological resources under the Federal Land Policy and Management Act of 1976, NEPA, and various sections of Part 43 of the Code of Federal Regulations.

2.6.10.1 General Paleontological Resource Management

Management Actions

Same as the Proposed RMP.

2.6.10.2 Parameter – Trilobite Collecting

Management Actions

Same as the Proposed RMP.

2.6.11 Visual Resources

Management Actions

Visual resources would be managed in accordance with the following visual resource management classes (approximate acreages – see **Map 2.6.11-1**).

Class I: 1,158,400 acres
Class II: 2,396,700 acres
Class III: 4,874,200 acres
Class IV: 3,027,300 acres

The visual resource management classes would be implemented for the entire planning area. Management classes would be based on the new inventory classes developed for the planning area.

2.6.12 Lands and Realty

2.6.12.1 Parameter – Retention

Management Actions

Same as the Proposed RMP.

2.6.12.2 Parameter – Disposal (Sales, Exchanges, and Recreation and Public Purposes Act)

Management Actions

Only lands in identified areas would be available for potential disposal. Disposal of lands outside of identified areas to resolve unauthorized use of public lands would be considered only when there are no other practical means of resolution.

A total of 90,557 acres are identified to be available for potential disposal under this alternative: 66,379 acres in Lincoln County; 294 acres in Nye County; and 23,884 acres in White Pine County (see **Maps 2.6.12-1**, **2.6.12-2**, **2.6.12-3**, and **2.6.12-4**).

Federal Land Policy and Management Act of 1976, Sections 203 and 209, states that sales are the preferred method of disposal. Because of the benefits of the Federal Land Policy and Management Act of 1976 land sales, no new applications for Desert Land Entry, Carey Act, or Indian Allotments would be processed unless a need can be shown that prevails over the public benefit of the Federal Land Policy and Management Act.

The area inside the Haypress Allotment would continue under existing management and no disposal would occur. Up to 4,000 acres in White Pine County would be disposed of by direct sale for power plants. Forty acres located at Township 68, Range 57 East, Section 25, Northeast¼Northeast¼, would be sold by direct sale.

Criteria for Disposal Under Alternative B

- Land disposal of parcels containing National Register eligible archaeological resources or historic properties would be allowed when mitigation and/or data recovery has occurred prior to patent.

- Existing Desert Land Entry, Carey Act, and Indian Allotment applications located in designated disposal areas would be carried forward for processing. If the application is cancelled, relinquished, or rejected, the lands could not be applied for again. Any applications for Desert Land Entries, Carey Act,

or Indian Allotments located within designated disposal areas would be rejected if they are located in a closed water basin unless water rights are held.

- Land disposals would be allowed within herd management areas when they would not prohibit free roaming behavior within or between areas inside the herd management area or would not eliminate enough habitat that the herd management area could no longer support a healthy, viable herd.

- Disposals would not occur in areas with high recreation value, unless state and county entities could show an over-riding need or an approved recreation management plan.

2.6.12.3 Parameter – Acquisitions

Management Actions

Same as the Proposed RMP.

2.6.12.4 Parameter – Withdrawals

Management Actions

Same as the Proposed RMP except under Alternative B, 90,600 acres of land identified for disposal would be withdrawn from mineral entry.

2.6.12.5 Parameter – Corridors

Management Actions

Rights-of-way for electrical transmission lines greater than 69 kilovolts, all mainline fiber optics facilities, and all pipelines greater than 10 inches in diameter would be encouraged to be located within designated corridors.

Corridors would be managed as follows:

A. Retain a corridor 1,000 feet wide, 500 feet on either side of the centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 20 running easterly to the Arizona state line. This corridor crosses portions of the Beaver Dam Slope ACEC and the management is consistent with the Arizona Strip Field Office.

B. Designate the Falcon to Gonder corridor as 1 mile wide, as an east-west corridor to interconnect with the Ely to Utah state line portion of the Southwest Intertie Project corridor.

C. Designate the Ely to Utah state line portion of the Southwest Intertie Project corridor as 1 mile wide.

D. Designate the approved Southwest Intertie Project corridor as 1 mile wide from the Elko/White Pine County line to the point where it parallels Highway 93 and the Pahranagat Wildlife Refuge at which point it will remain 0.5 mile wide.

E. Maintain the Moapa corridor at 0.5 mile wide.

F. Maintain the corridors designated by the Lincoln County Conservation, Recreation and Development Act as 0.5 mile wide.

G. Designate a new corridor, 1 mile wide, connecting with the corridor designated by the Lincoln County Conservation, Recreation and Development Act. The Spring Valley corridor would begin near the Atlanta mine where the Lincoln County Conservation, Recreation and Development Act corridor ends and would trend in a northerly direction along the west side of Spring Valley, ending at the Southwest Intertie Project corridor (**Map 2.6.12-5**).

2.6.12.6 Parameter – Communication Sites

Management Actions

New communication sites would be authorized only after existing sites have reached maximum capacity.

2.6.12.7 Parameter – Land Use Authorizations (Rights-of-Way, Permits, Leases, Easements, and Unauthorized Use)

Management Actions

Same as the Proposed RMP.

2.6.13 Renewable Energy

2.6.13.1 Parameter – Wind, Solar, and Biomass Energy

Management Actions

Same as the Proposed RMP.

2.6.14 Travel Management and Off-highway Vehicle Use

2.6.14.1 Parameter – Transportation Plan

Management Actions

All motorized vehicle traffic would be limited to designated roads and trails except when needed for safety, required for government (federal, state, and local) administrative needs, as authorized on a permit, or otherwise officially approved. All wilderness study areas would be closed to motorized travel.

The Ely Field Office Transportation Plan would be updated through subsequent implementation-level plans. Road and trail data would be collected at the watershed level as part of the watershed analysis. As road and trail data collection is completed, a review team would be established to analyze each route and make recommendations for designations within the specific watershed based on the criteria listed in the Proposed RMP.

Greater emphasis on ecological system restoration would be placed on road and trail designations. Watersheds would be prioritized for road and trail designations based on ecological system restoration needs.

The temporary emergency off-road vehicle limitations for the Duck Creek Basin (see **Map 2.4.14-1**) would be made permanent and incorporated into the transportation plan.

Roads, routes, and trails identified as closed through a collaborative public process would be rehabilitated in their entirety to discourage continued motorized use.

2.6.14.2 Parameter – Off-highway Vehicles

Management Actions

Off-highway vehicles would be managed in accordance with the following designations (see **Map 2.4.14-2**).

- Open to cross-country off-highway vehicle use: 0 acres.

- Off-highway vehicle use limited to designated roads and trails: 10,306,500 acres.
  - Approximately 520,000 acres of desert tortoise habitat would be limited to designated roads and trails.

- Closed to off-highway vehicle use: 1,153,500 acres. This acreage reflects designated wilderness and wilderness study areas.
  - The designated closed area includes approximately 380,000 acres of desert tortoise habitat that coincides with the Mormon Mountains Wilderness, the Meadow Valley Range Wilderness, and the Delamar Mountains Wilderness.

2.6.15 Recreation

2.6.15.1 Parameter – Special Recreation Management Areas

Management Actions

Nine new special recreation management areas totaling 2,675,000 acres would be designated (see **Map 2.6.15-1** and **Table 2.6-3**).

Table 2.6-3
Special Recreation Management Areas

Special Recreation Management Areas	Acres	Primary Recreational Values
Chief Mountain	550,000	Motorized recreation
Egan Crest	52,000	Motorized recreation
Pahranagat	362,000	Heritage tourism and motorized recreation
North Delamar	235,000	Non-motorized recreation, equestrian, hiking, and mountain biking
Telegraph	255,000	Non-motorized recreation, equestrian, hiking, and mountain biking
Snake Range	99,000	Non-motorized recreation, equestrian, hiking, and mountain biking
Mount Grafton	506,000	Hunting opportunities
Area 51 off-highway vehicle	242,000	Motorized recreation
Garden Valley	374,000	Scenic values

The Loneliest Highway Special Recreation Management Area would be dropped. Within newly designated management areas, existing recreation sites would be improved, adapted, and expanded to meet growing demands for recreation opportunities. A broad recreation opportunity spectrum would be emphasized, ensuring a balance of recreation experiences. Additional recreation sites would be developed, as appropriate, to proactively manage for tourism and recreation experiences. The Ely Field Office would pursue partnerships with appropriate entities to promote and enhance recreation opportunities in the planning area.

2.6.15.2 Parameter – Special Recreation Permits

Management Actions

Outfitter and guide permits for hunting would be issued through a competitive bid process. Two special recreation permit areas totaling approximately 656,000 acres would be established to maximize opportunities for motorcycle special recreation permit events (see **Map 2.6.15-2**). A maximum of two truck events would be permitted each year on race routes subject to NEPA.

2.6.16 Livestock Grazing

Management Actions

Approximately 7,651,900 acres would be available for livestock grazing consistent with maintaining and restoring watershed function and health subject to modification associated with disposal actions. The remainder of the desert tortoise habitat within the Mojave Desert (approximately 522,010 additional acres) would be unavailable (see **Map 2.6.16-1**).

In addition to the 203,670 acres in the existing ACECs, this alternative would make unavailable an additional 522,010 acres to livestock grazing in the remaining desert tortoise habitat portion of the Mojave Desert and approximately 3,038,100 acres would be unavailable in Rocky Mountain and desert bighorn sheep habitat. Aside from these closures, the alternative also would close to livestock grazing 14,900 acres in four of the new ACECs (see Section 2.6.22), and various areas of potential land disposal as these areas are sold (see Section 2.6.12.2).

Allotments would continue to be monitored and evaluated to determine if they are continuing to meet or are making significant progress toward meeting the standards for rangeland health.

Management of relinquished permits would be handled in a flexible manner to facilitate achievement of watershed goals and rangeland health standards. If the permit for the Tamberlaine Allotment is relinquished, the allotment would be managed for wildlife.

2.6.17 Forest/Woodland and Other Plant Products

2.6.17.1 General Forest/Woodland and Other Plant Product Management

Management Actions

Same as the Proposed RMP.

2.6.17.2 Parameter – Fuelwood Collection

Management Actions

Fuelwood collection from both live and dead trees would be allowed for personal and commercial use in designated areas only.

Species allowed for collection would be pinyon, juniper, mountain mahogany, Gambel's oak, aspen, ponderosa pine, white fir, and spruce. Harvesting live trees (except for pinyon and juniper) would be allowed on a case-by-case basis in designated areas.

Fuelwood harvest allowed in a specific area would be implemented to achieve the desired range of conditions identified in Section 2.5.5, Vegetation. Areas where fuelwood harvest would hinder achievement

of the desired range of conditions would be restricted. Areas and species available for fuelwood harvest could be adjusted during the watershed analysis process when site-specific data is available.

2.6.17.3 Parameter – Pinyon Pine Nut Harvesting

Management Actions

Same as the Proposed RMP.

2.6.17.4 Parameter – Christmas Tree Harvesting

Management Actions

Same as the Proposed RMP.

2.6.17.5 Parameter – Post and Pole Harvesting

Management Actions

Same as the Proposed RMP.

2.6.17.6 Parameter – Seed Collection

Management Actions

Commercial use would be allowed on a case-by-case basis.

Hand collection methods would be encouraged, and mechanical collection would be allowed on a limited basis.

2.6.17.7 Parameter – Other Vegetation Product (i.e., wildings, boughs, etc.) Collection

Management Actions

Same as the Proposed RMP.

2.6.17.8 Parameter – Biomass Products

Management Actions

Same as the Proposed RMP.

2.6.18 Geology and Mineral Extraction

2.6.18.1 Parameter – General Geology and Mineral Management

Management Actions

Same as the Proposed RMP.

2.6.18.2 Parameter – Fluid Leasable Minerals

Management Actions

See **Table 2.6-4** for a summary of the distribution of acres for Alternative B. **Map 2.6.18-1** shows the location of the leasing stipulations for this alternative. The desert tortoise lease notice would be the same as the Proposed RMP.

Table 2.6-4
Summary of Fluid Leasing

Open to Fluid Mineral Leasing	**Acres[1]**
Standard Lease Terms and Conditions	1,053,200
Moderate Restrictions	
Programmatic Surface Use/Timing	8,483,600
Standard Surface Use/Timing	429,600
Major Restrictions	
No Surface Occupancy	32,300
Open – Total	9,998,700
Closed to Fluid Mineral Leasing	
Designated Wilderness/Wilderness Study Areas	1,153,500
Discretionary Closure by the Ely Field Office	347,800
Closed – Total	1,501,300
Total	**11,500,000**

[1] Rounded to hundreds.

Open to Leasing
Under Alternative B there would be approximately 1.1 million acres open, subject to standard lease terms and conditions.

Moderate Restrictions – Programmatic Stipulations
Alternative B introduces programmatic stipulations that would apply only if the resource of concern was present at the time of ground disturbing activities. Under this alternative there would be very few areas that would not be subject to a potential programmatic resource stipulations. However, the stipulation language would allow more flexibility in protecting the resource and determining whether resource protection is really necessary. Leases and exploration permits would continue to be issued in those areas open to mineral

leasing subject to the standard lease terms and conditions. Stipulations would be attached to leases to provide broad area programmatic protection of wildlife and wildlife habitat; specifically sage-grouse, bighorn sheep, and ferruginous hawks. Programmatic stipulations also would be in place for special areas of cultural resources. For the wildlife species, the stipulations would require that any area of proposed disturbance be assessed by the Ely Field Office for the presence of that species or its habitat. If the assessment indicates that the species or habitat is not present, or likely to be present, then that wildlife stipulation would not apply. Should the assessment indicate that any of these species or special habitats is likely to occur in the proposed area of disturbance, the operator would be required to abide by the stipulation or further inventory the site. The cultural resource programmatic stipulation allows the lease holder to recognize areas of special or concentrated cultural resources that may require further mitigation.

A total of approximately 8.5 million acres would be open to leasing subject to the programmatic restrictions described above. The lease language for these specific wildlife and cultural stipulations is as follows:

Cultural Stipulation. This lease contains lands which may have cultural sites of exceptional significance or fragility and will require additional measures before surface disturbing activities can occur. Therefore, the lessee may be required to do additional mitigation and/or reclamation on any leasing activities that occur within the areas indicated.

Pony Express Trail and Lincoln Highway Stipulation. Any activity planned within the viewshed of the Pony Express and California National Historic Trails, the Historic Lincoln Highway, National Scenic and Historic Trails, listed National Register Districts, or properties eligible under Criterion a, b, and/or c, must undergo a visual assessment. Appropriate mitigation of visual impacts will be implemented as necessary to keep the setting of the management corridor in as natural condition as possible.

To meet visual management objectives for the Pony Express National Historic Trail/Overland Trail, a Section 106 consultation under the National Historic Preservation Act with the State Historic Preservation Officer for a determination of effect must be completed prior to actual operations. The consultation procedures will follow the Nevada State Protocol between the Nevada BLM and the Nevada State Historic Preservation Officer. The consultation process may involve review by the Advisory Council on Historic Preservation and development of a Memorandum of Agreement with the State Historic Preservation Officer and Advisory Council on Historic Preservation. These procedures may delay the operation up to 120 additional days above the 60 day timing limitations allowed under Section 6 of the lease instrument. Treatment plans and data recovery also may be required at the expense of the operator prior to approval of operations. Data recovery also may result in additional delays which may exceed 120 days in addition to the Section 106 consultation process.

Wildlife Lease Stipulations. The ferruginous hawk and sage-grouse restrictions would be in effect for the northern three quarters of the planning area and would involve almost 9 million of the 11.5 million acres of public land. The restriction for bighorn sheep would cover about 938,400 acres. Programmatic wildlife stipulations are as follows:

Greater Sage-grouse Restriction – This lease contains lands which may be occupied by greater sage-grouse which have been listed by the State of Nevada and the BLM as a sensitive species. Therefore, no surface disturbance will be allowed within an active greater sage-grouse lek. No surface use will be allowed within 2.0 miles of an active greater sage-grouse lek from midnight until 10 a.m. during the period March 15 through May 15. There may be additional limitations on other seasonal habitats in the future once more data is obtained through telemetry. The determination of activity will be made by a qualified wildlife biologist.

Ferruginous Hawk Restriction – This lease contains lands which may be occupied by ferruginous hawks which have been listed by the State of Nevada and the BLM as a sensitive species. Therefore, ferruginous hawk nest sites will not be disturbed. No surface use will be allowed within 0.5 mile of an occupied ferruginous hawk nest during the period March 1 through June 30 or until the birds have fledged (left) the nest. The determination of activity will be made by a qualified biologist.

Bighorn Sheep Lease Restriction – This lease contains lands which may be occupied by bighorn sheep. No surface use will be allowed within occupied bighorn sheep habitats during the breeding season of August 15 through November 30 and within the lambing season of February 15 to May 31. The determination of sheep activity and their presence will be made by a qualified biologist.

Minor Restrictions – Traditional Surface Use/Timing Stipulations

About 429,600 acres would be open to leasing and subject to minor constraints, primarily surface use and seasonal timing restrictions. For Alternative B, this involves only the desert tortoise habitat. The lease language for the desert tortoise habitat is as follows:

Open to Leasing with Minor Restriction (Timing)
Desert Tortoise Habitat
No surface use is allowed from March 15 to October 15. This stipulation does not apply to operation and maintenance of production facilities.

Open to Leasing with Minor Restriction (Controlled Surface Use)
Desert Tortoise Habitat
Unless otherwise authorized, access to this leasehold, and operations will be limited to the existing roads and trails. A Section 7 consultation would be completed prior to any surface disturbance.

Major Restrictions – No Surface Occupancy

About 32,300 acres would be subject to major restrictions, specifically no surface occupancy, to avoid impacts to certain wildlife, cultural resources, scenic, and natural features. This restriction would allow for directional drilling and production underneath the protected area, but there could be no actual surface disturbance within the protected boundaries. The following areas would have a no surface occupancy restriction:

Ash Springs Cultural Site
Blue Mass Scenic Area
Bristol Wells
Grapevine Canyon
Illipah Reservoir
Osceola and Osceola Ditch ACEC

Chief Mountain Trailheads
Cleve Creek
Delamar
Egan Crest Trailhead
Garrison Archaeology Site – from No Action
Garrison Archaeological Site – Expanded
Rock Animal Corral Archaeological Site ACEC
Rose Guano Bat Cave
Sacramento Pass
Shoshone Ponds Natural Area
Wildlife Protective Withdrawal

Closed to Leasing

A total of approximately 1.4 million acres would be closed to leasing. The current designated wilderness and wilderness study areas account for approximately 1.15 million acres. Closed areas outside of the designated wilderness/wilderness study areas total about 347,800 acres. These areas include the following:

Andies Mine Trilobite Site
Baker Archaeological Site ACEC
Basset Lake
Caliente Withdrawal
Cave Valley Cave Geologic Area
Charcoal Ovens Park
Chisholm Mine Trilobite Site
Cold Creek Reservoir
Condor Canyon ACEC
Comins Recreation Site
Designated Wilderness/Wilderness Study Areas
Goshute Cave Geologic Area
Honeymoon Hill/City of Rocks ACEC
Honor Camp
Lincoln County Conservation, Recreation, and Development Act Corridors
Lincoln County Desert Land Entries
Lincoln County Open Space
Lower Meadow Valley Wash
Kane Springs ACEC
Mount Irish ACEC
Newark Cave
Pescio Cave
Pygmy Sage ACEC
Pygmy Sage Natural Area
Ruby Land Withdrawal
Shooting Gallery ACEC
Shoshone Ponds Natural Area
Snake Creek Indian Burial Cave ACEC
Spring Valley State Park
State Park Expansions
State Prison
Steptoe Valley Wildlife Management Area
Ward Mountain Recreation Area
White Pine County Conservation, Recreation, and Development Act Airport
White Pine County Conservation, Recreation, and Development Act Industrial Park
White Pine County Conservation, Recreation, and Development Act Withdrawals
White River Petroglyph Area
Withdrawals around communities

No geophysical exploration would be allowed in areas closed to leasing or with No Surface Occupancy.

Site-specific terms and conditions for geophysical exploration, and the conditions of approval for permits to drill, would be compiled from the complete list of Standard Terms and Conditions for Alternatives B and C that are shown in Appendix M of the Draft Ely RMP/EIS (July 2005).

2.6.18.3 Parameter – Solid Leasable Minerals

Management Actions

Table 2.6-5 summarizes the distribution of acres for Alternative B.

Table 2.6-5
Summary of Solid Leasing

	Acres[1]
Solid Leasable – Open	9,971,400
Solid Leasable – Closed	1,528,600
Total	**11,500,000**

[1] Rounded to hundreds.

Map 2.6.18-2 shows the location of the leasing stipulations for this alternative.

Alternative B would be similar to the Proposed RMP, with the following exceptions:

- Ward Mining District ACEC would be designated as 11,000 acres.
- Ward Mining District ACEC would be open with stipulations to solid leasable and locatable materials.

2.6.18.4 Parameter – Locatable Minerals

Management Actions

See **Table 2.6-6** for a summary of the distribution of acres for Alternative B.

Table 2.6-6
Summary of Locatable Minerals

	Acres[1]
Locatable Open	9,971,400
Locatable Closed	1,528,600
Total	**11,500,000**
Acres closed outside of designated wilderness/wilderness study areas	375,100

[1] Rounded to hundreds.

Map 2.6.18-2 shows the location of areas closed to locatable mineral development for this alternative.

Alternative B would be similar to the Proposed RMP, with the following exceptions:

- Ward Mining District ACEC would be designated as 11,000 acres.
- Ward Mining District ACEC would be closed to solid leasable and locatable materials.

2.6.18.5 Parameter – Mineral Materials

Management Actions

See **Table 2.6-7** for a summary of the distribution of acres for Alternative B.

Table 2.6-7
Summary of Mineral Materials

	Acres[1]
Mineral Material Open	9,318,600
Mineral Material Closed	2,181,400
Total	**11,500,000**
Acres closed outside of wilderness study areas	1,027,900

[1] Rounded to hundreds.

Map 2.6.18-3 shows the location of areas that would be closed. Total closures would be approximately 434,800 acres greater than under the Proposed RMP.

2.6.19 Watershed Management

2.6.19.1 Parameter – Allocation of Additional Forage as a Result of Restoration Actions

Management Actions

Prioritization of watershed analyses is the same as described in the Proposed RMP.

Following watershed analysis and assessment of rangeland health, additional forage would not be allocated to livestock and wild horses, but reserved for watershed maintenance and wildlife.

2.6.20 Fire Management

2.6.20.1 Parameter – Fire Management

Management Actions

Same as the Proposed RMP.

2.6.21 Noxious and Invasive Weed Management

2.6.21.1 Parameter – Invasive and Nonnative Plant Species Management

Management Actions

Same as the Proposed RMP.

2.6.22 Special Designations

2.6.22.1 Parameter – Areas of Critical Environmental Concern

Management Actions

Retain the three current ACECs for a total of 203,670 acres. Management prescriptions are the same as presented for Alternative A (see **Table 2.5-20**).

Designate 15 new ACECs totaling an additional 134,350 acres (see **Map 2.6.22-1** and Appendix D). See **Table 2.6-8** for specific management prescriptions.

2.6.22.2 Parameter – Back Country Byways

Management Actions

The Mount Wilson Back Country Byway would be retained. In addition to the existing Back Country Byway, the Silver State Trail would be designated as a Back Country Byway (see **Map 2.6.22-2**).

2.6.22.3 Parameter – Designated Wilderness

Management Actions

Same as the Proposed RMP.

2.6.22.4 Parameter – Wilderness Study Areas

Management Actions

Same as the Proposed RMP.

2.6.22.5 Parameter – Other Special Designations

Management Actions

Same as the Proposed RMP.

Table 2.6-8
Management Prescriptions for Proposed ACECs

Baker Archaeological Site – 80 acres designated for the protection of prehistoric architectural sites	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]
Blue Mass Scenic Area – 950 acres designated for the protection of exceptional scenic qualities	
Management Activities	**Management Prescriptions**
Land use authorization	Valid existing rights would remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	I
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposal
Fire management	Limited[7]
Transportation	Limited, no new roads
Livestock management	Available[9]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Condor Canyon – 6,900 acres designated for the protection of the Big Spring spinedace and its designated critical habitat	
Management Activities	**Management Prescriptions**
Land use authorization	No rights-of-way except for federal reservation to manage for ACEC
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	Open with stipulations[8]
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposal
Fire management	Limited[7]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]

Table 2.6-8 (Continued)

Hendry's Creek/Rock Animal Corral – 3,300 acres designated for the protection of prehistoric values	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Honeymoon Hill/City of Rocks – 3,900 acres designated for the protection of prehistoric values	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Lower Meadow Valley Wash – 39,000 acres designated for the protection of the southwestern willow flycatcher, western yellow-billed cuckoo, Meadow Valley Wash desert sucker, Meadow Valley Wash speckled dace, and Arizona southwestern toad	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III, IV
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	Open with stipulations[8]
Locatable minerals	Open with stipulations[8]
Mineral Materials	Open with stipulations[8]
Lands disposal	No disposals
Fire management	Limited[7]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Closed
Renewable energy	Closed[6]

Table 2.6-8 (Continued)

Mount Irish – 26,200 acres designated for the protection of historic values including historic mine and mill sites and prehistoric values including petroglyphs, lithic scatters, pottery scatters, and pictographs	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]; valid existing rights would remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	I, II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open
Renewable energy	Closed[6]
Osceola/Osceola Ditch – 14,600 acres designated for the protection of historic values	
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	I, II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Open with stipulations[8]
Locatable minerals	Open with stipulations[8]
Mineral Materials	Open with stipulations[8]
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[5]
Fuelwood cutting	Open
Renewable energy	Closed[6]
Pahroc Rock Art – 3,200 acres designated for the protection of prehistoric values including petroglyphs, rock shelters, and other artifacts	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	I, II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Open with stipulations[8]
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[5]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]

Table 2.6-8 (Continued)

Rose Guano Bat Cave – 40 acres designated for the protection of the Brazilian free-tailed bat, a BLM sensitive species	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[5]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Shooting Gallery – 20,700 acres designated for the protection of prehistoric values including rock art sites, habitation areas, and a game-drive complex	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]; valid existing rights would remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class[8]	II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Shoshone Ponds – 1,240 acres designated for the protection of the Pahrump poolfish	
Management Activities	**Management Prescriptions**
Land use authorization	Exclusion area; rights-of-way would not be granted within the area
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Limited[7]
Transportation	Limited
Livestock management	Available[9]
Fuelwood cutting	Closed
Renewable energy	Closed[6]

Table 2.6-8 (Continued)

Snake Creek Indian Burial Cave – 40 acres designated for the protection of zooarchaeology, geology, and archaeology	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]
Swamp Cedar – 3,200 acres designated for the protection of rare plant species including Rocky Mountain juniper and the slender thelopody, prehistoric sites, and the site of the Goshute War of 1863	
Management Activities	**Management Prescriptions**
Land use authorization	Valid existing rights would remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Limited[7]
Transportation	Limited
Livestock management	Available[5]
Fuelwood cutting	Closed
Renewable energy	Closed[6]

Table 2.6-8 (Continued)

Ward Mining District – 11,000 acres designated for the protection of historic values including smelters, a mill, and charcoal ovens	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Open with stipulations[8]
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Closed
Renewable energy	Closed[6]

1 Avoidance area; granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.

2 Off-highway vehicle use would be limited to designated roads and trails.

3 Plant materials, including common species, may be collected by permit only.

4 Road maintenance would be limited to the designated roadway; shoulder barrow/ditch construction would be limited to only that necessary to ensure public safety and serviceability of the road.

5 The activity is allowed in the area. NEPA compliance and clearances for cultural resources and threatened and endangered species required for some activities. Mineral activity is subject to standard stipulations (where appropriate), NEPA compliance, and application of site-specific controls. Standard terms and conditions of the grazing permits would apply.

6 Closed to renewable energy facilities. Avoidance area for ancillary rights-of-way for access roads, transmission lines, and pipelines.

7 Limits could be placed on fire management activities.

8 Open with special stipulations. Open to mineral development activities subject to controlled surface use, seasonal timing restrictions, and/or restricted or no uses in avoidance areas (e.g., riparian areas, live water, areas with special wildlife or plant features, and sensitive viewsheds).

9 Livestock grazing would be controlled through terms and conditions on the grazing permit.

2.7 Alternative C

2.7.1 Overview of Alternative C

Alternative C would emphasize commodity production and production of food, fiber, minerals, and services, including provisions for several types of recreation. Under this alternative, constraints on commodity production for the protection of sensitive resources would be the least restrictive possible within the limits defined by law, regulation, and BLM policy, including the Endangered Species Act, cultural resource protection laws, and wetland preservation. The descriptions that follow are arranged by resource or resource use and will only describe the differences from the Proposed RMP.

2.7.2 Air Resources

Management Actions

Same as the Proposed RMP.

2.7.3 Water Resources

Management Actions

Same as the Proposed RMP.

2.7.4 Soil Resources

Management Actions

Same as the Proposed RMP.

2.7.5 Vegetation Resources

2.7.5.1 General Vegetation Management

Management Actions

Same as the Proposed RMP.

2.7.5.2 Parameter – Pinyon-Juniper Woodlands

Management Actions

Pinyon-juniper communities would be managed to achieve phases that would provide more products for commercial use (e.g., herbaceous state for grazing). There would be allowance for some areas to occur

outside the desired range of conditions, but management actions would strive to direct those communities toward phases that would maximize production of the most common commercial products (e.g., grazing). As demand for forest/woodland products (e.g., firewood, fence posts, Christmas trees, chipped fuel) increases, management would shift from more herbaceous phase to the immature or mature phase. **Table 2.7-1** reflects an average of phases desired, should the demand for biomass products continue to increase along with current demand for grazing.

Table 2.7-1
Desired Range of Conditions of Pinyon-Juniper (Distribution of Woodland Phases and States)

State and Phase	Herbaceous State	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)[1]	Altered State
Canopy Description[2]	0 to 10% canopy cover-includes herbaceous, herbaceous-shrub, and sapling phase	11 to 20% canopy cover	21 to 35% canopy cover	>36 to 50% canopy cover	Site dominated by invasive species or weeds
LANDFIRE classes	A and B	C	D and E	E	Uncharacteristic
Alternative C[3]	40% 1,437,360 acres)	35% (1,257,700 acres)	20% (718,700 acres)	<5% (<179,700 acres)	0% (0 acres)

[1] Overmature woodland refers to woodlands exhibiting greater than 35 percent canopy cover. This classification is not the same as "old growth" although the two classifications may coincide in some situations.
[2] Canopy descriptions derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Settings models for Great Basin Pinyon-juniper Woodland. Altered state is an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but is part of current conditions.

Priority treatments would occur in areas in the overmature phase. The most common tools used to meet the desired range of conditions would include mechanical methods (e.g., chipping, chaining, sawing, mowing, mulching). Treatment methods would emphasize the use of commercial activities (e.g., grazing, selling biomass, etc.) to achieve the desired range of conditions. If demand, feasibility, and access are limited and would prevent efficient mechanical treatments, prescribed fire or chemical treatment would be implemented. Land uses would be managed, or treatments applied, to maintain areas that are currently meeting desired conditions.

Any seeding necessary for restoration or rehabilitation purposes would be implemented using appropriate mixes of desired species adapted to the site. Seed mixes would be determined on a site-specific basis dependent on the probability of successful establishment. Preference would be to use species that would compete with annual invasive species and provide sustainable products.

2.7.5.3 Parameter – Aspen

Management Actions

Aspen sites would be managed to achieve phases (see **Table 2.7-2**) that support commodity production (e.g., livestock forage, poles, and firewood). The Immature Woodland Phase would produce the best poles

and herbaceous component for commodity uses. Regeneration of aspen in areas of suitable site potential would be protected by use restrictions or other protection measures such as allowing grazing and aspen harvest to occur outside the growing season. Specific protection measures would be selected and applied on a site-specific basis. Harvest quantities of both the herbaceous understory and tree overstory would be restricted to levels that would maintain or increase aspen within the planning area. Uses would only be allowed in areas where sustainable production exists.

Table 2.7-2
Desired Range of Conditions of Aspen (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous, and Herbaceous-Shrub and Sapling Phase)	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)
Canopy Cover[1]	0 to 15% tree canopy cover	16 to 29% tree canopy cover.	30 to 45% tree canopy cover	45% or greater tree canopy cover (includes conifer dominated)
LANDFIRE classes	A	B	C and D	D and E
Alternative C[2]	15% (1,050 acres)	55% (3,850 acres)	30% (2,100 acres)	<1% (<70 acres)

[1] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[2] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Rocky Mountain aspen forest and Inter-mountain Basin aspen-mixed conifer forest and woodland. Description of LANDFIRE CLASSES can be found at www.landfire.gov.

Priority treatment areas and commonly used tools would be the same as identified for the Proposed RMP.

Any seeding necessary for restoration or rehabilitation purposes would be implemented using appropriate mixes of desired species adapted to the site. Seed mixes would be determined on a site-specific basis dependent on the probability of successful establishment. Preference would be to use native or nonnative species that are adapted to the site, capable of competing with annual invasive species, and able to provide sustainable products for multiple uses.

2.7.5.4 Parameter – High Elevation Conifer Species

Management Actions

In accessible sites, high elevation conifers would be managed for commodity products (e.g., biomass, timber, grazing). The majority of the accessible sites would be managed toward the mature or herbaceous phases as shown in **Table 2.7-3**. Inaccessible sites would be managed for other phases listed in **Table 2.7-3**.

Table 2.7-3
Desired Range of Conditions of High Elevation Conifer (Distribution of States and Phases)

State and Phase	Herbaceous State, (Herbaceous, and Herbaceous/Sapling Phase)	Herbaceous State (Immature Phase)	Tree State (Mature Phase)	Tree State (Overmature Phase)[1]
Canopy Cover[2]	0 to 15% canopy Cover	16 to 31% canopy cover	31 to 40% canopy cover	41 to 60% canopy cover
LANDFIRE classes	A	B	C	C
Alternative C[3]	45% (25,200 acres)	35% (19,600 acres)	20% (11,200 acres)	<1% (<560 acres)

[1] Overmature high elevation conifer refers to stands with canopy cover exceeding 40 percent. This classification is not the same as "old growth," although the two classifications may coincide in some situations.
[2] Canopy cover derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain white fir limber-bristlecone pine woodland (47,000 acres).

Treatments would concentrate in areas where canopy cover has increased beyond 40 percent (Overmature Phase). Most common tools for treatment would consist of mechanical methods in accessible areas and fire in inaccessible areas. Herbicides also would be a common tool, especially in areas where invasive species occur. Treatment methods would emphasize use of commercial activities (e.g., grazing, selling biomass, etc.) to achieve desired range of conditions.

Desired range of conditions for ponderosa pine is the same as the Proposed RMP.

2.7.5.5 Parameter – Salt Desert Shrub

Management Actions

Management would strive to achieve the desired range of conditions shown in **Table 2.7-4**. The overall goal of this alternative would be to emphasize herbaceous production in plant and animal community health at the landscape level. Management priority would be to enhance commodity production including forage for livestock and habitat requirements for game species, especially habitat required for special status and/or threatened and endangered species as mandated. Management would be to maintain diverse mosaics and connectivity of saltbush between geographic areas at mid and fine scales (watershed and allotment/project).

The annual invasive/exotic state would be a high priority for active rehabilitation using adapted perennial species which would lead to future restoration opportunities. Objectives for rehabilitation would be to stabilize soil surfaces to reduce erosion, minimize establishment of annual invasive species, and provide additional forage for livestock. This also would necessitate the use of temporary fencing and the area would be unavailable to livestock in the short-term (approximately 2 years).

Table 2.7-4
Desired Range of Conditions of Salt Desert Shrub (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State Annual Invasive/Exotic State	Altered State Perennial Nonnative Seeded
LANDFIRE classes	A	B and C	Uncharacteristic	Uncharacteristic
Alternative C[1]	32% (390,700 acres)	50% (610,500 acres)	0% (0 acres)	18% (219,800 acres)

[1] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins mixed salt desert shrub and Inter-Mountain Basins greasewood flat. Altered state (invasive species/weeds) is an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but is part of current conditions.

Any seeding necessary for restoration or rehabilitation purposes would be implemented using appropriate mixes of desired species adapted to the site. Seed mixes would be determined on a site-specific basis dependent on the probability of successful establishment. Preference would be to use native and adapted species that can compete with annual invasive species.

The most common tools to be used would include mechanical and herbicide treatments. Fire would not be considered a useful tool to use in this vegetation type and other management actions (e.g., change in seasonal use or kind and class of livestock) would be emphasized as a means of treatment in these vegetation communities except in the annual invasive/exotic states where this is not effective.

2.7.5.6 Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

Management Actions

Management would focus on achieving high productivity of commodity values while maintaining and enhancing ecological health and resilience. Under this alternative, emphasis would be on establishment and maintenance of the herbaceous state or seedings to increase forage production.

The preferred tools for reducing sagebrush cover would be mechanical in lower elevations and prescribed burning in higher elevations. Seeding would be used where the understory is not sufficient for re-establishment.

Treatments would be applied where necessary to attain the distribution of vegetation states shown in **Table 2.7-5** over the long term. Common tools for treatment would include herbicides, mechanical methods, and prescribed fire.

Table 2.7-5
Desired Range of Conditions of Sagebrush (Distribution of Phases and States)

State/Phase Name	Total Herbaceous State (Early, Mid, and Late Phases)[1]	Total Shrub State	Total Tree State	Altered State Annual/Perennial Invasive	Altered State Nonnative Perennial Seeded
LANDFIRE classes	A, B, and C	D	E	Uncharacteristic	Uncharacteristic
Alternative C[2]	45% (2,528,800 acres)	5% (281,000 acres)	0% (0 acres)	0% (0 acres)	50% (2,809,800 acres)

[1] Sagebrush in the mid-late phase of the herbaceous state is desired for wildlife habitat.
[2] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Great Basin xeric mixed sagebrush and Inter-Mountain Basin big sagebrush. Altered states (annual/perennial invasive and nonnative perennial seeded) are an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but are part of current conditions.

The overall goal of this alternative would be to maximize sustainable commodity production within the plant community at the mid scale (watershed level) and fine scale (allotment/project), while providing habitat requirements of game species and special status and/or threatened and endangered species as mandated. Thus, the alternative would emphasize herbaceous production in healthy plant communities at the landscape level. To achieve the desired range of conditions, management would include a variety of methods to increase or decrease sagebrush overstory.

Any seeding necessary for restoration or rehabilitation purposes would be implemented using appropriate mixes of desired species adapted to the site. Seed mixes would be determined on a site-specific basis dependent on the probability of successful establishment. Herbicides would be the preferred tool for controlling invasive and noxious weeds. Preference would be to use native species that would compete with annual invasive species.

2.7.5.7 Parameter – Mountain Mahogany

Management Actions

Mountain mahogany sites would be managed to achieve the phases with the greatest potential for commodity production (e.g., herbaceous state for livestock and big game forage). Management actions would maintain or direct mountain mahogany sites toward the ecological phases listed in **Table 2.7-6**. Wildlife habitat needs would receive the highest priority consideration in designated critical habitat areas only. The overall goal of this alternative would be to emphasize commodity production in accessible areas, while maintaining vegetation resiliency at the watershed scale.

Areas with diminishing understory (i.e., shrub/tree-like dominant state) and the presence of invasive species would be priority areas for treatment. The most common tools to be used to treat sites would include prescribed fire, mechanical (e.g., woodcutting), herbicides, and cultural (e.g., livestock grazing) methods. Herbicides would be a common treatment option, especially in areas where invasive species are present or have a high probability of becoming established. Emphasis would be placed on use of commercial activities (e.g., grazing and woodcutting) to achieve the desired range of conditions.

Table 2.7-6
Desired Range of Conditions of Mountain Mahogany (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous Phase)	Shrub State (Shrub/ Herbaceous Phase)	Shrub State (Shrub Phase)	Shrub/Tree-like State (No Understory Phase)[1]
Canopy Cover[2]	0-15% mahogany canopy cover	15-25% mahogany canopy cover (desired mix of herbaceous and shrub species in understory)	30-45% mahogany canopy cover (approaching threshold with no understory)	45-60% mahogany cover (shrub/tree-like and tree dominant)
LANDFIRE classes	A and C	B	D	E
Alternative C[3]	65% (29,900 acres)	20% (9,200 acres)	15% (6,900 acres)	<1% (<460 acres)

[1] Refers to savanna sites.
[2] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins Mountain Mahogany woodland and shrubland.

Any seeding necessary for restoration or rehabilitation would be implemented using appropriate mixes of desired species adapted to the site. Seed mixes would be determined on a site-specific basis dependent on the probability of successful establishment. Preference would be to use native species that are adapted to the site, capable of competing with annual invasive species, and capable of providing sustainable products for multiple uses.

2.7.5.8 Parameter – Mojave Desert Vegetation

Management Actions

Management would strive to achieve the desired range of conditions as listed above with an emphasis on herbaceous species that would provide watershed protection and commodity values (e.g., forage for livestock within those areas remaining open to livestock grazing). Protection and treatment would be the same as Alternative B. Appropriate treatments of annual invasive species would be with herbicides, use of prescribed burning to prevent reburn cycle, and re-seeding with native species suitable for tortoise.

The Alternative C rows of **Table 2.7-7** indicate that approximately 54,825 acres or 15 percent of the area occupied by the creosotebush/bursage type would be treated to remove or control annual invasive species, and the remaining 85 percent of the acreage primarily would be maintained to achieve the desired range of conditions identified for Alternative C. Areas currently in the herbaceous state would be intensively managed to facilitate conversion to the shrub state.

The Alternative C rows of **Table 2.7-8** indicate that approximately 38,250 acres or 10 percent of the area occupied by the blackbrush type would be treated to remove or control annual invasive species, and the remaining 90 percent of the acreage primarily would be maintained to achieve the desired range of conditions identified for Alternative C. Areas currently in the herbaceous state would be intensively managed to facilitate conversion to the shrub state.

Table 2.7-7
Desired Range of Conditions of Creosotebush and Bursage (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State (Annual Invasive and Exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Alternative C[1]	15% (54,825 acres)	70% (255,850 acres)	0% (0 acres)	15% (54,825 acres)

[1] In creosotebush/bursage communities, the herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Sonora-Mojave creosotebush-white bursage description. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

Table 2.7-8
Desired Range of Conditions of Blackbrush (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State (annual invasive and exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Alternative C	15% (57,375 acres)	75% (286,875 acres)	0% (0 acres)	10% (38,250 acres)

[1] The herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Mojave mid-elevation desert scrub. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

2.7.5.9 Parameter – Riparian/Wetlands

Desired Range of Conditions

The Ely Field Office is directed to follow the appropriate rangeland health standards, which in the case of the Northeastern Great Basin Resource Advisory Council, states, "Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria." In addition to achieving riparian proper functioning condition, composition, structure, and cover of riparian vegetation would occur within potential of the site. Ground cover and species composition would be appropriate to the site. Riparian areas with free-flowing water (i.e., undeveloped springs) that are non-functional or functioning at risk would show improving trends toward proper functioning condition. Factors that prevent proper functioning condition have been addressed and mitigated, whenever possible. Restoration or maintenance of riparian areas would be a management priority applicable to all alternatives.

Management Actions

Management would focus on maintaining or restoring plant community structure and composition of desired species of grasses, forbs, and shrubs on all riparian habitats within site potential while providing for commodity production. This management would require vegetation structure and diversity commensurate with the site potential, thereby restoring plant and animal communities that are reliant on these riparian areas and providing for proper canopy and uneven-aged stands of key woody plants. Habitats would be maintained or improved and commodity production activities would be provided for in this context. The use of herbicides and changing the season of use could be among the tools used.

2.7.5.10 Parameter – Nonnative Seedings

Management Actions

In this alternative, the majority of the area would be managed in the herbaceous state to provide high forage productivity. Canopy cover of sagebrush allowed for seedings would be 0 to 5 percent.

Management actions would maintain or direct nonnative seedings toward the phases and states listed in **Table 2.7-9**.

Table 2.7-9
Desired Range of Conditions of Seedings (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Tree State	Altered State (Annual Invasive)
Alternative C	85% (229,000 acres)	15% (40,400 acres)	0% (0 acres)	0% (0 acres)

2.7.6 Fish and Wildlife

2.7.6.1 General Wildlife Habitat Management (Aquatic and Terrestrial)

Management Actions

Same as the Proposed RMP except:

Priority species would be those game species that offer the greatest recreational opportunities and economic stimulus to local economies.

Restoration would focus on converting healthy shrub and woodland communities to a mostly herbaceous state or an altered nonnative perennial seeded state.

2.7.6.2 Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitats

Management Actions

Same as the Proposed RMP except:

No timing restrictions within priority habitats would be implemented.

Restoration projects would not focus on priority wildlife habitats or other seasonal habitats.

Maintenance and restoration of sagebrush communities would emphasize the early phase of the herbaceous state.

Additional forage created through restoration projects would be allocated to livestock, but also would provide some forage for wildlife and wild horses (inside herd management areas).

Rocky Mountain bighorn sheep habitat would be managed in all occupied ranges, including Mount Grafton.

2.7.6.3 Parameter – Desert Bighorn Sheep Habitat

Management Actions

Same as the Proposed RMP.

2.7.6.4 Parameter – Migratory Bird Habitat

Management Actions

Same as the Proposed RMP.

2.7.6.5 Parameter – Wildlife Water Developments

Management Actions

Same as the Proposed RMP except the only criteria that will be used for artificial water developments would be to expand suitable habitats and increase the number and distribution of economically significant wildlife populations to provide increased recreational opportunities. Artificial wildlife water developments would be maximized under Alternative C.

2.7.7 Special Status Species

2.7.7.1 Parameter – Special Status Species Habitat

Management Actions

Same as the Proposed RMP except:

Special status species management would address an immediate need or habitat niche for the maintenance, mitigation, or restoration of a single special status species. Special status species management would be implemented on a case-by-case basis predominately at the fine scale (i.e., allotment, project, portion of a watershed), and occasionally at the planning area level.

Only ferruginous hawks, and no other raptors, would receive protection as a result of a timing limitation and no surface occupancy stipulation on mineral leases.

Restoration actions for bats would be emphasized only in areas where no conflicts with commodity objectives occur.

The Ely Cave Management Plan would be updated to minimize and mitigate impacts to bat roosts from caving, as needed.

2.7.7.2 Parameter – Great Basin Riparian Habitat

Special Status Species

Pahrump poolfish
White River spinedace
Railroad Valley springfish
Big Spring spinedace
Ute ladies'-tresses

Management Actions

Same as the Proposed RMP with the exception of the following actions.

The current fence around Shoshone Ponds would be maintained, but not expanded. The uplands would not be managed to prevent excessive siltation into the ponds. Additional ponds would not be developed.

Condor Canyon would be managed as a multiple-use area, with managed recreational development in addition to managing for the Big Spring spinedace.

Management for the Ute ladies'-tresses would occur only if the species is documented in the planning area through some other activity.

2.7.7.3 Parameter – Mojave Desert and Great Basin Riparian Habitats

Special Status Species

Southwestern willow flycatcher
Western yellow-billed cuckoo
Meadow Valley Wash desert sucker
Meadow Valley Wash speckled dace
Arizona southwestern toad

Management Actions

Same as the Proposed RMP.

2.7.7.4 Parameter – Mojave Desert Riparian Habitat

Special Status Species

White River springfish
Hiko White River springfish
Pahranagat roundtail chub

Management Actions

Same as the Proposed RMP.

2.7.7.5 Parameter – Mojave Desert Scrub Habitat

Special Status Species

Desert tortoise
Banded Gila monster

Management Actions

Same as the Proposed RMP except active season for desert tortoise would be from March 15 to October 15.

2.7.7.6 Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Special Status Species

Western burrowing owl
Sunnyside green gentian

Management Actions

Same as Alternative A.

2.7.7.7 Parameter – Great Basin Sagebrush Habitat

Special Status Species
Greater sage-grouse
Pygmy rabbit

Management Actions

Same as the Proposed RMP with the exception of the following actions.

Sagebrush habitat restoration would be emphasized in areas that have the greatest potential to provide additional livestock forage, while stabilizing greater sage-grouse populations.

Greater sage-grouse leks would not receive protection from a no surface occupancy stipulation on mineral leases, only protection from a timing limitation.

2.7.8 Wild Horses

2.7.8.1 General Wild Horse Management

Management Actions

Same as the Proposed RMP.

2.7.8.2 Parameter – Herd Management Area Establishment

Management Actions

Same as the Proposed RMP.

2.7.8.3 Parameter – Population Management

Management Actions

Same as the Proposed RMP.

2.7.9 Cultural Resources

2.7.9.1 General Cultural Resources Management

Management Actions

Same as the Proposed RMP.

2.7.9.2 Parameter – Cultural Resource Use Allocation: Historic Roads, Trails, Railways, Highways, and Associated Sidings and Stations

Management Actions

Same as the Proposed RMP except fee sites would be established for all properties allocated and managed for Public Use.

2.7.9.3 Parameter – Cultural Resource Use Allocation: Rock Art Sites

Management Actions

All National Register eligible rock art sites with no evidence of public use would be allocated and managed for Conservation Use and development of interpretative sites would be continued with priority placed on maintaining and improving existing interpretative facilities.

National Register eligible rock art sites managed for Public Use would be established as fee sites. American Indians would be exempt from fees only when visiting rock art sites for religious practices.

2.7.9.4 Parameter – Cultural Resource Use Allocations: Historic Townsites, Historic Mining Camps, Historic Mining Districts, and Related Historic Buildings and Standing Structures, and Historic Racetracks

Management Actions

All National Register eligible sites with standing structures or evidence of vandalism would be allocated and managed for Public Use and all other National Register eligible sites would be allocated and managed for Scientific and/or Conservation Use.

Fee sites would be established at Public Use sites as appropriate.

2.7.9.5 Parameter – Cultural Resource Use Allocations: Historic Cemeteries and Isolated Historic Gravesites

Management Actions

All sites would be allocated and managed for Public Use.

Fee sites would be established at Public Use sites as appropriate.

2.7.9.6 Parameter – Cultural Resource Use Allocations: Ethnic Arboreal Narratives and Graphics, and Bow Stave Trees

Management Actions

Same as the Proposed RMP.

2.7.9.7 Parameter – Cultural Resource Use Allocations: Paleoindian Sites

Management Actions

Same as the Proposed RMP.

2.7.9.8 Parameter – Cultural Resource Use Allocations: Formative Puebloan Sites

Management Actions

All National Register eligible sites would be allocated and managed for Scientific, Conservation, and/or Public Use.

Fee sites would be established at Public Use sites as appropriate.

2.7.9.9 Parameter – Cultural Resource Use Allocations: Rockshelter and Cave Sites

Management Actions

All National Register eligible sites would be allocated and managed for Scientific, Conservation, and/or Public Use.

No more than one fee site per watershed would be established for sites managed for Public Use.

2.7.9.10 Parameter – Cultural Resource Use Allocations: Prehistoric Complex Sites, Campsites, or Specialized Activity Areas

Management Actions

Seventy percent of the National Register eligible sites would be allocated and managed for Conservation and/or Scientific Use and up to 30 percent of the sites per watershed would be allocated and managed for Experimental Use.

2.7.9.11 Parameter – Cultural Resource Use Allocations: Toolstone Sources or Quarries

Management Actions

All National Register eligible obsidian toolstone sources/quarries would be allocated and managed for Scientific and/or Conservation Use; 70 percent of all other National Register eligible material sources/quarries would be allocated and managed for Scientific and/or Conservation Use; and up to 30 percent of all other National Register eligible material sources/quarries per watershed would be allocated and managed for Experimental Use.

2.7.9.12 Parameter – Cultural Resource Use Allocations: Historic Ranching and Livestock Related Historic Sites, Buildings, Standing Structures, and Landscapes

Management Actions

Same as the Proposed RMP.

2.7.9.13 Parameter – Cultural Resource Use Allocations: Ethnohistoric Sites, Sacred Sites, Traditional Use Areas, Traditional Cultural Properties

Management Actions

Same as the Proposed RMP.

2.7.9.14 Parameter – Cultural Resource Use Allocations: "Other" Sites

"Other" is defined as those sites not falling into any of the above 12 site types.

Management Actions

- Management common to all cultural resource use allocations:
  - Fire potential would be evaluated and fuels would be removed where there is threat is loss.
  - Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
  - Use of site stewards for monitoring would be encouraged.
- Public use:
  - Due to sensitivity of some of these resources, public use on these sites (excluding the agave roasting pits) may be monitored.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Management Actions

All National Register eligible sites would be allocated and managed for Scientific and/or Conservation Use with public use being monitored. Scientific Use would be permitted if it does not destroy features.

All of the agave roasting pits would be allocated to Scientific, Conservation, and/or Public Use.

2.7.10 Paleontological Resources

The BLM has authority to manage and protect paleontological resources under the Federal Land Policy and Management Act of 1976, NEPA, and various sections of Part 43 of the Code of Federal Regulations.

2.7.10.1 General Paleontological Resource Management

Management Actions

Same as the Proposed RMP.

2.7.10.2 Parameter – Trilobite Collecting

Management Actions

A fee-based registration system would be established.

2.7.11 Visual Resources

Management Actions

Visual resources would be managed in accordance with the following visual resource management classes (approximate acreages – see **Map 2.7.11-1**).

Class I: 1,158,400 acres
Class II: 2,421,500 acres
Class III: 5,020,500 acres
Class IV: 2,856,200 acres

The visual resource management inventory classes would be implemented for the entire planning area. Management classes would be based on the new inventory classes developed for the planning area.

2.7.12 Lands and Realty

2.7.12.1 Parameter – Retention

Management Actions

Same as the Proposed RMP.

2.7.12.2 Parameter – Disposal (Sales, Exchanges, and Recreation and Public Purposes Act)

Management Actions

Land disposal would be balanced with restoration while emphasizing commercial and economic development. Areas identified for potential disposal that lie adjacent to communities would have less emphasis placed on landscape restoration and protection, and more emphasis placed on environmentally responsible community and economic development.

A total of 295,181 acres are identified to be available for potential disposal under this alternative: 203,121 acres in Lincoln County; 3,891 acres in Nye County; and 88,169 acres in White Pine County (see **Maps 2.7.12-1**, **2.7.12-2**, **2.7.12-3**, and **2.7.12-4**). Federal Land Policy and Management Act of 1976, Sections 203 and 209, state that sales are the preferred method of disposal.

The amount of acreage identified in Lincoln County for this alternative is greater than what is currently allowed under the Lincoln County Conservation, Recreation, and Development Act.

Approximately 7,843 acres in the Haypress Allotment would be disposed of if Congressional direction is provided in the future. Pending disposal, the Haypress Allotment would be removed from administration of the Taylor Grazing Act and the Ely Field Office would enter into an administrative agreement with an

appropriate non-profit organization for the purpose of managing the area for the benefit of wild horses that cannot be adopted through the BLM adoption program.

Criteria for Disposal Under Alternative C

- Disposal of lands that are difficult to manage and are not suitable for management by another federal department or agency would be allowed.
- Land disposals would be allowed within herd management areas when the disposal would not prohibit free roaming behavior within or between areas inside the herd management area or eliminate enough habitat that the herd management area can no longer support a healthy viable herd.
- Lands would be disposed of when disposal would serve important public objectives, including but not limited to: a) community expansion or economic development; b) disposal could not be achieved prudently feasibly on land other than public lands; and c) disposal outweighs other public objectives or values.
- Land disposal of parcels containing National Register eligible archaeological resources or historic properties would be allowed when mitigation and/or data recovery has occurred prior to patent.
- New applications for Carey Act, Desert Land Entries, and Indian Allotments only would be accepted in areas designated for disposal.

2.7.12.3 Parameter – Acquisitions

Management Actions

Same as the Proposed RMP.

2.7.12.4 Parameter – Withdrawals

Management Actions

The Ely Field Office would recommend for withdrawal 295,200 acres of land identified for potential disposal from mineral entry.

2.7.12.5 Parameter – Corridors

Management Actions

Rights-of-way for electrical transmission lines greater than 69 kilovolts, all mainline fiber optics facilities, and all pipelines greater than 10 inches in diameter would be encouraged to be located within designated corridors.

Corridors would be managed as follows:

A. Retain a corridor 1,000 feet wide, 500 feet on either side of the centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 20 running easterly to the Arizona state line. This corridor crosses portions of the Beaver Dam Slope ACEC and the management is consistent with the Arizona Strip Field Office.

B. Designate the Falcon to Gonder corridor as 3 miles wide, as an east west corridor to interconnect with the Ely to Utah state line portion of the Southwest Intertie Project corridor.

C. Designate the Ely to Utah state line portion of the Southwest Intertie Project corridor as 3 miles wide.

D. Designate the approved Southwest Intertie Project corridor as 3 miles wide from the Elko/White Pine County line to the point where it parallels Highway 93 and the Pahranagat Wildlife Refuge at which point it will become 0.5 mile wide.

E. Maintain the Moapa corridor at 0.5 mile wide.

F. Maintain the corridors designated by the Lincoln County Conservation, Recreation and Development Act as 0.5 mile wide.

G. Designate a new corridor, 3 miles wide, connecting with the corridor designated by the Lincoln County Conservation, Recreation and Development Act. The Spring Valley corridor would begin near the Atlanta mine where the Lincoln County Conservation, Recreation and Development Act corridor ends and would trend in a northerly direction along the west side of Spring Valley, ending at the White Pine-Elko County line, northeast of Lages Junction on Highway 93A (**Map 2.7.12-5**).

2.7.12.6 Parameter – Communication Sites

Management Actions

Communication site locations that support community and economic development would be authorized.

2.7.12.7 Parameter – Land Use Authorizations (Rights-of-Way, Permits, Leases, Easements, and Unauthorized Use)

Management Actions

Land use authorizations would be processed to facilitate community and economic development. ACECs would be avoidance or exclusion areas (see Section 2.5.22).

2.7.13 Renewable Energy

2.7.13.1 Parameter – Wind, Solar, and Biomass Energy

Management Actions

Same as the Proposed RMP.

2.7.14 Travel Management and Off-highway Vehicle Use

2.7.14.1 Parameter – Transportation Plan

Management Actions

The Ely Field Office Transportation Plan would be updated through subsequent implementation-level plans. Road and trail data would be collected at the watershed level as part of the watershed analysis. As road and trail data collection is completed, a review team would be established to analyze each route and make recommendations for designations within the specific watershed based on the criteria listed in the Proposed RMP.

Road and trail designations would emphasize designations for specific administrative needs, recreation opportunities, and tourism. (Other criteria would be added as new issues develop in different watersheds over time.)

The temporary emergency off-road vehicle limitations for the Duck Creek Basin (see **Map 2.4.14-1**) would be made permanent and incorporated into the transportation plan.

Roads, routes, and trails identified as closed through a collaborative public process would be rehabilitated in their entirety to discourage continued motorized use.

2.7.14.2 Parameter – Off-highway Vehicles

Management Actions

Off-highway vehicles would be managed in accordance with the following designations (see **Map 2.7.14-1**):

- Open to cross-country off-highway vehicle use: 32,000 acres in dry lake beds.
- Off-highway vehicle use limited to designated roads and trails: 10,355,300 acres.
- Closed to off-highway vehicle use: 1,072,700 acres. This acreage reflects designated wilderness.

2.7.15 Recreation

2.7.15.1 Parameter – Special Recreation Management Areas

Management Actions

Nine new special recreation management areas (**Table 2.7-10** and **Map 2.7.15-1**) would be designated, and the Loneliest Highway Special Recreation Management Area would be retained, for a total of 2,555,000 acres. The Loneliest Highway Special Recreation Management Area is not shown on this map due to the scattered nature of its recreation sites. A total of five areas, within the Chief Mountain, Egan Crest, Pancake Range, and Area 51 special recreation management areas, would emphasize motorized recreation (off-highway vehicle emphasis areas). These areas total 1,104,000 acres (see **Map 2.7.15-1**).

Additional emphasis would be placed on increasing tourism opportunities and partnerships with the gateway communities in White Pine and Lincoln counties. A more developed recreation experience would be emphasized.

2.7.15.2 Parameter – Special Recreation Permits

Management Actions

No limitations would be placed on outfitter and guide permits for hunting. Four special recreation permit areas totaling approximately 1.33 million acres would be established to maximize opportunities for motorcycle special recreation permit events (see **Map 2.4.15-2**). A maximum of eight truck events would be permitted each year. Twelve routes would be established for all truck events.

Table 2.7-10
Special Recreation Management Areas

Special Recreation Management Areas	Acres	Primary Recreational Values
Chief Mountain	550,000	Motorized recreation
Egan Crest	52,000	Motorized recreation
Pahranagat	362,000	Heritage tourism and motorized recreation
North Delamar	235,000	Non-motorized recreation, equestrian, hiking, and mountain biking
Telegraph	249,000	Non-motorized recreation, equestrian, hiking, and mountain biking
Snake Range	99,000	Non-motorized recreation, equestrian, hiking, and mountain biking
Mount Grafton	506,000	Hunting opportunities
Area 51 off-highway vehicle	349,000	Motorized recreation
Loneliest Highway	Approximately 750,000	Rural motorized and non-motorized opportunities
Pancake Range	153,422	Motorized recreation
Garden Valley	–	Scenic values

2.7.16 Livestock Grazing

Management Actions

Approximately 11,240,600 acres would be available for livestock grazing subject to modification associated with disposal actions. Areas unavailable for grazing under this alternative include 203,670 acres associated with the three existing ACECs and 6,400 acres associated with three new ACECs (see Section 2.5.22). The Tamberlaine Allotment would be used as forage reserves if the permit is relinquished.

Where appropriate, livestock grazing would be used as a tool to achieve the desired range of conditions for vegetation.

Allotments would continue to be monitored and evaluated to determine if they are continuing to meet or are making progress toward meeting the standards for rangeland health.

Management relative to livestock in bighorn sheep ranges would be the same as Alternative A for both Rocky Mountain and desert bighorn sheep.

Management of relinquished permits would be handled in a flexible manner to create forage reserves for research or temporary use by permittees who are displaced for any reason. Management of relinquished permits would consider if the allotment is meeting rangeland health standards and if grazing use would ensure significant progress toward achievement of the standards (e.g., are riparian areas and uplands in good condition? Are there weed concerns? Are there threatened and endangered species concerns? Are there other land use concerns, such as demand on the forage for wild horses/burros or wildlife?). The Tamberlaine Allotment would be managed as a forage reserve if the permit is relinquished.

2.7.17 Forest/Woodland and Other Plant Products

2.7.17.1 General Forest/Woodland and Other Plant Product Management

Management Actions

Same as the Proposed RMP.

2.7.17.2 Parameter – Fuelwood Collection

Management Actions

Same as Alternative A except additional species allowed for collection would be Gambel's oak, aspen, white fir, ponderosa pine, and spruce.

2.7.17.3 Parameter – Pinyon Pine Nut Harvesting

Management Actions

Same as Alternative A except mechanical harvesting is allowed.

2.7.17.4 Parameter – Christmas Tree Harvesting

Management Actions

Pinyon, juniper, spruce, and white fir would be available for personal and commercial use throughout the planning area.

2.7.17.5 Parameter – Post and Pole Harvesting

Management Actions

Pinyon, juniper, aspen, fir, and spruce would be available for personal and commercial use throughout the planning area. Emphasis for tree harvest would be placed on areas identified for land disposal, if harvest would meet objectives for the tract of land.

2.7.17.6 Parameter – Seed Collection

Management Actions

Commercial use would be allowed on a case-by-case basis.

Hand collection methods would be encouraged, and mechanical collection would be allowed on a limited basis.

2.7.17.7 Parameter – Other Vegetation Product (i.e., wildings, boughs, etc.) Collection

Management Actions

Commercial use would be allowed throughout the planning area.

Collection methods would be limited to those with the least surface disturbing activities.

2.7.17.8 Parameter – Biomass Products

Management Actions

Same as the Proposed RMP.

2.7.18 Geology and Mineral Extraction

2.7.18.1 General Geology and Mineral Management

Management Actions

Same as the Proposed RMP.

2.7.18.2 Parameter – Fluid Leasable Minerals

Management Actions

See **Table 2.7-11** for a summary of the distribution of acres for Alternative C. **Map 2.7.18-1** shows the location of the leasing stipulations for this alternative. Lease notices would be utilized for cultural, historical, and desert tortoise areas (see **Map 2.7-18-1**).

Open to Leasing

A total of approximately 3.6 million acres would be open to leasing subject to standard lease terms and conditions.

Table 2.7-11
Summary of Fluid Leasing

	Acres[1]
Open to Fluid Mineral Leasing	
Standard Lease Terms and Conditions	3,489,200
Minor Restrictions	
Programmatic Surface Use/Timing	682,900
Standard Surface Use/Timing	5,597,100
Major Restrictions	
No Surface Occupancy	27,300
Open – Total	9,796,500
Closed to Fluid Mineral Leasing	
Designated Wilderness/Wilderness Study Areas	1,153,500
Discretionary Closure by the Ely Field Office	550,000
Closed – Total	1,703,500
Total	**11,500,000**

[1] Rounded to hundreds.

Minor Restrictions – Programmatic Stipulations

Alternative C would stay with the more traditional surface use and geographically limited timing stipulations for wildlife. There would be no programmatic restrictions for wildlife or their habitats. Approximately 682,900 acres would be subject to the programmatic cultural stipulations as described in Alternative B.

There is considerable overlap between the programmatic cultural stipulations and the other resource surface use/timing restrictions described below.

Minor Restrictions – Traditional Surface Use/Timing Stipulations
About 5.60 million acres would be open to leasing and subject to minor constraints, primarily surface use and seasonal timing restrictions. This involves the same approximately 446,000 acres of desert tortoise habitat as described in Alternative B as well as the traditional timing restrictions for wildlife and their habitat, specifically greater sage-grouse, ferruginous hawks, and bighorn sheep. These wildlife species were listed as programmatic stipulations in Alternative B. For Alternative C, the restriction would be required for these areas indicated unless the lessee applied for an exception. Some recreation sites also have surface use restrictions in Alternative C rather than the closed or no surface occupancy designation of Alternative B. The lease language for these traditional surface use/timing restrictions are as follows:

Open to Leasing with Minor Restrictions (Timing)

Desert Tortoise Habitat Stipulation
No surface use is allowed from March 15 to October 15. This stipulation does not apply to operation and maintenance of production facilities.

Greater Sage-grouse Stipulation – No surface disturbance would be allowed within an active greater sage-grouse lek. No surface use would be allowed within 2.0 miles of an active greater sage-grouse lek from midnight until 10 a.m. during the period March 1 through May 15.

Ferruginous Hawk Stipulation – Ferruginous hawk nest sites would not be disturbed. No surface use would be allowed within 0.5 mile of an occupied ferruginous hawk nest during the period March 1 through June 30 or until the birds have fledged (left) the nest.

Bighorn Sheep Stipulation – No surface use would be allowed within occupied bighorn sheep habitats during the breeding season of August 15 through November 30 and within the lambing season of February 15 to May 31.

Open to Leasing with Minor Restriction (Controlled Surface Use)

Desert Tortoise Habitat Stipulation
Unless otherwise authorized, access to this leasehold, and operations would be limited to the existing roads and trails.

Recreation Resource Stipulation – No surface or underground disturbance is allowed to occur within 100 yards (horizontally or vertically) of identified important cave resources or developed recreation sites to:

- Protecting important cave resources, including bat habitat;
- Maintaining the natural setting of these scenic and recreation use areas;

- Preserving the resource upon which the recreation is based; and
- Allowing visitors to experience recreation opportunities without conflicts from mineral exploration and development.

Major Restrictions – No Surface Occupancy

About 27,300 acres would be subject to major restrictions, specifically no surface occupancy, to avoid impacts to certain wildlife, cultural resources, scenic resources, and natural features. This restriction would allow for directional drilling and production underneath the protected area, but there could be no actual surface disturbance within the protected boundaries.

The following areas would have a no surface occupancy restriction:

Rose Guano Bat Cave ACEC
Bristol Wells
Delamar
Garrison Archeology Site
Kirch Wildlife Withdrawal
Osceola and Osceola Ditch ACEC

Closed to Leasing

A total of approximately 1.7 million acres would be closed to leasing. The current designated wilderness and wilderness study areas account for approximately 1.15 million acres. Closed areas outside of the designated wilderness/wilderness study areas total about 550,000 acres. These areas include the following:

Andies Mine Trilobite Site
Baker Archaeological Site ACEC
Basset Lake
Caliente Field Station
Cave Valley Cave Geologic Area
Chisolm Mine Trilobite Site
Cold Creek Reservoir Recreation Area
Condor Canyon ACEC
Comins Lake Recreation Area
Corridors
Desert Land Entries
Designated Wilderness/ Wilderness Study Areas
Haypress Allotment
Honeymoon Hill/City of Rocks ACEC
Honor Camp
Lands identified for potential disposal in Lincoln and White Pine counties
Lincoln County Conservation, Recreation, and Development Act Corridors
Lower Meadow Valley Wash ACEC
Mount Irish ACEC
Newark Cave
Open Space Conveyances
Pygmy Sage ACEC
Shooting Gallery ACEC
Shooting Range
Shoshone Ponds ACEC
Snake Creek Indian Burial Cave ACEC
Spring Valley State Park
State Park Expansion
State Prison
Steptoe Valley Wildlife Management Area
Toquop Power Project
Ward Mining District ACEC
Ward Recreation Site
White Pine County Conservation, Recreation, and Development Act Airport
White Pine Conservation, Recreation, and Development Act Industrial Park
White Pine County Conservation, Recreation, and Development Act Additional Withdrawal
White River Petroglyph Area
Withdrawals around communities

Geophysical exploration would be considered in areas closed to leasing or with no surface occupancy and/or timing restrictions, based on impacts identified in site-specific analysis.

Site-specific standard operating procedures for geophysical exploration, and the conditions of approval for permits to drill, would be compiled from the complete list of standard operating procedures for Alternative C that are shown in Appendix M of the Ely Draft RMP/EIS (July 2005).

2.7.18.3 Parameter – Solid Leasable Minerals

Management Actions

See **Table 2.7-12** for a summary of the distribution of acres for Alternative C.

Table 2.7-12
Summary of Solid Leasing

	Acres[1]
Solid Leasable – Open	9,777,500
Solid Leasable – Closed	1,722,500
Total	**11,500,000**
Acres closed outside of designated wilderness/wilderness study areas	569,000

[1] Rounded to hundreds.

Map 2.7.18-2 shows the location of the leasing stipulations for this alternative.

There would be approximately 9.8 million acres of federal mineral estate open for solid mineral leasing, subject to best management practices and standard operating procedures.

A total of approximately 1.7 million acres would be closed to solid mineral leasing. This includes the approximately 1.15 million acres of designated wilderness and wilderness study areas and an additional 569,000 acres outside of designated wilderness/wilderness study areas. Alternative C actually has fewer resource acres withdrawn as compared to Alternative B, even though there are more total acres withdrawn. This is due to the increased acres of community land withdrawals in this alternative. **Map 2.7.18-2** shows the location of areas that would be closed to both locatable and solid leasable minerals for this alternative. See Alternative C (Locatable Minerals) for a list of the areas that would be closed.

Standard practices and procedures for solid leasable operations under these alternatives would be compiled on a site-specific basis from the complete list of standard operating procedures for Alternative C that are shown in Appendix M of the Ely Draft RMP/EIS (July 2005).

2.7.18.4 Parameter – Locatable Minerals

Management Actions

See **Table 2.7-13** for a summary of the distribution of acres for Alternative C.

Table 2.7-13
Summary of Locatable Minerals

	Acres[1]
Locatable Open	9,777,500
Locatable Closed	1,722,500
Total	**11,500,000**
Acres closed outside of designated wilderness/wilderness study areas	569,000

[1] Rounded to hundreds.

There would be approximately 9.8 million acres of federal mineral estate open for locatable mineral development, subject to the prevention of unnecessary or undue degradation of public lands.

A total of approximately 1.7 million acres would be proposed for withdrawal to locatable mineral entry. This includes approximately 1.15 million acres of designated wilderness and wilderness study areas and an additional 569,000 acres outside of designated wilderness/wilderness study areas. Alternative C actually has fewer resource areas withdrawn as compared to Alternative B, even though there are more total acres withdrawn. This is due to the increased acres of community lands withdrawals in this alternative. **Map 2.7.18-2** shows the location of areas that would be proposed for withdrawal to locatable minerals for this alternative. The following locations would be proposed for withdrawal for Alternative C:

Andies Mine Trilobite Site
Antelope Wall
Baker Archaeological Site ACEC
Basset Lake
Black Point
Blue Mass Scenic Area ACEC
Caliente Withdrawal
Cave Valley Cave Geologic Area
Chief Mountain Trailheads
Chisolm Mine Trilobite Site
Cleve Creek
Cold Creek Reservoir Recreation Area
Condor Canyon ACEC
Corridors
Comins Lake Recreation Area
Mount Irish ACEC
Newark Cave
Pahroc Rock Art ACEC
Pescio Cave
Pony Springs Withdrawal
Protective Withdrawals
Pygmy Sage ACEC
R&PP Lands
Rose Guano Bat Cave ACEC
Ruby Marsh Withdrawal
Sacramento Pass
Shooting Gallery ACEC
Shooting Range
Shoshone Ponds ACEC
Snake Creek Indian Burial Cave ACEC

Desert Land Entries – Lincoln County
Designated Wilderness/Wilderness Study Areas
Egan Crest Trailhead
Garrison Archaeology Site
Grapevine Canyon
Haypress Allotment
Hendry's Creek/Rock Animal Corral ACEC
Heusser Bristlecone ACEC
Honeymoon Hill/City of Rocks ACEC
Honor Camp
Illipah Reservoir
Kane Springs ACEC
Lands identified for potential disposal in Lincoln and White Pine counties
Lincoln County Conservation, Recreation, and Development Act Corridors
Lower Meadow Valley Wash ACEC
Spring Valley State Park
State Park Expansion
State Prison
Steptoe Valley Wildlife Management Area
Swamp Cedar ACEC
Toquop Power Plant
Ward Mining District ACEC
Ward Recreation Site
White Pine County Conservation, Recreation, and Development Act Airport
White Pine County Conservation, Recreation, and Development Act Industrial Park
White Pine County Conservation, Recreation, and Development Act Withdrawals
White River Petroglyph Site
Withdrawals around communities

Site-specific standard operating procedures for locatable mineral operations under this alternative would be compiled from the complete list of standard operating procedures for Alternative C that are shown in Appendix M of the Ely Draft RMP/EIS (July 2005).

2.7.18.5 Parameter – Mineral Materials

Management Actions

See **Table 2.7-14** for a summary of the distribution of acres for Alternative C.

Table 2.7-14
Summary of Mineral Materials

	Acres[1]
Mineral Material Open	9,256,900
Mineral Material Closed	2,243,100
Total	**11,500,000**
Acres closed outside of designated wilderness/wilderness study areas	1,089,600

[1] Rounded to hundreds.

There would be approximately 9.3 million acres of federal mineral estate open for mineral materials disposal, subject to best management practices and standard operating procedures. In this alternative there would be more recreation sites that would be open to mineral materials disposals.

There would be approximately 2.2 million acres that would be closed to mineral materials disposal. This includes approximately 1.1 million acres of designated wilderness and wilderness study areas and 1.1 million acres outside of designated wilderness/wilderness study areas. **Map 2.7.18-3** shows the location of areas that would be closed. The following locations would be closed to mineral material disposal:

Alamo (Pahranagat Rock Art)
Andies Mine Trilobite Site
Antelope Wall
Ash Springs Cultural Site
Baker Archaeological Site ACEC
Basset Lake
Bennet Springs
Black Canyon Petroglyphs
Black Point
Blue Mass ACEC
Bristol Wells
Caliente Withdrawal
Carbonari District
Cave Valley Cave Geologic Area
Chief Mountain Trailhead
Chisolm Mine Trilobite Site
Christmas Wash
Cleve Creek
Cold Creek Reservoir Recreation Area
Condor Canyon ACEC
Corridors
Crystal Wash (Pahranagat)
Comins Lake Recreation Area
Daub Site (Upper Meadow)
Delamar
Desert Land Entries
Designated Wilderness/Wilderness Study Areas
Egan Crest Trailhead
Frenchy Lake (Pahranagat)
Garrison Archaeology Site
Garnett Hill ACEC
Grapevine Canyon
Haypress Allotment
Hell's Half Acre (Pahranagat)
Heusser Bristlecone ACEC
Hendry's Creek/Rock Animal Corral ACEC
Honeymoon Hill/City of Rocks ACEC
Honor Camp
Lower Meadow Valley Wash ACEC
Mahoney Canyon Quarry
Mormon Mountains ACEC
Mount Irish ACEC
Newark Cave
Open Space Conveyances
Osceola and Osceola Ditch ACEC
Pahroc Rock Art ACEC
Panaca Summit/Modena Obsidian Site
Park Range Aboriginal Site
Mariah Site (Pahranagat)
Pescio Cave
Pony Express Trail
Pony Springs Withdrawal
Pygmy Sage ACEC
Rainbow Canyon
Reed Cabin Summit
Rose Guano Bat Cave ACEC
Rose Valley
Sacramento Pass
Sand Dune Site
Sawmill Canyon
Shooting Gallery ACEC
Shooting Range
Shoshone Ponds ACEC
Six Mile Flat and Hiko
Snake Creek Indian Burial Cave ACEC
State Prison
State Park Expansion
Steptoe Valley Wildlife Management Area
Sunshine Locality National Register District
Swamp Cedar ACEC
Tempiute Obsidian Source
Toquop Power Plant
Tri-County Paleo Site
Tunnel Canyon
Ward Mining District ACEC
Ward Recreation Site

Illipah Reservoir
Jake's Valley Paleo Shoreline
Kane Springs ACEC
Lands identified for potential disposal in Lincoln and White Pine counties
Lincoln County Conservation, Recreation, and Development Act Corridors
Lincoln Highway
White Pine County Conservation, Recreation, and Development Act Airport
White Pine County Conservation, Recreation, and Development Act Industrial Park
White Pine County Conservation, Recreation, and Development Act Withdrawals
White River Petroglyph Site
Withdrawals around communities

Site-specific standard operating procedures for operations under this alternative would be selected from the list of standard operating procedures for Alternative C shown in Appendix M of the Ely Draft RMP/EIS (July 2005).

2.7.19 Watershed Management

2.7.19.1 Parameter – Allocation of Additional Forage as a Result of Restoration Actions

Management Actions

Prioritization of watershed analyses is the same as described in the Proposed RMP.

Following watershed analysis and assessment of rangeland health, additional forage would be allocated to livestock but also would provide some forage for wildlife and wild horses (inside herd management areas).

2.7.20 Fire Management

2.7.20.1 Parameter – Fire Management

Management Actions

Where and to the extent possible, all wildland fires would be suppressed and fire would be used in limited situations as a management tool for vegetation treatments.

2.7.21 Noxious and Invasive Weed Management

2.7.21.1 Parameter – Invasive and Nonnative Plant Species Management

Management Actions

Same as the Proposed RMP.

2.7.22 Special Designations

2.7.22.1 Parameter – Areas of Critical Environmental Concern

Management Actions

Retain the three current ACECs for a total of 203,670 acres. Management prescriptions are the same as presented for Alternative A (see **Table 2.5-20**).

Designate 17 new ACECs totaling an additional 129,720 acres (see **Map 2.7.22-1** and Appendix D). See **Table 2.7-15** for specific management prescriptions.

The Garnet Hill ACEC and the Pygmy Sage ACEC would be designated in addition to those 15 areas designated in Alternative B to provide the necessary management and protection of these resources under the land use plan decisions found in this commodity driven alternative.

2.7.22.2 Parameter – Back Country Byways

Management Actions

Same as the Proposed RMP.

2.7.22.3 Parameter – Designated Wilderness

Management Actions

Same as the Proposed RMP.

2.7.22.4 Parameter – Wilderness Study Areas

Management Actions

Same as the Proposed RMP.

Table 2.7-15
Management Prescriptions for Proposed ACECs

Baker Archaeological Site – 80 acres designated for the protection of prehistoric architectural sites	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]
Blue Mass Scenic Area – 950 acres designated for the protection of exceptional scenic qualities	
Management Activities	**Management Prescriptions**
Land use authorization	Valid existing rights would remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	I
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposal
Fire management	Limited[7]
Transportation	Limited, no new roads
Livestock management	Available[5]
Fuelwood cutting	Limited
Renewable energy	Closed[6]
Condor Canyon – 6,900 acres designated for the protection of the Big Spring spinedace and its designated critical habitat	
Management Activities	**Management Prescriptions**
Land use authorization	No rights-of-way except for federal reservation to manage for ACEC
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	Open with stipulations[8]
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Limited[7]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]

Table 2.7-15 (Continued)

Garnet Hill – 1,210 acres designated for the protection of a nationally-known rock hound area famous for dark red garnets	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II
Plant collecting	Open
Road maintenance	Limited[4]
Leasable minerals	Open
Locatable minerals	Open
Mineral Materials	Open
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No applicable
Livestock management	Available[5]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Hendry's Creek/Rock Animal Corral – 3,300 acres designated for the protection of prehistoric values	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Honeymoon Hill/City of Rocks – 5,900 acres designated for the protection of prehistoric values	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[5]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]

Table 2.7-15 (Continued)

Lower Meadow Valley Wash – 39,000 acres designated for the protection of the southwestern willow flycatcher, western yellow-billed cuckoo, Meadow Valley Wash desert sucker, Meadow Valley Wash speckled dace, and Arizona southwestern toad	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Closed
Visual resource management class	II, III, IV
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Limited[7]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Mount Irish – 26,200 acres designated for the protection of historic values including historic mine and mill sites and prehistoric values including petroglyphs, lithic scatters, pottery scatters, and pictographs	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]; valid existing rights would remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	I, II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open
Renewable energy	Closed[6]
Osceola/Osceola Ditch – 14,600 acres for the protection of historic values	
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	I, II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Open with stipulations[8]
Locatable minerals	Open with stipulations[8]
Mineral Materials	Open with stipulations[8]
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open
Renewable energy	Closed[6]

Table 2.7-15 (Continued)

Pahroc Rock Art – 3,200 acres designated for the protection of prehistoric values including petroglyphs, rock shelters, and other artifacts	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	I, II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Open with stipulations[8]
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Pygmy Sage – 160 acres designated for the preservation of an example of the pygmy sage ecological system	
Management Activities	**Management Prescriptions**
Land use authorization	Valid existing rights would remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Limited[7]
Transportation	Limited
Livestock management	Available[9]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Rose Guano Bat Cave – 40 acres designated for the protection of the Brazilian free-tailed bat, a BLM sensitive species	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]

Table 2.7-15 (Continued)

Shooting Gallery – 20,700 acres designated for the protection of prehistoric values including rock art sites, habitation areas, and a game-drive complex	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]; valid existing rights would remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[9]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Shoshone Ponds – 1,240 acres designated for the protection of the Pahrump poolfish	
Management Activities	**Management Prescriptions**
Land use authorization	Exclusion area; rights-of-way would not be granted within the area
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Limited[7]
Transportation	Limited
Livestock management	Available[9]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Snake Creek Indian Burial Cave – 40 acres designated for the protection of zooarchaeology, geology, and archaeology	
Management Activities	**Management Prescriptions**
Land use authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]

Table 2.7-15 (Continued)

Swamp Cedar – 3,200 acres designated for the protection of rare plant species including Rocky Mountain juniper and the slender thelopody, prehistoric sites, and the site of the Goshute War of 1863	
Management Activities	**Management Prescriptions**
Land use authorization	Valid existing rights would remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	Open with stipulations[8]
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Limited[7]
Transportation	Limited
Livestock management	Available[9]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Ward Mining District – 3,000 acres designated for protection of historic values	
Management Activities	**Management Prescriptions**
Land use authorization	Exclusion area; rights-of-way would not be granted within the area
Off-highway vehicle use	Limited[2]
Visual resource management class	II
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	Closed
Locatable minerals	Closed
Mineral Materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Closed
Renewable energy	Closed[6]

[1] Avoidance area; granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.

[2] Off-highway vehicle use would be limited to designated roads and trails.

[3] Plant materials, including common species, may be collected by permit only.

[4] Road maintenance would be limited to the designated roadway; shoulder barrow/ditch construction would be limited to only that necessary to ensure public safety and serviceability of the road.

[5] The activity is allowed in the area. NEPA compliance and clearances for cultural resources and threatened and endangered species required for some activities. Mineral activity is subject to standard stipulations (where appropriate), NEPA compliance, and application of site-specific controls. Standard terms and conditions of the grazing permits would apply.

[6] Closed to renewable energy facilities. Avoidance area for ancillary rights-of-way for access roads, transmission lines, and pipelines.

[7] Limits could be placed on fire management activities.

[8] Open with special stipulations. Open to mineral development activities subject to controlled surface use, seasonal timing restrictions, and/or restricted or no uses in avoidance areas (e.g., riparian areas, live water, areas with special wildlife or plant features, and sensitive viewsheds).

[9] Livestock grazing would be controlled through terms and conditions on the grazing permit.

2.7.22.5 Parameter – Other Special Designations

Management Actions

1. Any special designation areas would be managed within released wilderness study areas under their specific management prescriptions. The following special designation areas occur within wilderness study areas: North Creek, Mount Grafton, Goshute Cave, Leviathan Cave, Whipple Cave, and Goshute Canyon. These areas have been designated to preserve their unique recreational, historical, archeological, geological, and natural features. Should the wilderness study areas be released from further consideration of wilderness, these special designation areas would continue to be managed under their special management provisions.

2. Management procedures for the special designation areas that are retained would be the same; these include scenic areas, geologic areas, natural areas, research natural areas, and rockhound areas.

3. No herd management areas are recommended for designation as wild horse ranges.

The following two special designations, totaling 600 acres would be retained:

- Archaeological Sites – Garrison, White River Petroglyph

The following management procedures would apply to all the above special designation areas.

- Roads – the Ely Field Office would not build new or maintain existing roads unless deemed absolutely necessary for management of natural values. Likewise, the Ely Field Office would not allow the building or maintenance of roads.

- Structures – the Ely Field Office would not build, or allow to be built, any type of structure except: 1) those already identified in existing habitat management plans or 2) those deemed absolutely necessary for management of natural values.

The following 10 special designation areas would be designated as ACECs:

- Scenic Areas – Blue Mass
- Rockhounding Area – Garnet Hill
- Natural Areas – Shoshone Ponds, Swamp Cedar
- Research Natural Areas – Pygmy Sage
- Archaeological Sites – Bat Cave Guano Mine, Snake Creek Indian Burial Cave, Baker, Hendry's Creek/Rock Animal Corral, Mount Irish

These areas total 31,900 acres. An additional 3,140 acres near Hendry's Creek/Rock Animal Corral and an additional 25,560 acres near Mount Irish also would be included as part of those ACECs, respectively.

The following seven special designation areas, totaling 1,995 acres, would be dropped:

- Scenic Areas – Kious Spring, Weaver Creek
- Geologic Areas – Goshute Cave, Leviathan Cave, Cave Valley Cave, Whipple Cave
- Archaeological Sites – Baker Creek

The following 7 areas, totaling 9,400 acres, would be segregated from disposal under the public land laws, including the general mining laws but not the Recreation and Public Purposes Act or the mineral leasing and material sale laws: Leviathan Cave, Goshute Canyon, Baker Creek, Garrison, White River Petroglyphs, Whipple Cave, and Cave Valley Cave.

The following area, totaling 1,210 acres, would be segregated from disposal under the public land laws, but not the general mining laws, the Recreation and Public Purposes Act or the mineral leasing and material sale laws: Garnet Hill.

No rivers have been identified for wild and scenic designation within the planning area. A full inventory and evaluation has not occurred, however, it is planned for fiscal year 2008. This evaluation could potentially identify rivers or river segments within the Ely Field Office jurisdiction that are eligible for inclusion under the Wild and Scenic Rivers Act. If appropriate, management actions associated with these locations will be amended to the RMP.

2.8 Alternative D

2.8.1 Overview of Alternative D

Alternative D would exclude all permitted, discretionary uses of the public lands including livestock grazing, mineral sale or leasing, lands and realty actions (such as disposals, leases, rights-of-way), recreation uses requiring permits, etc. Some components of Alternative D could be implemented through the discretionary authority of the Ely Field Manager or the Nevada State Director, while others would require action by the Secretary of the Interior or new legislation by Congress. Where appropriate, management actions that would not be consistent with existing legislation or policies have been noted in text. This alternative was included in response to scoping comments for the RMP, which requested the elimination of certain uses of the public lands in the RMP planning area. It sets a baseline for the comparison of impacts from management actions included in other alternatives and allows for the analysis of a range of management actions in the EIS. The descriptions that follow are arranged by resource or resource use and will only describe the differences from the Proposed RMP.

2.8.2 Air Resources

Management Actions

Same as the Proposed RMP.

2.8.3 Water Resources

Management Actions

Same as the Proposed RMP.

2.8.4 Soil Resources

Management Actions

Same as the Proposed RMP.

2.8.5 Vegetation Resources

2.8.5.1 General Vegetation Management

Management Actions

Same as the Proposed RMP.

2.8.5.2 Parameter – Pinyon-Juniper Woodlands

Management Actions

Natural processes would be allowed to occur within pinyon-juniper woodlands. The desired range of conditions for pinyon-juniper woodlands (see **Table 2.8-1**) would be primarily defined by natural processes. Management actions primarily would be passive in nature (i.e., not including mechanical, herbicides, or prescribed fire). Most discretionary land uses would be eliminated to prevent further establishment and spread of invasive and nonnative species.

Table 2.8-1
Desired Range of Conditions of Pinyon-Juniper (Distribution of Woodland Phases and States)

State and Phase	Herbaceous State	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)[1]	Altered State
Canopy Description[2]	0 to 10% canopy cover-includes herbaceous, herbaceous-shrub, and sapling phase	11 to 20% canopy cover	21 to 35% canopy cover	>36 to 50% canopy cover	Site dominated by invasive species or weeds
LANDFIRE classes	A and B	C	D and E	E	Uncharacteristic
Alternative D[3]	30% (1,078,000 acres)	25% (898,400 acres)	15% (539,000 acres)	30% (1,078,000 acres)	0% (0 acres)

[1] Overmature woodland refers to woodlands exhibiting greater than 35 percent canopy cover. This classification is not the same as "old growth" although the two classifications may coincide in some situations.
[2] Canopy descriptions derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Settings models for Great Basin Pinyon-juniper Woodland. Altered state is an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but is part of current conditions.

Treatment priorities would focus on areas where invasive and nonnative species occur. Common tools to be used would include elimination or restriction of various uses and limited application of herbicides other than sulfonylurea herbicides, other acetolactate synthesis inhibiting herbicides, and herbicides with adverse effects on aquatic species. Natural disturbances (e.g., wildland fire) would be rehabilitated to prevent establishment of invasive species.

Only native species would be used for any seeding activities.

2.8.5.3 Parameter – Aspen

Management Actions

Natural processes would be allowed to occur within aspen communities. The desired range of conditions (see **Table 2.8-2**) would be defined by natural processes with minimal influence from management and resource uses. Most discretionary land uses would be eliminated to prevent further establishment and

spread of invasive and nonnative species. Aspen communities would be protected from grazing and further establishment or expansion of invasive species.

Table 2.8-2
Desired Range of Conditions of Aspen (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous, and Herbaceous-Shrub and Sapling Phase)	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)
Canopy Cover[1]	0 to 15% tree canopy cover	16 to 29% tree canopy cover.	30 to 45% tree canopy cover	45% or greater tree canopy cover (includes conifer dominated)
LANDFIRE classes	A	B	C and D	D and E
Alternative D[2]	5% (350 acres)	10% (700 acres)	40% (2,800 acres)	45% (3,150 acres)

[1] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[2] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Rocky Mountain aspen forest and Inter-mountain Basin aspen-mixed conifer forest and woodland. Description of LANDFIRE CLASSES can be found at www.landfire.gov.

Priority treatment areas would be in aspen sites where invasive and nonnative species are present. Common tools to be used would include elimination or restriction of various uses and application of herbicides other than sulfonylurea herbicides, other acetolactate synthesis inhibiting herbicides, and herbicides with adverse effects on aquatic species to remove invasive species. Natural disturbances (e.g., wildland fire) would be allowed, but the site would be rehabilitated to prevent establishment of invasive species.

Only native species would be used for any seeding activities determined necessary to compete with invasive plants.

2.8.5.4 Parameter – High Elevation Conifer Species

Management Actions

Natural processes would be allowed to occur within high elevation conifer sites. The desired range of conditions (see **Table 2.8-3**) would be defined by natural processes with minimal influence from management and resource uses. Management actions within high elevation conifer areas would include elimination of invasive and nonnative species where they currently occur. Land uses would be managed to prevent further establishment and spread of invasive and nonnative species.

Priority treatment would be in areas where invasive and nonnative species are present. Common tools to be used would include elimination or restriction of various resource uses and application of herbicides other than sulfonylurea herbicides, other acetolactate synthesis inhibiting herbicides, and herbicides with adverse

effects on aquatic species. Natural disturbances (e.g., wildland fire) would be rehabilitated to prevent establishment of invasive species.

Table 2.8-3
Desired Range of Conditions of High Elevation Conifer (Distribution of States and Phases)

State and Phase	Herbaceous State, (Herbaceous, and Herbaceous/Sapling Phase)	Herbaceous State (Immature Phase)	Tree State (Mature Phase)	Tree State (Overmature Phase)[1]
Canopy Cover[2]	0 to 15% canopy Cover	16 to 31% canopy cover	31 to 40% canopy cover	41 to 60% canopy cover
LANDFIRE classes	A	B	C	C
Alternative D[3]	25% (14,000 acres)	25% (14,000 acres)	15% (8,400 acres)	35% (19,600 acres)

[1] Overmature high elevation conifer refers to stands with canopy cover exceeding 40 percent. This classification is not the same as "old growth," although the two classifications may coincide in some situations.
[2] Canopy cover derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain white fir limber-bristlecone pine woodland.

Desired range of conditions for ponderosa pine are the same as the Proposed RMP.

2.8.5.5 Parameter – Salt Desert Shrub

Management Actions

Management would strive to protect existing native salt desert shrub communities and to prevent invasions of exotic species. As indicated in **Table 2.8-4**, management activities in this alternative would focus on treating areas dominated by invasive species in the understory.

Table 2.8-4
Desired Range of Conditions of Salt Desert Shrub (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State Annual Invasive/Exotic State	Altered State Perennial Nonnative Seeded
LANDFIRE classes	A	B and C	Uncharacteristic	Uncharacteristic
Alternative D[1]	18% (219,800 acres)	64% (781,400 acres)	0% (0 acres)	18% (219,800 acres)

[1] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins mixed salt desert shrub and Inter-Mountain Basins greasewood flat. Altered state (invasive species/weeds) is an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but is part of current conditions.

Herbicide use would be restricted to avoid use of sulfonylurea herbicides, other acetolactate synthesis inhibiting herbicides, and herbicides with adverse effects on aquatic species.

2.8.5.6 Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

Management Actions

Management emphasis would be on protecting existing native sagebrush communities and preventing invasions of annual exotic species. Sagebrush communities would be allowed to function as naturally as possible with minimal influence from management or resource uses. Sagebrush areas that have been seeded with nonnative understory species (e.g., crested wheatgrass) would be returned to native species (see **Table 2.8-5**).

Table 2.8-5
Desired Range of Conditions of Sagebrush (Distribution of Phases and States)

State/Phase Name	Total Herbaceous State (Early, Mid, and Late Phases)[1]	Total Shrub State	Total Tree State	Altered State Annual/Perennial Invasive	Altered State Nonnative Perennial Seeded
LANDFIRE classes	A, B, and C	D	E	Uncharacteristic	Uncharacteristic
Alternative D[2]	17% (955,300 acres)	40% (2,247,800 acres)	43% (2,416,400 acres)	0% (0 acres)	0% (0 acres)

[1] Sagebrush in the mid-late phase of the herbaceous state is desired for wildlife habitat.
[2] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Great Basin xeric mixed sagebrush and Inter-Mountain Basin big sagebrush. Altered states (annual/perennial invasive and nonnative perennial seeded) are an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but are part of current conditions.

Areas with good perennial understory or that are near the limits of the desired range of conditions would be maintained by applying treatments. Wild fires would occur in this alternative and burned areas would be stabilized and rehabilitated to reduce invasive and noxious weed infestations. Invasive and noxious weed areas would receive chemical treatments to reduce or eliminate the threat of spreading. The overall goal of this alternative would be to reestablish native vegetation within the plant community at the mid scale (watershed level). Herbicides to reduce or eliminate annual invasive and noxious weeds would not include sulfonylurea herbicides, other acetolactate synthesis inhibiting herbicides, and herbicides with adverse effects on aquatic species.

2.8.5.7 Parameter – Mountain Mahogany

Management Actions

Natural processes would be allowed to occur within mountain mahogany communities. Desired range of conditions would be defined by natural processes with minimal influence from management (**Table 2.8-6**). Management actions and treatments in mountain mahogany sites would include elimination of existing invasive and nonnative species. Mountain mahogany communities would be protected to prevent further establishment or expansion of invasive species.

Table 2.8-6
Desired Range of Conditions of Mountain Mahogany (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous Phase)	Shrub State (Shrub/ Herbaceous Phase)	Shrub State (Shrub Phase)	Shrub/Tree-like State (No Understory Phase)[1]
Canopy Cover[2]	0-15% mahogany canopy cover	15-25% mahogany canopy cover (desired mix of herbaceous and shrub species in understory)	30-45% mahogany canopy cover (approaching threshold with no understory)	45-60% mahogany cover (shrub/tree-like and tree dominant)
LANDFIRE classes	A and C	B	D	E
Alternative D[3]	40% (18,400 acres)	20% (9,200 acres)	10% (4,600 acres)	30% (13,800 acres)

[1] Refers to savanna sites.
[2] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins Mountain Mahogany woodland and shrubland.

Priority treatment areas would be in mahogany sites where invasive and nonnative species are present. Common tools would include application of herbicides other than sulfonylurea herbicides, other acetolactate synthesis inhibiting herbicides, and herbicides with adverse effects on aquatic species. Natural disturbances (e.g., wildland fire) would be allowed, but the disturbed area would be rehabilitated to prevent establishment of invasive species.

Only native species would be used for any seeding activities.

2.8.5.8 Parameter – Mojave Desert Vegetation

Management Actions

Mojave Desert communities would be allowed to function as naturally as possible. All livestock grazing and discretionary uses would be eliminated and all Mojave Desert vegetation (approximately 850,000 acres) would be protected from deterioration or conversion to annual invasive species by applying treatments where appropriate. Sulfonylurea herbicides, other acetolactate synthesis inhibiting herbicides, and herbicides with adverse effects on aquatic species would not be used.

Under this Alternative, approximately 54,825 acres or 15 percent of the area occupied by the creosotebush/bursage type would be treated to remove or control annual invasive species, and the remaining 85 percent of the acreage primarily would be maintained to achieve the (see **Table 2.8-7**). Areas currently in the herbaceous state would be intensively managed to facilitate conversion to the shrub state.

Table 2.8-7
Desired Range of Conditions of Creosotebush and Bursage (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State (Annual Invasive and Exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Alternative D[1]	42% (153,510 acres)	43% (157,165 acres)	0% (0 acres)	15% (54,825 acres)

[1] In creosotebush/bursage communities, the herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Sonora-Mojave creosotebush-white bursage description. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

Under this Alternative, approximately 38,250 acres (10 percent) of the area occupied by the blackbrush type would be treated to remove or control annual invasive species, and the remaining 90 percent of the acreage primarily would be maintained (see **Table 2.8-8**). Areas currently in the herbaceous state would be intensively managed to facilitate conversion to the shrub state.

Table 2.8-8
Desired Range of Conditions of Blackbrush (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered state (annual invasive and exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Alternative D[1]	60% (229,500 acres)	30% (114,750 acres)	0% (0 acres)	10% (38,250 acres)

[1] The herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Mojave mid-elevation desert scrub. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

2.8.5.9 Parameter – Riparian/Wetlands

Desired Range of Conditions

The Ely Field Office is directed to follow the appropriate rangeland health standards, which in the case of the Northeastern Great Basin Resource Advisory Council, states, "Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria." In addition to achieving riparian proper functioning condition, composition, structure, and cover of riparian vegetation would occur within potential of the site. Ground cover and species composition would be appropriate to the site. Riparian areas with free-flowing water (i.e., undeveloped springs) that are non-functional or functioning at risk would show improving trends toward proper functioning condition. Factors that prevent proper functioning condition have

been addressed and mitigated, whenever possible. Restoration or maintenance of riparian areas would be a management priority applicable to all alternatives.

Management Actions

Riparian conservation areas would be identified and managed to prohibit land-disturbing activities in those areas. Resource uses would be removed in all riparian areas, and natural processes would be allowed to occur as nearly as possible. Treatments of riparian areas would be prioritized toward those that have invasive or exotic species. In-stream channel manipulations would be avoided. Treatments would be the same as Alternative A, except that herbicide use would not include sulfonylurea herbicides, other acetolactate synthesis-inhibiting herbicides, and herbicides with adverse effects on aquatic species.

2.8.5.10 Parameter – Nonnative Seedings

Management Actions

Nonnative seedings would be restored to the original native plant community. The sagebrush canopy cover would not be changed.

The desired range of conditions for phases and states is described in **Table 2.8-9**.

Table 2.8-9
Desired Range of Conditions of Seedings (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Tree State	Altered State (Annual Invasive)
Alternative D	25% (67,400 acres)	55% (148,200 acres)	20% (53,900 acres)	0% (0 acres)

Treatment emphasis would be to restore native vegetation in all areas seeded with introduced species. Herbicide use would not include sulfonylurea herbicides, other acetolactate synthesis inhibiting herbicides, and herbicides with adverse effects on aquatic species.

2.8.6 Fish and Wildlife

2.8.6.1 General Wildlife Habitat Management (Aquatic and Terrestrial)

Management Actions

Wildlife habitat management would emphasize a passive and indirect management approach to restoration for both game and nongame species through the exclusion of permitted uses and discretionary commodity uses of public lands.

Natural process would restore degraded habitats. Active management would occur where state water quality criteria standards are not being met or where non-functioning conditions persist. Any active habitat management would emphasize restoration of direct, human-induced alterations to the natural environment and protection of large, core areas of existing intact habitats.

2.8.6.2 Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitats

Management Actions

Big game species habitats would not be actively managed to increase numbers or distribution, beyond what natural habitats and water sources would support.

Conservation actions for all wildlife habitats would be emphasized primarily through the exclusion of permitted uses and discretionary commodity uses of public lands. Habitat restoration would be emphasized secondarily where human-induced alterations have modified the natural environment.

Forage from existing livestock permits and additional forage resulting from restoration actions would be reserved for watershed maintenance and wildlife and/or allocated to wild horses within herd management areas. Outside herd management areas, the forage would be reserved for watershed maintenance and wildlife.

2.8.6.3 Parameter – Desert Bighorn Sheep Habitat

Management Actions

Conservation actions for desert bighorn sheep habitat would emphasize the exclusion of permitted uses and discretionary commodity uses of public lands.

Passive management would be emphasized over active management. Active habitat restoration for desert bighorn sheep habitat would be emphasized only in areas affected by wildland fires or where invasive species dominate.

2.8.6.4 Parameter – Migratory Bird Habitat

Management Actions

Conservation actions for migratory bird habitat would emphasize the exclusion of permitted uses and discretionary commodity uses of public lands. Thus, management of migratory birds and their habitats primarily would be passive.

Natural processes would be allowed to function and dictate the mosaics of wildlife habitats on a landscape scale. Restoration would occur only where human-induced alterations have modified the natural environment.

2.8.6.5 Parameter – Wildlife Water Developments

Management Actions

Removal of permitted uses from public lands would be the primary emphasis to provide reliable sources of water to wildlife. No emphasis for artificial wildlife water developments would occur to increase wildlife species numbers or distribution beyond what natural water sources could support. Artificial wildlife water developments would only be used to mitigate loss of natural waters sources or loss of wildlife habitat as a result of other multiple uses. Existing artificial wildlife water developments that do not mitigate for loss of natural water sources would be removed.

2.8.7 Special Status Species

2.8.7.1 Parameter – Special Status Species Habitat

Management Actions

Special status species management would emphasize a passive and indirect management approach through the exclusion of permitted uses and discretionary commodity uses of public lands. Natural process would be allowed to restore degraded habitats and determine future habitat conditions. Any active habitat management would emphasize restoration of direct human-induced alterations to the natural environment and protection of large, core areas of existing intact habitats. This alternative would not be consistent with BLM policies and legislation relative to special status species management.

2.8.7.2 Parameter – Great Basin Riparian Habitat

Special Status Species

Pahrump poolfish
White River spinedace
Railroad Valley springfish
Big Spring spinedace
Ute ladies'-tresses

Management Actions

Management of public lands around Shoshone Ponds and in Condor Canyon would occur through the exclusion of permitted uses and discretionary commodity uses. The fence at Shoshone Ponds would be re-built to the original footprint and designed solely to restrict human access into the area. Natural processes would be allowed to function and dictate the mosaics of wildlife habitats within Condor Canyon.

Management for Ute ladies'-tresses would be the same as the Proposed RMP.

2.8.7.3 Parameter – Mojave Desert and Great Basin Riparian Habitats

Special Status Species

Southwestern willow flycatcher
Western yellow-billed cuckoo
Meadow Valley Wash desert sucker
Meadow Valley Wash speckled dace
Arizona southwestern toad

Management Actions

Management of the Lower Meadow Valley Wash would emphasize the exclusion of permitted uses and discretionary commodity uses of public lands and restoration of natural hydrology. Wildlife habitat primarily would be managed through natural processes except for treatment of noxious/invasive plant species.

2.8.7.4 Parameter – Mojave Desert Riparian Habitat

Special Status Species

White River springfish
Hiko White River springfish
Pahranagat roundtail chub

Management Actions

Same as the Proposed RMP.

2.8.7.5 Parameter – Mojave Desert Scrub Habitat

Special Status Species

Desert tortoise
Banded Gila monster

Management Actions

Management of Mojave Desert scrub habitat would emphasize the exclusion of permitted uses and discretionary commodity uses. The Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs would not be needed for the protection of desert tortoise, and the special designation would be removed from those areas. Natural processes would be allowed to function.

2.8.7.6 Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Special Status Species

Western burrowing owl
Sunnyside green gentian

Management Actions

Western burrowing owl habitat and sunnyside green gentian habitat primarily would be managed passively through the exclusion of permitted uses and discretionary commodity uses of public lands.

2.8.7.7 Parameter – Great Basin Sagebrush Habitat

Special Status Species

Greater sage-grouse
Pygmy rabbit

Management Actions

Sagebrush habitat management would emphasize a passive and indirect management approach through the exclusion of all permitted uses and discretionary commodity uses of public lands.

Habitat assessment protocol would focus solely on performing inventories and identifying areas where direct human-induced alterations to the natural environment have altered the vegetation state. Restoration of sagebrush habitats would be on a very small scale, and would be prioritized in areas with nonnative or invasive species and areas burned by wildland fires.

2.8.8 Wild Horses

2.8.8.1 General Wild Horse Management

Management Actions

Same as the Proposed RMP.

2.8.8.2 Parameter – Herd Management Area Establishment

Management Actions

Wild horses would be managed within the same twenty-four herd management areas covering approximately 5.46 million acres as in Alternative A. No population limits would be established within these herd management areas. This alternative would not be consistent with the policies and laws relative to wild horse management.

2.8.8.3 Parameter – Population Management

Management Actions

Populations of wild horses within herd management areas would be unmanaged. Wild horses outside the herd management areas would be removed from public lands. This alternative would not be consistent with the policies and laws relative to wild horse management.

2.8.9 Cultural Resources

2.8.9.1 General Cultural Resources Management

Management Actions

Same as the Proposed RMP.

2.8.9.2 Parameter – Cultural Resource Use Allocation: Historic Roads, Trails, Railways, Highways, and Associated Sidings and Stations

Management Actions

Same as Alternative B except the Ely Field Office would allocate and manage 100 percent of the National Register eligible historic roads, trails, railways, highways, and associated sidings and stations for Conservation Use.

2.8.9.3 Parameter – Cultural Resource Use Allocation: Rock Art Sites

Management Actions

All National Register eligible rock art sites with evidence of existing public use would be allocated and managed for Public Use.

No fee sites would be established.

2.8.9.4 Parameter – Cultural Resource Use Allocations: Historic Townsites, Historic Mining Camps, Historic Mining Districts, and Related Historic Buildings and Standing Structures, and Historic Racetracks

Management Actions

All National Register eligible sites would be allocated and managed for Conservation Use.

No fee sites would be established.

2.8.9.5 Parameter – Cultural Resource Use Allocations: Historic Cemeteries and Isolated Historic Gravesites

Management Actions

Same as Alternative B.

2.8.9.6 Parameter – Cultural Resource Use Allocations: Ethnic Arboreal Narratives and Graphics, and Bow Stave Trees

Management Actions

All National Register eligible sites would be allocated and managed for Conservation Use.

2.8.9.7 Parameter – Cultural Resource Use Allocations: Paleoindian Sites

For the purposes of this RMP, the term Paleoindian would be defined as follows: "Paleoindian or Pre-Archaic has been attributed to include both fluted and stemmed complexes as well as being reserved for complexes containing fluted points and extinct megafauna. The term Paleoindian would be used here to denote archeological sites and artifact assemblages dating between 12,000 to 8,000 years Before Present, which include fluted or stemmed points, and possibly crescents. Under this broad Paleoindian umbrella there are several local traditions and possible variants that may represent different peoples using the land in different ways. This includes Clovis, Folsom, Western Pluvial Lakes Tradition, and Stemmed Complex." (Sherve 2001).

Management Actions

All National Register eligible sites would be allocated and managed for Conservation Use.

2.8.9.8 Parameter – Cultural Resource Use Allocations: Formative Puebloan Sites

Management Actions

Same as the Proposed RMP except no fee sites would be established.

2.8.9.9 Parameter – Cultural Resource Use Allocations: Rockshelter and Cave Sites

Management Actions

All National Register eligible sites would be allocated and managed for Conservation Use while maintaining existing Public Use sites.

No fee sites would be established.

2.8.9.10 Parameter – Cultural Resource Use Allocations: Prehistoric Complex Sites, Campsites, or Specialized Activity Areas

Management Actions

All National Register eligible sites would be allocated and managed for Scientific and/or Conservation Use.

2.8.9.11 Parameter – Cultural Resource Use Allocations: Toolstone Sources or Quarries

Management Actions

All National Register eligible toolstone sources/quarries would be allocated and managed for Conservation and/or Scientific Use.

2.8.9.12 Parameter – Cultural Resource Use Allocations: Historic Ranching and Livestock Related Historic Sites, Buildings, Standing Structures, and Landscapes

Management Actions

Up to one site per watershed would be allocated and managed for Public Use. All of the National Register eligible sites would be allocated and managed for Conservation Use.

2.8.9.13 Parameter – Cultural Resource Use Allocations: Ethnohistoric Sites, Sacred Sites, Traditional Use Areas, Traditional Cultural Properties

Management Actions

Same as the Proposed RMP.

2.8.9.14 Parameter – Cultural Resource Use Allocations: "Other" Sites

"Other" is defined as those sites not falling into any of the above 12 site types.

Management Actions

- Management common to all cultural resource use allocations:
  - Fire potential would be evaluated and fuels would be removed where there is threat is loss.
  - Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
  - Use of site stewards for monitoring would be encouraged.
- Public use:
  - Due to sensitivity of some of these resources, public use on these sites (excluding the agave roasting pits) may be monitored.
- Priorities for Inventory:
  - Potential threats identified in Cultural Resource Project Plans
  - Existing designated sites

Management Actions

All National Register eligible sites would be allocated and managed for Scientific and/or Conservation Use with public use being monitored. Scientific Use would be permitted if it does not destroy features.

All of the agave roasting pits would be allocated to Scientific, Conservation, and/or Public Use.

2.8.10 Paleontological Resources

The BLM has authority to manage and protect paleontological resources under the Federal Land Policy and Management Act of 1976, NEPA, and various sections of Part 43 of the Code of Federal Regulations.

2.8.10.1 General Paleontological Resource Management

Management Actions

Same as the Proposed RMP.

2.8.10.2 Parameter – Trilobite Collecting

Management Actions

All trilobite locations would be closed to collecting.

2.8.11 Visual Resources

Management Actions

Visual resources would be managed in accordance with the following visual resource management classes (see **Map 2.8.11-1**).

Class I: 1,153,500 acres
Class II: 10,303,100 acres
Class III: 0 acres
Class IV: 0 acres

The entire planning area would be designated as Visual Resource Management Class I or II. Class I would be limited to designated wilderness and wilderness study areas. The remainder of the planning area would be designated as Class II.

2.8.12 Lands and Realty

2.8.12.1 Parameter – Retention

Management Actions

There would be no net loss of public lands in the planning area.

2.8.12.2 Parameter – Disposal (Sales, Exchanges, and Recreation and Public Purposes Act)

Management Actions

A total of 12,393 acres are identified to be available for potential disposal under this alternative: 1,435 acres in Lincoln County; 0 acres in Nye County; and 10,958 acres in White Pine County. This alternative would not be consistent with congressional direction relative to land disposal in Lincoln and White Pine counties.

No net loss of public land would be allowed under this alternative. However, legislative disposals would be implemented as mandated, but administrative disposals would not occur until sufficient "replacement lands" could be acquired to achieve no net loss of public land. Disposals may not be completed unless the same amount of acreage is acquired. No withdrawals would be implemented on subsequent specific disposal actions. Unauthorized use of public lands would be resolved.

See **Maps 2.8.12-1**, **2.8.12-2**, **2.8.12-3**, and **2.8.12-4**.

Criteria for Disposal Under Alternative D

- Disposals may occur when adjacent to communities or private property.
- Disposals may occur when capital investments have been made on public land and the Ely Field Office would benefit by allowing the developments and capital improvements to be changed to private ownership.
- Disposals may occur to facilitate implementation of resource goals and objectives as outlined in the RMP except 15,000 acres for Lincoln County identified by the Lincoln County Conservation, Recreation, and Development Act for open space parks.
- Disposals would occur to implement specific actions outlined in the White Pine County Conservation, Recreation, and Development Act as identified in Management Action LR-13.
- Administrative disposals would not occur until sufficient "replacement lands" could be acquired to achieve no net loss of public land.
- New applications for Carey Act, Desert Land Entries, and Indian Allotments would be processed on a case-by-case basis.

2.8.12.3 Parameter – Acquisitions

Management Actions

Same as the Proposed RMP.

2.8.12.4 Parameter – Withdrawals

Management Actions

The Ely Field Office would recommend for withdrawal 12,390 acres of land identified for potential disposal from mineral entry.

Requests by other federal agencies for new withdrawals, withdrawal relinquishments, or modifications would be considered on a case-by-case basis.

2.8.12.5 Parameter – Corridors

Management Actions

No additional corridors would be designated.

2.8.12.6 Parameter – Communication Sites

Management Actions

The suitability of all existing/pending communication sites would be analyzed.

2.8.12.7 Parameter – Land Use Authorizations (Rights-of-Way, Permits, Leases, Easements, and Unauthorized Use)

Management Actions

There would be no new land use authorizations. No land use authorization avoidance or exclusion areas would be necessary. This alternative would not be consistent with BLM policy and legislation for land use authorizations.

2.8.13 Renewable Energy

2.8.13.1 Parameter – Wind, Solar, and Biomass Energy

Management Actions

Same as the Proposed RMP except no applications would be approved.

2.8.14 Travel Management and Off-highway Vehicle Use

2.8.14.1 Parameter – Transportation Plan

Management Actions

All motorized vehicle travel would be limited to designated roads and trails. Road and trail designations would be limited to mechanically maintained roads. The transportation plan would consist of currently mechanically maintained roads and trails. Unmaintained roads would be rehabilitated to discourage continued motorized use.

2.8.14.2 Parameter – Off-highway Vehicles

Management Actions

Off-highway vehicles would be limited to maintained roads and trails (see **Map 2.8.14-1** for planning area transportation map).

- Open to cross-country off-highway vehicle use: 0 acres.
- Off-highway vehicle use limited to maintained roads and trails: approximately 400,000 acres.
- Closed to off-highway vehicle use: 11,100,000 acres.

2.8.15 Recreation

2.8.15.1 Parameter – Special Recreation Management Areas

Management Actions

No special recreation management areas would be managed and existing developed sites would be eliminated.

2.8.15.2 Parameter – Special Recreation Permits

Management Actions

No outfitter and guide permits for hunting would be issued. No areas would be identified for off-highway vehicle emphasis areas. No motorcycle events would be permitted. No truck events would be permitted.

2.8.16 Livestock Grazing

Management Actions

All livestock grazing would be eliminated within the decision area. Since such action is not consistent with existing regulations and policies, implementation of this alternative would require that the Ely Field Office request exemption from existing regulations and policies pursuant to the Taylor Grazing Act, the Federal Land Policy and Management Act, and other applicable laws.

2.8.17 Forest/Woodland and Other Plant Products

2.8.17.1 General Forest/Woodland and Other Plant Product Management

Management Actions

Same as the Proposed RMP.

2.8.17.2 Parameter – Fuelwood Collection

Management Actions

No fuelwood collection.

2.8.17.3 Parameter – Pinyon Pine Nut Harvesting

Management Actions

Hand collection of pinyon pine nuts for personal use would be allowed. Commercial use would not be allowed within the planning area.

2.8.17.4 Parameter – Christmas Tree Harvesting

Management Actions

No Christmas tree harvesting would be allowed.

2.8.17.5 Parameter – Post and Pole Harvesting

Management Actions

No post and pole harvesting would be allowed.

2.8.17.6 Parameter – Seed Collection

Management Actions

Commercial use would be allowed on a case-by-case basis.

Hand collection methods would be encouraged, and mechanical collection would be allowed on a limited basis.

2.8.17.7 Parameter – Other Vegetation Product (i.e., wildings, boughs, etc.) Collection

Management Actions

Collection would not be allowed.

2.8.17.8 Parameter – Biomass Products

Management Actions

No biomass harvest would be allowed.

2.8.18 Geology and Mineral Extraction

2.8.18.1 General Geology and Mineral Management

Management Actions

Same as the Proposed RMP.

2.8.18.2 Parameter – Fluid Leasable Minerals

As depicted in **Table 2.8-10**, Alternative D would exclude all new discretionary uses of the public lands including mineral leasing. Therefore, under this alternative the entire planning area would be closed to mineral leasing. Except for honoring existing leases, new leases and new exploration would not occur. This alternative would not be consistent with BLM policies, legislation, and the President's Energy Policy.

Table 2.8-10
Summary of Fluid Leasing

Open to Fluid Mineral Leasing	**Acres**[1]
Standard Lease Terms and Conditions	**0**
Minor Restrictions	
Programmatic Surface Use/Timing	0
Standard Surface Use/Timing	0
Major Restrictions	
No Surface Occupancy	0
Open – Total	0
Closed to Fluid Mineral Leasing	
Designated Wilderness/Wilderness Study Areas	1,153,500
Discretionary Closure by the Ely Field Office	10,346,500
Closed – Total	11,500,000
Total	**11,500,000**

[1] Rounded to hundreds.

2.8.18.3 Parameter – Solid Leasable Minerals

Management Actions

Alternative D would exclude all new discretionary uses of the public lands including mineral leasing. Therefore, under this alternative the entire planning area would be closed to solid mineral leasing. Except for honoring existing leases, new leases and new exploration would not occur. Currently there are no active solid mineral leases on the planning area.

See **Table 2.8-11** for a summary of the distribution acres for Alternative D.

Table 2.8-11
Summary of Solid Leasing Acres

	Acres
Solid Leasable Open	0
Solid Leasable Closed	11,500,000
Total	**11,500,000**

2.8.18.4 Parameter – Locatable Minerals

Management Actions

See **Table 2.8-12** for a summary of the distribution of acres for Alternative D.

Table 2.8-12
Summary of Locatable Minerals

	Acres[1]
Locatable Open	5,178,600
Locatable Closed	6,321,400
Total	**11,500,000**
Acres closed outside of designated wilderness/wilderness study areas	5,167,900

[1] Rounded to hundreds.

Map 2.8.18-1 shows the location of areas that would be proposed for withdrawal to locatable minerals for Alternative D.

There would be approximately 5.3 million acres of federal mineral estate open for locatable mineral development, subject to the prevention of unnecessary or undue degradation of public lands, and stringent

reclamation requirements including all native seeds and the elimination of all exotic species and noxious weeds.

There would be approximately 6.2 million acres proposed for withdrawal to locatable mineral entry. All special designated areas and sensitive habitat from all the alternatives would be proposed for withdrawal to locatable entry. The withdrawn areas include approximately 1.2 million acres of designated wilderness and wilderness study areas, approximately 5.1 million acres of greater sage-grouse habitat, and about 200,000 acres of cultural and recreational areas outside of these areas. The withdrawn cultural and recreational areas include all special designation areas from the Proposed RMP and Alternatives A, B, and C and all proposed ACECs from Alternative C.

This alternative would not be consistent with policies and legislation (1872 Mining Law).

Site-specific standard operating procedures for locatable mineral operations under this alternative would be compiled from the complete list of standard operating procedures for Alternative D as well as selections from Alternatives B and C that are shown in Appendix M of the Ely Draft RMP/EIS (July 2005).

2.8.18.5 Parameter – Mineral Materials

Management Actions

As shown in **Table 2.8-13**, Alternative D would exclude all new discretionary uses of the public lands including mineral disposals. Therefore, under this alternative the entire planning area would be closed to mineral material sales and disposals. Except for honoring existing contracts, new mineral disposals would not occur. This alternative may be considered extreme and impossible to implement due to legal constraints and the great demand for gravel.

Table 2.8-13
Summary of Mineral Materials

	Acres
Mineral Materials – Open	0
Mineral Materials – Closed	11,500,000
Total	**11,500,000**
Acres closed outside of designated wilderness/wilderness study areas	10,346,500

2.8.19 Watershed Management

2.8.19.1 Parameter – Allocation of Additional Forage as a Result of Restoration Actions

Management Actions

Prioritization of watershed analyses is the same as described in the Proposed RMP.

After Standards for Rangeland Health have been met at the watershed level, additional forage would be reserved for watershed maintenance and wildlife and allocated to wild horses within herd management area. Outside herd management areas, the forage would be reserved for watershed maintenance and wildlife. No forage would be allocated to livestock.

2.8.20 Fire Management

2.8.20.1 Parameter – Fire Management

Management Actions

A new fire management plan would be developed with emphasis on no suppression of wildland fires except for human-caused and those that threaten life and/or property. Thus, fires resulting from natural ignition sources would be monitored and allowed to burn with minimal suppression activity until they are extinguished by natural events (e.g., precipitation) or by reaching existing barriers (e.g., roads, ridge tops, water bodies, and major changes in vegetation type). Because this alternative involves very limited vegetation treatments to restore resilience to the vegetation communities, prescribed fire would not be used as a major tool for vegetation management.

2.8.21 Noxious and Invasive Weed Management

2.8.21.1 Parameter – Invasive and Nonnative Plant Species Management

Management Actions

Same as the Proposed RMP except sulfonylurea herbicides and other acetolactate synthesis-inhibiting herbicides would not be allowed. Herbicides with documented adverse effects on fish, amphibians, and other aquatic species (e.g., atrazine) would not be allowed.

2.8.22 Special Designations

2.8.22.1 Parameter – Areas of Critical Environmental Concern

Management Actions

Designate no new ACECs and remove ACEC designation from the three existing ACECs.

2.8.22.2 Parameter – Back Country Byways

Management Actions

Same as Alternative A.

2.8.22.3 Parameter – Designated Wilderness

Management Actions

Same as the Proposed RMP.

2.8.22.4 Parameter – Wilderness Study Areas

Management Actions

Same as the Proposed RMP.

2.8.22.5 Parameter – Other Special Designations

Management Actions

All of the 23 special designations would be dropped and none would be withdrawn from disposal.

2.9 Summary of Management by Alternative

Table 2.9-1 presents a summary of the management for each alternative being analyzed in this RMP/EIS. The summary table is first organized by resource program and then subdivided by management goal and management parameters. The management actions that address each parameter are then presented. Various tools and techniques (presented in Appendix G), best management practices (presented in Appendix F), and standard terms and conditions for mineral leasing (Appendix M of the Ely Draft RMP/EIS [July 2005]), and standard operating procedures for lands and realty actions (Appendix N of the Ely Draft RMP/EIS [July 2005]) also are important components of the management of resources by the Ely Field Office. Lastly, the management actions that have been selected by the Ely Field Office to comprise the Proposed RMP also are presented in **Table 2.9-1**.

Table 2.9-1
Summary Comparison of Alternatives

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
PHYSICAL AND BIOLOGICAL RESOURCES				
AIR RESOURCES				
Goal – Meet all applicable local, state, and tribal constraints, and National Ambient Air Quality Standards under the Clean Air Act (as amended), and prevent significant deterioration of air quality (defined as violation of air quality regulations) within the Ely planning area from all direct and authorized actions.				
Develop burn plans and coordinate with the Nevada Division of Environmental Protection and the Department of Defense prior to planning/ implementing prescribed burn treatments. Coordinate with the Nevada Division of Environmental Protection prior to planning prescribed fires and other air quality related actions. Authorize activities with potential adverse effects on Class I or Class II classification of public lands within or adjacent to the planning area on a case-by-case basis.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
WATER RESOURCES				
Goal – The quality of water resource on public lands administered by the Ely Field Office will be suitable for the appropriate beneficial uses and will meet approved federal, state, tribal, and local requirements, guidelines, and objectives. The quantity of water on public lands administered by the Ely Field Office will be suitable to meet public land management purposes. **Northeastern Great Basin Resource Advisory Council Standard. Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.**				
Comply with applicable laws, Resource Advisory Council standards and guidelines, best management practices, and mitigation measures to ensure authorized activities on public lands do not degrade water quality. Cooperate with the Nevada Division of Environmental Protection to reduce non-point source water pollution. Recognize community wellhead protection areas and authorize only activities that do not have potential for degrading groundwater quality. Control or restrict land uses and utilize appropriate treatments to promote desired vegetation conditions.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
SOIL RESOURCES				
Goal – Maintain or improve long-term soil quality. **Northeastern Great Basin Resource Advisory Council Standard. Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and landform.** **Great Basin Resource Advisory Council Standard. Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.**				
Establish desirable plant communities, maintain existing desirable vegetation ground cover composition consistent with the ecological site characteristics, and sustain other ground cover including biotic soil crusts and litter to increase or maintain surface soil stability and nutrient cycling. Prepare sites for reclamation by salvaging and stockpiling topsoil and seeding stock piles left for more than one growing season. Re-contour disturbance areas prior to re-vegetation. Rip all compacted portions and establish an adequate seed bed. Protect soils from high compaction during surface disturbing activities on a case-by-case basis.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
VEGETATION RESOURCES				
Goal – Manage vegetation resources to achieve or maintain resistant and resilient ecological conditions while providing for sustainable multiple uses and options for the future across the landscape. **Northeastern Great Basin Resource Advisory Council Standard. Habitats – Exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes; habitat conditions meet the life cycle requirements of threatened and endangered species.** **Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**				
General Vegetation Management				
Emphasize integrated treatment areas that have the best potential to maintain desired conditions or respond and return to the desired range of conditions and mosaic upon the landscape.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Develop specific management objectives through the watershed analysis process, incorporating direction from activity plans.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Adhere to the Healthy Forests Restoration Act of 2003 (Section 102 (e)) to develop a process to identify and protect old-growth characteristics or their equivalent.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Design management to achieve plant composition within the desired range of conditions for vegetation communities, and emphasize plant and animal community health at the mid scale (watershed level).	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Focus restoration of undesirable conditions initially on those sites that have not crossed vegetation transitional thresholds.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Emphasize the conservation and maintenance of healthy, resilient, and functional vegetation communities before restoration of other sites.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Determine seed mixes on a site-specific basis dependent on the probability of successful establishment. Use native and adapted species that compete with annual invasive species or meet other objectives.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Parameter – Pinyon-juniper Woodland				
Manage pinyon-juniper communities proactively to attain desired vegetation states capable of providing essential wildlife habitat.	Continue case-by-case management to reduce the amount of over-mature woodlands or woodlands near the threshold of mature/over-mature.	Same as the Proposed RMP.	Pinyon-juniper communities would be managed to achieve phases that would provide more products for commercial use.	Natural processes would be allowed to occur within pinyon-juniper woodlands and most discretionary land uses would be eliminated.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Implement actions to achieve the following distribution of states and phases: Herbaceous state (10%); Herbaceous state - immature woodland phase (20%); Tree state - mature woodland phase (65%); Tree state - overmature woodland phase (5%); Altered state (0%).	Implement actions to achieve the following distribution of states and phases: Herbaceous state (10%); Herbaceous state - immature woodland phase (10%); Tree state - mature woodland phase (30%); Tree state - overmature woodland phase (50%); Altered state (0%).	Same as the Proposed RMP.	Implement actions to achieve the following distribution of states and phases: Herbaceous state (40%); Herbaceous state - immature woodland phase (35%); Tree state - mature woodland phase (20%); Tree state - overmature woodland phase (<5%); Altered state (0%).	Passively treat and manage pinyon-juniper communities to achieve the following distribution of states and phases: Herbaceous state (30%); Herbaceous state - immature woodland phase (25%); Tree state - mature woodland phase (15%); Tree state - overmature woodland phase (30%); Altered state (0%).
Parameter – Aspen				
Manage aspen communities to improve resiliency by increasing regeneration and diversifying the age and structure of vegetation classes.	Manage select aspen communities to increase regeneration of aspen trees and understory species.	Same as the Proposed RMP.	Manage to achieve phases that support commodity production.	Natural processes would be allowed to occur and management primarily would be passive. Most discretionary land uses would be eliminated.
Implement actions to achieve the following distribution of states and phases: Herbaceous state - herbaceous, herbaceous-shrub, and sapling (14%); Herbaceous state - immature woodland phase (40%); Tree state - mature woodland phase (45%); Tree state - overmature woodland phase (<1%).	Implement actions to achieve the following distribution of states and phases: Herbaceous state - herbaceous, herbaceous-shrub, and sapling (10%); Herbaceous state - immature woodland phase (10%); Tree state - mature woodland phase (35%); Tree state - overmature woodland phase (45%).	Same as the Proposed RMP.	Implement actions to achieve the following distribution of states and phases: Herbaceous state - herbaceous, herbaceous-shrub, and sapling (15%); Herbaceous state - immature woodland phase (55%); Tree state - mature woodland phase (30%); Tree state - overmature woodland phase (<1%).	Passively treat and manage aspen communities to achieve the following distribution of states and phases: Herbaceous state - herbaceous, herbaceous-shrub, and sapling (5%); Herbaceous state - immature woodland phase (10%); Tree state - mature woodland phase (40%); Tree state - overmature woodland phase (45%).
Parameter – High Elevation Conifer Species (White Fir, Ponderosa Pine, Limber Pine, Bristlecone Pine, Engelmann Spruce, etc.)				
Focus management actions on preventative rather than remedial treatments before sites cross thresholds to undesirable phases.	Management actions would focus on the introduction of fire through the management of wildland fire or prescribed fire.	Same as the Proposed RMP.	Accessible sites would be managed for commodity products.	Passive management would allow natural processes to occur.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Implement actions to achieve the following distribution of states and phases: Herbaceous state – herbaceous, herbaceous/sapling phase (20%); Herbaceous state – immature phase (20%); Tree state – mature phase (50%); Tree state – overmature phase (10%).	Implement actions to achieve the following distribution of states and phases: Herbaceous state – herbaceous, herbaceous/sapling phase (5%); Herbaceous state – immature phase (5%); Tree state – mature phase (50%); Tree state – overmature phase (40%).	Same as the Proposed RMP.	Implement actions to achieve the following distribution of states and phases: Herbaceous state – herbaceous, herbaceous/sapling phase (45%); Herbaceous state – immature phase (35%); Tree state – mature phase (20%); Tree state – overmature phase (<1%).	Passively treat and manage high elevation conifer communities to achieve the following distribution of states and phases: Herbaceous state – herbaceous, herbaceous/sapling phase (25%); Herbaceous state – immature phase (25%); Tree state – mature phase (15%); Tree state – overmature phase (35%).
Ponderosa Pine only: Herbaceous state – herbaceous and herbaceous/sapling phase (10%); Tree state – saplings and survivors (20%) Tree state – mature phase (60%) Tree state – overmature phase (10%).	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Parameter – Salt Desert Shrub (Shadscale, Winterfat, Four-Wing Salt Bush, etc.)				
Manage to achieve plant composition within the desired range of conditions to increase or decrease shrubs and perennial herbaceous composition and restore areas invaded by exotic species.	Treat and restore select habitat sites that have been invaded by exotic species at the watershed level.	Same as the Proposed RMP.	Manage to increase forage production for commodity use and maintain diverse mosaics and connectivity between geographic areas to provide required habitat for game species, especially special status and threatened and endangered species.	Passively manage existing native salt desert shrub communities and actively treat invasions of exotic species.
Implement actions to achieve the following distribution of states and phases: Herbaceous state (5%); Shrub state (77%); Altered state – annual invasive/exotic state (0%); Altered state – perennial nonnative seeded (18%).	Manage salt desert shrub communities to achieve the following distribution of states and phases: Herbaceous state (18%); Shrub state (64%); Altered state – annual invasive/exotic state (0%); Altered state – perennial nonnative seeded (18%).	Same as the Proposed RMP.	Implement actions to achieve the following distribution of states and phases: Herbaceous state (32%); Shrub state (50%); Altered state – annual invasive/exotic state (0%); Altered state – perennial nonnative seeded (18%).	Same as Alternative A.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)				
Manage to achieve plant composition within the desired range of conditions to increase or decrease sagebrush overstory for specific habitat objectives.	Treat areas where pinyon-juniper is encroaching into sagebrush sites. Maintain plant communities in the herbaceous and shrub states. Increase the use of fire and increase seeding following fire.	Same as the Proposed RMP.	Manage to achieve high productivity of commodity values while maintaining and enhancing ecological health and resilience.	Allow sagebrush communities to function as naturally as possible with minimal influence from management or resource uses. Return sagebrush areas that have been seeded with nonnative species to native species.
Implement actions to achieve the following distribution of states and phases: Herbaceous state (85%); Shrub state (5%); Tree state (5%); Altered state – annual/perennial invasive (0%); Altered state – nonnative perennial seeded (5%).	Implement actions to achieve the following distribution of states and phases: Herbaceous state (35%); Shrub state (55%); Tree state (2%); Altered state – annual/perennial invasive (0%); Altered state – nonnative perennial seeded (8%).	Same as the Proposed RMP.	Implement actions to achieve the following distribution of states and phases: Herbaceous state (45%); Shrub state (5%); Tree state (0%); Altered state – annual/perennial invasive (0%); Altered state – nonnative perennial seeded (50%).	Emphasize passive treatments and manage sagebrush communities to achieve the following distribution of states and phases: Herbaceous state (17%); Shrub state (40%); Tree state (43%); Altered state – annual/perennial invasive (0%); Altered state – nonnative perennial seeded (0%).
Parameter – Mountain Mahogany				
Manage proactively to maintain or enhance diversity, mosaics, and connectivity of the surrounding sagebrush communities and satisfy wildlife habitat requirements.	Manage in the same way as the associated or surrounding sagebrush communities.	Same as the Proposed RMP.	Manage to achieve the phases with the greatest potential for commodity production. Emphasize wildlife habitat needs in designated critical habitat areas only.	Allow natural processes to occur. Limit land uses and treat areas where invasive and nonnative species are present.
Implement actions to achieve the following distribution of states and phases: Herbaceous state – herbaceous phase (20%); Shrub state – shrub/herbaceous phase (20%); Shrub state – shrub phase (15%); Shrub/tree-like state – no understory phase (45%).	Implement actions to achieve the following distribution of states and phases: Herbaceous state – herbaceous phase (10%); Shrub state – shrub/herbaceous phase (10%); Shrub state – shrub phase (40%); Shrub/tree-like state – no understory phase (40%).	Same as the Proposed RMP	Implement actions to achieve the following distribution of states and phases: Herbaceous state – herbaceous phase (65%); Shrub state – shrub/herbaceous phase (20%); Shrub state – shrub phase (15%); Shrub/tree-like state – no understory phase (<1%).	Passively treat and manage mountain mahogany communities to achieve the following distribution of states and phases: Herbaceous state – herbaceous phase (40%); Shrub state – shrub/herbaceous phase (20%); Shrub state – shrub phase (10%); Shrub/tree-like state – no understory phase (30%).

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Mojave Desert Vegetation				
Implement actions to achieve the following distribution of states and phases: Herbaceous state (15%); Shrub state (70%); Altered state – annual invasive and exotics (0%); Perennial nonnative seeded state (15%).	Manage creosotebush/bursage communities to achieve the following distribution of states and phases: Herbaceous state (42%); Shrub state (43%); Altered state – annual invasive and exotics (0%); Perennial nonnative seeded state (15%).	Same as Alternative A except livestock grazing would be eliminated on the remainder of the Mojave Desert.	Same as the Proposed RMP.	Emphasize passive treatments and manage creosotebush/bursage communities to achieve the following distribution of states and phases: Herbaceous state (42%); Shrub state (43%); Altered state – annual invasive and exotics (0%); Perennial nonnative seeded state (15%).
Implement actions to achieve the following distribution of states and phases: Herbaceous state (15%); Shrub state (75%); Altered state – annual invasive and exotics (0%); Perennial nonnative seeded state (10%).	Manage blackbrush communities to achieve the following distribution of states and phases: Herbaceous state (60%); Shrub state (30%); Altered state – annual invasive and exotics (0%); Perennial nonnative seeded state (10%).	Treat with herbicides and minimal prescribed burning.	Same as the Proposed RMP.	Emphasize passive treatments and manage blackbrush communities to achieve the following distribution of states and phases: Herbaceous state (60%); Shrub state (30%); Altered state – annual invasive and exotics (0%); Perennial nonnative seeded state (10%).
Parameter – Riparian/Wetlands				
Manage and protect vegetation so that stable water flow and bank stability are maintained. Focus management actions on activities that protect, maintain, and restore riparian habitat.	Manage uses to achieve or make progress toward proper functioning condition.	Same as the Proposed RMP.	Maintain or restore plant community structure and composition of desired species of grasses, sedges, forbs, and shrubs on riparian habitats where possible and as appropriate to site potential while providing for commodity production.	Manage riparian areas and allow natural processes to occur as nearly as possible. Treat riparian areas that have invasive or exotic species.
Parameter – Nonnative Seedings				
Manage nonnative seedings to achieve the desired range of conditions. Actively treat approximately 30% of the total area with excessive tree, shrub, and invasive species composition and maintain the remainder (70%) in the existing desired state.	Maintain or improve the composition of understory species for multiple use objectives. Prescribed fire is the preferred treatment method.	Same as the Proposed RMP.	Allow the majority of the area to remain in the herbaceous and shrub states.	Restore nonnative seedings to the original native plant community.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Implement actions to achieve the following distribution of states and phases: Herbaceous state (65%); Shrub state (25%); Tree state (10%); Altered state – annual invasive (0%).	Implement actions to achieve the following distribution of states and phases: Herbaceous state (25%); Shrub state (66%); Tree state (9%); Altered state – annual invasive (0%).	Same as the Proposed RMP.	Implement actions to achieve the following distribution of states and phases: Herbaceous state (85%); Shrub state (15%); Tree state (0%); Altered state – annual invasive (0%).	Proactively treat and manage nonnative seedings to achieve the following distribution of states and phases: Herbaceous state (25%); Shrub state (55%); Tree state (20%); Altered state – annual invasive (0%).
FISH AND WILDLIFE				
Goal – Provide habitat for wildlife (i.e., forage, water, cover, and space) and fisheries that is of sufficient quality and quantity to support productive and diverse wildlife and fish populations, in a manner consistent with the principles of multi-use management, and to sustain the ecological, economic, and social values necessary for all species. **Northeastern Great Basin Resource Advisory Council Standard. Habitats exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** **Mojave/Southern Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**				
Parameter – General Wildlife Habitat Management (Aquatic and Terrestrial)				
Management actions will emphasize habitats for priority species, and conservation and maintenance of healthy, resilient, and functional vegetation communities before restoration of other sites. Release wildlife within the planning area in conformance with the memorandum of understanding between the BLM and Nevada Department of Wildlife. Consider U.S. Fish and Wildlife conservation plan objectives when managing habitat adjacent to a national wildlife refuge. Mitigate loss of priority habitats with restoration of 2 acres of comparable habitat for every 1 acre of lost habitat; determined on a project-by-project basis.	Same as the Proposed RMP except priority wildlife species and habitat would not be designated and the 2:1 acreage mitigation goal would not be a management action. Streams in the historic Schell Resource Area would be retained in public ownership pending environmental assessments. Habitat management would be prepared for selected streams and riparian use restrictions would be implemented on a case-by-case basis.	Same as the Proposed RMP.	Perform wildlife habitat management for game species that offer the greatest recreational opportunities and economic stimulus to local economies.	Emphasize a passive and indirect management approach to wildlife habitat management restoration for both game and nongame species through the exclusion of discretionary uses of public lands. Active management would occur only when state water quality criteria are not being met.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitat				
In coordination with the Nevada Department of Wildlife update priority habitats, restricting activities where appropriate from April 15 through June 30 in crucial summer range and from November 1 through March 31 in crucial winter range habitat. Prioritize and initially focus restoration activities on priority habitats. Manage elk habitat by implementing appropriate actions from county elk management plans. Manage Rocky Mountain bighorn sheep habitat in the Snake Range and in unoccupied ranges when domestic sheep grazing no longer occurs.	Habitat management plans would be prepared and implemented to support reasonable numbers of big game species. Timing limits would be implemented as appropriate. County elk plans would direct elk habitat management. Rocky Mountain bighorn sheep habitat would be managed in all occupied ranges. The needs of nongame species would not be factored heavily into habitat management actions.	Same as the Proposed RMP except additional forage would be reserved for watershed maintenance and wildlife. Rocky Mountain bighorn sheep would be managed in all historic range and domestic livestock grazing would be eliminated in all Rocky Mountain bighorn sheep ranges.	Same as the Proposed RMP except no timing limits in priority habitat and restoration focus would not be on priority/seasonal habitats. The early phase of the herbaceous state would be emphasized and additional forage would be allocated to livestock, wildlife, and wild horses. Rocky Mountain bighorn sheep would be managed in all occupied ranges. Big game species habitats would be managed to support increased game species numbers, densities, and distributions. The needs of nongame species would minimally be factored into habitat management actions. Elk habitats would be managed to create a predominantly early phase of the herbaceous state. Mule deer and antelope habitats would be actively managed where no direct conflicts with livestock or commodity oriented objectives occur. No management emphasis would be developed or implemented to prioritize efforts toward any seasonal big game habitats.	Big game species habitats would not be actively managed to increase distribution or density beyond what natural habitats and water sources would support. Conservation actions for all wildlife habitats primarily would emphasize the exclusion of permitted uses of public lands. Habitat restoration would be emphasized secondarily where human-induced alterations have modified the natural environment.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Desert Bighorn Sheep Habitat				
Manage desert bighorn sheep habitat in all occupied ranges. When changes to BLM grazing permits are being considered in other portions of historic ranges, manage domestic sheep and goats in accordance with current BLM policies. Where appropriate, restrict permitted activities within occupied habitat from March 1 through May 31 and from July 1 through August 31. Consider managing habitat in unoccupied ranged if/when domestic sheep grazing no longer occurs.	Habitat management plans would be prepared and implemented to support reasonable numbers of desert bighorn sheep. When changes to BLM grazing permits are being considered, domestic sheep and goats would be managed in accordance with current BLM policies for management of domestic sheep and goats in bighorn sheep habitat.	Same as the Proposed RMP except desert bighorn sheep habitat would be managed in all historic ranges. Domestic livestock (sheep and cattle) grazing would be eliminated in all desert bighorn sheep ranges and migration routes.	Same as the Proposed RMP.	Conservation actions for desert bighorn sheep habitat would emphasize the exclusion of discretionary use of public lands. Management would primarily be passive.
Parameter – Migratory Bird Habitat (including sagebrush-obligate species)				
Identify habitat needs for species of concern so that actions can be directed to achieve desired supporting vegetation conditions. Consult BLM Nevada Migratory Bird Best Management Practices for the Sagebrush Biome and conduct breeding bird surveys in conjunction with consulting agencies to document population status and trends. Limit the take of migratory birds through implementation of BLM policies for the conservation of migratory birds.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Conservation actions for migratory bird habitat would emphasize the exclusion of discretionary uses of public lands. Management actions would be primarily passive.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Wildlife Water Developments				
Increase water availability through restoration of natural water sources and proper livestock and wild horse management. Identify areas where water is limited and suitable habitat exists in consultation with the Nevada Department of Wildlife and the public; use specified criteria to identify artificial wildlife water developments in these areas.	Same as the Proposed RMP except wildlife water developments would be evaluated based on Nevada Department of Wildlife water development criteria.	Water availability would be increased through riparian area restoration and proper management of livestock and wild horses. No emphasis to artificial water developments would occur to increase wildlife species distribution or density beyond what natural water source availability and location could support. Water developments would be used primarily to mitigate multiple-use impacts to wildlife species from loss of habitat or reduction of natural waters source availability. Water developments would be evaluated based on BLM water development criteria.	Same as the Proposed RMP except artificial water developments would be maximized to expand suitable habitats and increase the distribution and density of economically significant wildlife populations to provide increased recreational opportunities. Artificial water developments would be maximized.	Removal of permitted uses from public lands would be the primary emphasis to provide reliable sources of water to wildlife. No emphasis to artificial water developments would occur to increase wildlife species distribution or density beyond what natural water source availability and location could support. Artificial water developments would be used primarily to mitigate multiple-use impacts to wildlife species from loss of habitat or reduction of natural waters source availability.
SPECIAL STATUS SPECIES				
Goal – Manage public lands to conserve, maintain, and restore special status species populations and their habitats; support the recovery of federally listed threatened and endangered species; and preclude the need to list additional species.				
Northeastern Great Basin Resource Advisory Council Standard. Habitats exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species. Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.				
Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species. Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession to provide forage and cover, capture sediment and capture, retain, and safely release water (watershed function).				

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Special Status Species Habitat				
Prioritize conservation, maintenance, and restoration needs based on order of species importance. Develop and implement interagency recovery implementation teams to develop management actions for the recovery of listed species. Implement an inventory and monitoring program. Do not conduct noxious and invasive weed control within 0.5 mile of nesting and brood areas during the corresponding seasons, and where appropriate, restrict permitted activities from May 1 through July 15. Manage Bonneville cutthroat trout habitat using strategies identified in the BLM conservation agreement and strategy.	Same as the Proposed RMP except ferruginous hawks and several BLM sensitive species would be protected by mineral lease restrictions. Special status species habitat management would address an immediate need or habitat niche for the maintenance, mitigation, and restoration of a single special status species.	Same as the Proposed RMP.	Same as the Proposed RMP except only ferruginous hawks would be protected by mineral lease restrictions.	Special status species habitat management would emphasize a passive and indirect management approach through the exclusion of discretionary uses of public lands.
Manage bat habitat by actions identified in the Revised Nevada Bat Conservation Plan. Important roosting and foraging habitats for bats will be identified outside of the watershed analysis process and proactive measures will be implemented to conserve, protect, and restore these habitats. Consider the needs of obligate bat species in vegetation restoration. Perform springsnail surveys prior to spring source development. Mitigate loss of priority habitats with restoration of 2 acres of comparable habitat for every 1 acre of lost habitat; determined on a project-by-project basis.	Bat habitat would be managed by actions identified in the Ely Cave Management Plan on a case-by-case basis.	Same as the Proposed RMP.	Same as the Proposed RMP, except restoration actions for bat habitat would be emphasized only in areas were no conflicts with commodity objectives occur.	Same as Alternative A.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Great Basin Riparian Habitats Special Status Species Included in RMP U.S. Fish and Wildlife Service Section 7 Consultation Pahrump poolfish White River spinedace Railroad Valley springfish Big Spring spinedace Ute ladies'-tresses orchid				
Expand the fenced area around Shoshone Pond to exclude both human and livestock access. Manage the uplands to protect the aquatic environments from excessive upland siltation and run-off. Manage public lands adjacent to designated critical habitat for White River spinedace, Railroad Valley springfish, and Big Spring spinedace in accordance with applicable recovery plans. Manage public lands adjacent to designated critical habitat for the White River spinedace and designated critical habitat for the Railroad Valley springfish on public lands adjacent to the Duckwater Indian Reservation in accordance with the White River Spinedace Recovery Plan and the Railroad Valley Springfish Recovery Plan.	Same as the Proposed RMP except Railroad Valley springfish within the Egan Resource Area would receive protection from mineral lease restrictions.	Same as the Proposed RMP.	Same as the Proposed RMP except the current fence around Shoshone Ponds would be maintained, not expanded, and no upland management would occur. Condor Canyon would be managed as a multiple-use area.	The Shoshone Pond fence would be re-built to the original footprint and designed solely to restrict human access into the area.
BLM will survey and monitor federal lands for Ute ladies'-tresses, based on the availability and assistance of the U.S. Fish and Wildlife Service and U.S. Fish and Wildlife identification of potential areas and habitats for the species. Conservation and recovery actions will be implemented on any discovered occurrences.	Ute ladies'-tresses would be managed only if the species is documented in the planning area through some other activity.	Same as the Proposed RMP.	Ute ladies'-tresses would be managed only if the species is documented in the planning area through some other activity.	Same as Alternative B.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Mojave Desert and Great Basin Riparian Habitats Special Status Species Included in RMP U.S. Fish and Wildlife Service Section 7 Consultation Southwestern willow flycatcher Western yellow-billed cuckoo Meadow Valley Wash desert sucker Meadow Valley Wash speckled dace Arizona southwestern toad				
Implement actions and strategies identified in the Southwestern Willow Flycatcher Recovery Plan and limit livestock grazing in the Lower Meadow Valley Wash ACEC in accordance with the site-specific ACEC plan.	Same as the Proposed RMP except livestock grazing would not be limited.	Same as the Proposed RMP except livestock grazing would be excluded from the Lower Meadow Valley Wash ACEC.	Same as the Proposed RMP.	The Lower Meadow Valley Wash ACEC would not be designated. Management would emphasize the exclusion of discretionary uses of public lands and restoration of natural hydrology.
Parameter – Mojave Desert Riparian Habitats (see Section 2.4.7.4) Special Status Species Included in RMP U.S. Fish and Wildlife Service Section 7 Consultation White River springfish Hiko White River springfish Pahranagat roundtail chub				
Manage and continue to implement mitigation and monitoring of White River springfish habitat at Ash Springs following strategies identified in the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley and the Ash Springs Coordinated Management Plan, as well as U.S. Fish and Wildlife Service informal consultation. Public lands adjacent to designated critical habitat will be managed in accordance with the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Mojave Desert Scrub Habitats Special Status Species Included in RMP U.S. Fish and Wildlife Service Section 7 Consultation Desert tortoise Banded Gila monster				
Manage habitat for the protection of desert tortoise in accordance with the Desert Tortoise Recovery Plan. Coordinate population inventories and monitoring with the U.S. Fish and Wildlife Service and the Nevada Department of Wildlife. Control predator populations and install tortoise-proof fencing and crossing culverts at critical locations. Restrict permitted activities, where appropriate, from March 1 through October 31. Implement appropriate fencing and on-site monitoring and management by qualified personnel as necessary within desert tortoise ACECs.	Same as the Proposed RMP except the active season for desert tortoise would be from March 15 to October 15.	Same as the Proposed RMP.	Same as the Proposed RMP except the active season for desert tortoise would be from March 15 to October 15.	Natural processes would be allowed to function and dictate the mosaics of special status species habitats within the Mojave Desert and other habitats managed by the Ely Field Office.
Parameter – Mojave Desert and Great Basin Desert Scrub and Salt Desert Shrub Habitats Special Status Species Included in RMP U.S. Fish and Wildlife Service Section 7 Consultation Western burrowing owl Sunnyside green gentian				
Conduct systematic breeding surveys (in cooperation with the Nevada Department of Wildlife and other appropriate agencies). Use data gathered in the surveys will be used in the watershed analysis process to determine management direction for western burrowing owl breeding locations and potential habitats. Inventory and monitor Sunnyside green gentian populations in White River Valley.	Western burrowing owl habitat and Sunnyside green gentian would be managed as issues arise on a case-by-case basis.	Same as the Proposed RMP.	Same as Alternative A.	Western burrowing owl habitats would be primarily managed passively, through the exclusion of discretionary uses of public lands.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Great Basin Sagebrush Habitat Special Status Species Included in RMP U.S. Fish and Wildlife Service Section 7 Consultation Greater sage-grouse Pygmy rabbit				
Take a balanced, multiple species approach to greater sage-grouse habitat management using greater sage-grouse habitat needs as a model for management in sagebrush communities. Consider sagebrush obligate BLM sensitive species in site-specific analysis.	Same as the Proposed RMP except habitat maintenance would adhere to the BLM National Sage Grouse Conservation strategy.	Same as the Proposed RMP.	Same as the Proposed RMP except that sagebrush habitat restoration would be emphasized in areas that have the greatest potential to provide additional livestock forage, while stabilizing greater sage-grouse populations.	No BLM Sensitive Species goals would be of a higher profile or prioritized over other BLM sensitive species goals.
Until more specific mid-scale greater sage-grouse habitat assessments or watershed analyses are performed, initiate greater sage-grouse habitat management actions through confirmation and revision of the priority projects identified in local greater sage-grouse conservation plans. Guidance provided in the BLM National Sage Grouse Habitat Conservation Strategy, will guide habitat management revisions to the local plans. Outside of designated corridors, do not construct above-ground or underground facilities or new roads within 0.25 mile of sage grouse leks without an exception from the BLM authorized officer.	Sagebrush habitat restoration would concentrate on those encroached by pinyon or juniper.	Same as the Proposed RMP.	Greater sage-grouse leks would not receive protection from a no surface occupancy stipulation on mineral leases; only from timing limitations.	Passive management would be emphasized over active management through the exclusion of all permitted commodity uses of public lands.
Normally complete a coordinated and systematic large-scale approach to assess greater sage-grouse habitat conditions throughout the planning area in sagebrush communities in conjunction with the watershed analysis process – some of these assessments could be performed outside of the watershed analysis processes. Implement management actions for greater sage-grouse through the actions identified in mid-scale habitat assessments and watershed analysis.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP, except the habitat assessment protocol would focus solely on performing inventories and identifying areas where direct human-induced alterations to the natural environment have altered the vegetation state.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Maintain intact and quality sagebrush habitat. Prioritize habitat maintenance actions from the BLM National Sage Grouse Conservation Strategy to: 1) Maintain large areas of high quality sagebrush that currently are occupied by greater sage-grouse; 2) Maintain habitats that connect seasonal sagebrush habitats in occupied source habitats; and 3) Maintain habitats that connect seasonal sagebrush habitats in occupied isolated habitats.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Habitat maintenance would be limited to sagebrush habitats with adequate perennial understory or those habitats that are near the limits of the desired range of conditions. Greater sage-grouse habitat maintenance would primarily be managed passively and indirectly through the exclusion of permitted commodity uses of all public lands.
Manage allowable uses to maintain quality greater sage-grouse habitats through implementation of best management practices.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	No allowable use restrictions would be needed to maintain greater sage-grouse habitats. Greater sage-grouse habitat would be primarily managed passively and indirectly through the exclusion of permitted commodity uses of all public lands.
Implement a proactive and large scale management approach to restore lost, degraded, or fragmented sagebrush habitats and increase the range of conditions of greater sage-grouse habitat to increase greater sage-grouse populations. Prioritize habitat restoration actions from the BLM National Sage Grouse Conservation Strategy to: 1) Reconnect large patches of high quality seasonal habitats, which greater sage-grouse currently occupy; 2) Enlarge sagebrush habitat in areas greater sage-grouse currently occupy; 3) Reconnect stronghold/source habitats currently occupied by greater sage-grouse with isolated habitats currently occupied by greater sage-grouse; 4) Re-connect currently occupied and isolated habitats; 5) Restore potential sagebrush habitats that currently are not occupied by greater sage-grouse.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Restoration of sagebrush habitats would be on a very small scale and would be prioritized in areas high in nonnative or invasive species and areas burned by wildland fire.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Develop allowable use restrictions in greater sage-grouse habitats undergoing restoration, on a case-by-case basis, as dictated by monitoring.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	No allowable use restrictions would be needed. Greater sage-grouse habitat would primarily be managed passively and indirectly through the exclusion of permitted commodity uses of all public lands.
WILD HORSES				
Goal – Maintain and manage healthy, self-sustaining wild horse herds inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple use relationship with other uses and resources. **Northeastern Great Basin Resource Advisory Council Standard. Healthy wild horse and burro populations exhibit characteristics of healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long-term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.** **Mojave/Southern Great Basin Resource Advisory Council Standard. Wild horses and burros within herd management areas should be managed for herd viability and sustainability. Herd management areas should be managed to maintain a healthy ecological balance among wild horse and/or burro populations, wildlife, livestock, and vegetation.**				
Parameter – General Wild Horse Management				
Coordinate wild horse management with other federal and state jurisdictions and resource management areas. Prohibit domestic horse grazing within wild horse herd management areas. Prohibit construction of new permanent fences that prevent wild horses from roaming within herd management areas and remove existing fences that restrict movement within herd management areas.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as Proposed RMP.
Parameter – Herd Management Area Establishment				
Manage wild horses within 6 herd management areas covering approximately 3.7 million acres. Remove herd management area status for areas that do not provide sufficient habitat resources to sustain healthy populations.	Manage wild horses within 24 herd management areas covering approximately 5.4 million acres.	Same as the Proposed RMP except parcels around Pioche that are identified for community development under the Proposed RMP would be retained in herd management area status.	Same as the Proposed RMP.	Same as Alternative A except no population limits would be established within herd management areas.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Population Management				
Manage populations within ranges of appropriate management levels based on available habitat and projected recruitment rates in conjunction with the watershed analysis process. Gather wild horses as necessary to prevent reentry and herd establishment in desert tortoise habitat.	Manage populations within existing appropriate management levels or ranges. Gather when necessary to approximately 40 percent below appropriate management level number to allow population growth before the next gather cycle.	Same as the Proposed RMP.	Same as the Proposed RMP.	Do not limit or manage populations within herd management areas. Remove wild horses outside the herd management areas from public lands.
CULTURAL RESOURCES				
Goal – Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (Federal Land Policy and Management Act, Sections 103(c), 201(a) and (c); National Historic Preservation Act, Section 110(a); Archaeological Resources Protection Act, Section 14(a)). Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (Federal Land Policy and Management Act, Section 103(c), National Historic Preservation Act, Section 106, 110(a)(2)) by ensuring that all authorizations for land use and resource use will comply with the National Historic Preservation Act, Section 106.				
Northeastern Great Basin Resource Advisory Council Standard. Land use plan will recognize cultural resources within the context of multiple use.				
Parameter – General Cultural Resources Management				
Prioritize inventories to identify sites eligible to the National Register. Allocate and manage cultural resources, recorded or not, for Scientific, Conservation, and Public Use.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Parameter – Cultural Resource Use Allocation – Historic Roads, Trails, Railways, Highways, and Associated Sidings and Stations				
Allocate and manage all of the National Register eligible resources for Scientific, Conservation, and Public Use. Establish fee sites at Public Use sites as appropriate.	Manage for future Cultural Resource Use Allocations. No fee sites would be established.	Same as the Proposed RMP.	Same as the Proposed RMP except that fee sites would be established for all properties allocated and managed for Public Use.	Same as Alternative B except allocate and manage all of the National Register eligible resources for Conservation Use.
Parameter – Cultural Resource Use Allocation – Rock Art Sites				
Allocate and manage all of the National Register eligible rock art sites for Scientific, Conservation, and Public Use. Fee sites will be established at Public Use rock art sites as appropriate. Native Americans are exempt from fees only when visiting rock art sites for religious practices.	Manage for future Cultural Resource Use Allocations. No established fee sites.	Same as the Proposed RMP except no fee sites would be established.	Allocate and manage all of the National Register eligible rock art sites for Conservation Use. Establish National Register eligible rock art sites managed for Public Use as fee sites. Native Americans would be exempt from fees only when visiting rock art sites for religious practices.	Allocate and manage all of the National Register eligible rock art sites with evidence of existing public use to Public Use. No fee sites would be established.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Cultural Resource Use Allocation – Historic Townsites, Historic Mining Camps, Historic Mining Districts, and related Historic Buildings and Historic Standing Structures, and Historic Racetracks				
Allocate and manage all of the National Register eligible sites with evidence of unauthorized excavation, for Conservation and/or Scientific Use in order to perform data recovery where future protection is not feasible.	Manage for future Cultural Resource Use Allocations.	Same as the Proposed RMP.	Allocate and manage all of the National Register eligible sites with standing structures or evidence of vandalism to Public Use. Allocate and manage all other National Register eligible sites for Scientific and/or Conservation Use.	Allocate and manage all of the National Register eligible sites for Conservation Use.
Allocate and manage all of the National Register eligible sites with standing structures for Conservation and/or Public Use. Fee sites will be established at Public Use sites as appropriate.	No established fee sites.	Allocate and manage all of the National Register eligible sites with standing structures for Conservation Use. No fee sites would be established.	Fee sites would be established at Public Use sites as appropriate.	No fee sites would be established.
Parameter – Cultural Resource Use Allocation – Historic Cemeteries and Isolated Historic Gravesites				
Allocate and manage all of the sites for Conservation and/or Public Use. Fee sites will be established at Public Use sites as appropriate.	Manage for future Cultural Resource Use Allocations. No established fee sites.	Allocate and manage all of the sites for Conservation Use. No fee sites would be established.	Allocate and manage all of the sites for Public Use. Fee sites would be established at Public Use sites as appropriate.	Same as Alternative B.
Parameter – Cultural Resource Use Allocation – Ethnic Arboreal Narratives and Graphics and Bow Stave Trees				
Allocate and manage all of the National Register eligible sites for Scientific Use while promoting public access.	Manage for future Cultural Resource Use Allocations.	Same as the Proposed RMP.	Same as the Proposed RMP.	Allocate and manage all of the National Register eligible sites for Conservation Use.
Parameter – Cultural Resource Use Allocation – Paleoindian Sites				
Allocate and manage all of the National Register eligible sites for Scientific and/or Conservation Use.	Manage for future Cultural Resource Use Allocations.	Same as the Proposed RMP.	Same as the Proposed RMP.	Allocate and manage all of the National Register eligible sites for Conservation Use.
Parameter – Cultural Resource Use Allocation – Formative Puebloan Sites				
Allocate and manage all of the National Register eligible sites for Conservation, Scientific, and Public Use. Fee sites will be established at Public Use sites as appropriate.	Manage for future Cultural Resource Use Allocations. No established fee sites.	Same as the Proposed RMP.	Allocate and manage all of the National Register eligible sites for Scientific, Conservation, and Public Use. Fee sites would be established at Public Use sites as appropriate.	Same as the Proposed RMP except no fee sites would be established.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Cultural Resource Use Allocation – Rockshelter and Cave Sites				
Allocate and manage all of the National Register eligible sites for Conservation, Scientific, and Public Use. Fee sites will be established at Public Use sites as appropriate.	Manage for future Cultural Resource Use Allocations. No established fee sites.	Same as the Proposed RMP except no fee sites would be established.	Allocate and manage all of the National Register eligible sites to Conservation, Scientific, and Public Use. No more than one fee site per watershed would be established for sites managed for Public Use.	Allocate and manage all of the National Register eligible sites for Conservation Use while maintaining existing Public Use sites. No fee sites would be established.
Parameter – Cultural Resource Use Allocation – Prehistoric Complex Sites, Campsites, or Specialized Activity Areas				
Allocate and manage 90% of the National Register eligible sites for Scientific and Conservation Use.	Manage for future Cultural Resource Use Allocations.	Same as the Proposed RMP.	Allocate and manage 70% of the National Register eligible sites for Scientific and Conservation Use.	Allocate and manage all of the National Register eligible sites for Scientific and Conservation Use.
Allocate and manage up to 10% of the National Register eligible sites per watershed for Experimental Use.			Allocate and manage up to 30% of the National Register eligible sites per watershed for Experimental Use.	
Parameter – Cultural Resource Use Allocation – Toolstone Sources or Quarries				
Allocate and manage all of the National Register eligible obsidian toolstone sources/quarries for Scientific and Conservation Use.	Manage for future Cultural Resource Use Allocations.	Same as the Proposed RMP.	Allocate and manage all of the National Register eligible obsidian toolstone sources/quarries for Scientific and Conservation Use.	Allocate and manage all of the National Register eligible toolstone sources/quarries for Scientific and Conservation Use.
Allocate and manage 90% of all other National Register eligible material sources/quarries for Scientific and Conservation Use. Allocate and manage up to 10% of all other National Register eligible material sources/quarries for Experimental Use.			Allocate and manage 70% of all other National Register eligible material sources/quarries for Scientific and Conservation Use. Allocate and manage up to 30% of all other National Register eligible material sources/quarries for Experimental Use.	
Parameter – Cultural Resource Use Allocation – Historic Ranching and Livestock-related Historic Sites, Buildings, Standing Structures, and Landscapes				
Allocate and manage all of the National Register eligible sites for Scientific and Public Use. Manage and allocate sites for Public Use on a watershed basis.	Manage for future Cultural Resource Use Allocations.	Same as the Proposed RMP.	Same as the Proposed RMP.	Up to one site per watershed would be allocated and managed for Public Use. Allocate and manage all of the National Register eligible sites for Conservation Use.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Cultural Resource Use Allocation – Ethnohistoric Sites, Sacred Sites, Traditional Use Areas, Traditional Cultural Properties				
Allocate and manage all of the National Register eligible sites for Conservation Use. Allocate and manage all of the identified Traditional Cultural Properties for Traditional Use. Allocate and manage all identified Sacred Sites or Traditional Use Areas for Conservation Use.	Manage for future Cultural Resource Use Allocations.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Parameter – Cultural Resource Use Allocation – "Other" Sites				
Allocate and manage all of the National Register eligible sites for Scientific and Conservation Use with public use being monitored. Permit Scientific Use if it does not destroy features. Allocate and manage all of the agave roasting pits for Scientific, Conservation, and Public Use.	Manage for future Cultural Resource Use Allocations.	Same as the Proposed RMP.	Same as the Proposed RMP.	Allocate and manage all of the National Register eligible sites for Conservation Use with public use being monitored.
PALEONTOLOGICAL RESOURCES				
Goal – Identify and manage at-risk paleontological resources (scientific value); preserve and protect vertebrate fossils through best science methods; and promote public and scientific use of invertebrate and paleobotanical fossils.				
Parameter – General Paleontological Resource Management				
Allocate and manage all vertebrate sites for Scientific Use. Allocate and manage all invertebrate and paleobotanical sites for Public and Scientific Use. Change the use allocation without a plan amendment if another use is evident or proposed.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Parameter – Trilobite Collecting				
Establish a no-fee-based registration system. Prioritize inventory based on a) predicted threats, b) existing sites, and c) lands identified for disposal.	No registration system in place for trilobite collecting.	Same as the Proposed RMP.	Establish a fee-based registration system.	Close trilobite locations to collecting.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
VISUAL RESOURCES				
Goal – Manage public land actions and activities in a manner consistent with the Ely Field Office visual resource management class objectives.				
Parameter – Visual Resource Management				
Manage designated wilderness, wilderness study areas, and some special designation areas for scenic qualities under Visual Resource Management Class I objectives.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Manage wilderness study areas released by Congress at the baseline visual resource inventory class.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Manage the Pony Express National Historic Trail corridor under Visual Resource Management Class II objectives.	The Pony Express National Historic Trail corridor is not designated.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Manage visual resources in accordance with the following visual resource management classes.	Manage visual resources in accordance with the following visual resource management classes.	Same as the Proposed RMP.	Manage visual resources in accordance with the following visual resource management classes.	Manage visual resources in accordance with the following visual resource management classes.
Class I: 1,154,500 acres Class II: 2,396,700 acres Class III: 4,874,200 acres Class IV: 3,031,200 acres	Class I: 1,450,900 acres Class II: 283,700 acres Class III: 678,700 acres Class IV: 5,466,300 acres No visual resource management class: 3,577,000 acres	Class I: 1,158,400 acres Class II: 2,396,700 acres Class III: 4,874,200 acres Class IV: 3,027,300 acres	Class I: 1,158,400 acres Class II: 2,421,500 acres Class III: 5,020,500 acres Class IV: 2,856,200 acres	Class I: 1,153,500 acres Class II: 10,303,100 acres Class III: 0 acres Class IV: 0 acres
LANDS AND REALTY				
Goal – Manage public lands in a manner that allows the retention of public land with high resource values and consolidates public land patterns to ensure effective administration and improve resource management. Make public lands that promote community development available for disposal. Meet public, local, state, and federal agency needs for use authorizations such as rights-of-way, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values. Utilize withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the desired purpose.				
Parameter – Retention of Public Lands				
Retain designated critical habitat for federally listed threatened or endangered species.	Retain big game habitat, upland game habitat, and/or wild horse herd management areas.	Same as the Proposed RMP.	Same as the Proposed RMP.	No net loss of public lands in the planning area.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Retain lands within ACECs and portions of the National Trails System including the corridors of both the Pony Express National Historic Trail and the California National Historic Trail. Retain lands containing resources qualifying as National Natural Landmarks, lands containing springs or creeks with fisheries, lands with high recreation value, and acquired land.				
Parameter – Disposal of Public Lands				
Dispose of not more than 57,039 acres in Lincoln County in accordance with the Lincoln County Conservation, Recreation, and Development Act. Dispose of not more than 18,543 acres in White Pine County in accordance with the White Pine County Conservation, Recreation, and Development Act (see disposal criteria outlined in Section 2.4.12.2). Dispose of lands outside identified areas as a means of resolution, if needed, to resolve unauthorized use of public land. Maintain access to recreation areas. Consider land exchanges unless the intent is to transfer acquired lands out of public ownership or control (except Bankhead Jones Act lands).	Dispose of lands, identified for disposal case-by-case, under existing authorizations. Dispose of lands outside designated big game and upland game habitat, and wild horse herd management areas on a case-by-case basis. Lincoln County – 3,580 acres Nye County – 3,893 acres White Pine County – 24,438 acres	Dispose of lands in identified areas. No disposal of designated critical habitat for threatened and endangered species, and sensitive species. Lincoln County – 66,379 acres Nye County – 294 acres White Pine County – 23.884 acres	Land disposal would be balanced with restoration while emphasizing commercial and economic development. Lincoln County – 203,121 acres Nye County – 3,891 acres White Pine County – 88,169 acres	Dispose of lands as follows: Lincoln County – 1,435 acres Nye County – 0 acres White Pine County – 10,958 acres No net loss of public lands in the planning area.
Parameter – Acquisitions				
Acquire land on a case-by-case basis. Encourage local governments and private individuals to acquire options on or enter into non-binding agreements to purchase environmentally-sensitive private lands or rights to private lands within ACECs, wilderness study areas, or designated wilderness that could potentially be exchanged for public lands outside of ACECs.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Withdrawal of Public Land				
All Entry: Withdraw from surface and mineral entry, lands with sensitive or high resource values. Consider requests by other federal agencies for new withdrawals, withdrawal relinquishments, or modifications on a case-by-case basis.	Consider requests for new withdrawals, withdrawal relinquishments, or modifications on a case-by-case basis.	Same as the Proposed RMP.	No new withdrawals will be designated.	Consider requests by other federal agencies for new withdrawals, withdrawal relinquishments, or modifications on a case-by-case basis.
Mineral Entry Only: Withdraw 75,600 acres of land identified for potential disposal.	Mineral Entry Only: Withdraw 11,525 acres of land identified for potential disposal.	Mineral Entry Only: Withdraw from mineral entry, 90,500 acres of land identified for potential disposal.	Mineral Entry Only: Withdraw from mineral entry, 295,180 acres of land identified for potential disposal.	Mineral Entry Only: Withdraw 12,390 acres of land identified for potential disposal.
Parameter – Corridors				
Manage corridors in the RMP planning area as follows (see **Map 2.4.12-5**):	No new utility corridors would be designated. All rights-of-way would be encouraged to locate within existing designated corridors (**Map 2.5.12-5**). Manage existing corridors as follows:	Encourage rights-of-way for electrical transmission lines greater than 69 kilovolts, all mainline fiber optics facilities, and all pipelines greater than 10 inches in diameter to be located within designated corridors. Manage corridors as follows:	Encourage rights-of-way for electrical transmission lines greater than 69 kilovolts, all mainline fiber optics facilities, and all pipelines greater than 10 inches in diameter to be located within designated corridors. Manage corridors as follows:	No additional corridors would be designated.
Retain a corridor 1,000 feet wide, 500 feet on either side of the centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 30 running easterly to the Arizona state line.	Maintain a corridor 1,000 feet wide, 500 feet on either side of the centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 20 running easterly to the Arizona state line.	Retain a corridor 1,000 feet wide, 500 feet on either side of the centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 20 running easterly to the Arizona state line.	Retain a corridor 1,000 feet wide, 500 feet on either side of the centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 20 running easterly to the Arizona state line.	
Retain the Falcon to Gonder corridor, 0.5 mile wide, as an east-west corridor to interconnect with the Ely to Utah state line portion of the Southwest Intertie Project corridor.	Maintain the Falcon to Gonder corridor as 0.5 mile wide, as an east-west corridor to interconnect with the Ely to Utah state line portion of the Southwest Intertie Project corridor.	Designate the Falcon to Gonder corridor as 1 mile wide, as an east-west corridor to interconnect with the Ely to Utah state line portion of the Southwest Intertie Project corridor.	Designate the Falcon to Gonder corridor as 3 miles wide, as an east-west corridor to interconnect with the Ely to Utah state line portion of the Southwest Intertie Project corridor.	

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Retain the Ely to Utah State Line portion of the Southwest Intertie Project corridor as 0.5 mile wide. Designate the approved Southwest Intertie Project corridor as 0.75 mile wide from the Elko/White Pine County line to the point where it parallels Highway 93 and the Pahranagat Wildlife Refuge at which point it will be 0.5 mile wide to the Clark County line.	Maintain the Ely to Utah state line portion of the Southwest Intertie Project corridor as 0.5 mile wide. Maintain the approved Southwest Intertie Project corridor as 0.5 mile wide from the Elko/White Pine County line to the point where it parallels Highway 93 and the Pahranagat Wildlife Refuge. At that point, change orientation so that the centerline defining that corridor is 50 feet from the eastern edge of the corridor.	Designate the approved Southwest Intertie Project corridor as 1 mile wide from the Elko/White Pine County line to the point where it parallels Highway 93 and the Pahranagat Wildlife Refuge. At that point, change orientation so that the centerline defining that corridor is 50 feet from the eastern edge of the corridor.	Designate the Ely to Utah state line portion of the Southwest Intertie Project corridor as 3 miles wide. Designate the approved Southwest Intertie Project corridor as 3 miles wide from the Elko/White Pine County line to the point where it parallels Highway 93 and the Pahranagat Wildlife Refuge at which point it will become 0.5 mile wide.	
Maintain the Moapa corridor at 0.5 mile wide. Maintain the corridors designated by the Lincoln County Conservation, Recreation and Development Act as 0.5 mile wide.	Maintain the Moapa corridor at 0.5 mile wide. Maintain the corridors designated by the Lincoln County Conservation, Recreation, and Development Act as 0.5 mile wide.	Maintain the Moapa corridor at 0.5 mile wide. Maintain the corridors designated by the Lincoln County Conservation, Recreation and Development Act as 0.5 mile wide.	Maintain the Moapa corridor at 0.5 mile wide. Maintain the corridors designated by the Lincoln County Conservation, Recreation and Development Act as 0.5 mile wide.	
Designate a new corridor, 0.5 mile wide, connecting with the corridor designated by the Lincoln County Conservation, Recreation, and Development Act. This corridor will begin near the Atlanta Mine where the Lincoln County Conservation, Recreation, and Development Act corridor ends and will trend in a northerly direction along the west side of Spring Valley, ending at the Southwest Intertie Project corridor.		Designate a new corridor, 1-mile wide, connecting with the corridor designated by the Lincoln County Conservation, Recreation and Development Act. The Spring Valley corridor would begin near the Atlanta mine where the Lincoln County Conservation, Recreation and Development Act corridor ends and would trend in a northerly direction along the west side of Spring Valley, ending at the Southwest Intertie Project corridor (**Map 2.6.12-5**).	Designate a new corridor, 3 miles wide, connecting with the corridor designated by the Lincoln County Conservation, Recreation and Development Act. The Spring Valley corridor would begin near the Atlanta mine where the Lincoln County Conservation, Recreation and Development Act corridor ends and would trend in a northerly direction along the west side of Spring Valley, ending at the White Pine-Elko County line, northeast of Lages Junction on Highway 93A (**Map 2.7.12-5**).	

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Communication Sites				
Communication site locations will support community and economic development with emphasis on co-location of sites. Establish avoidance and exclusion areas.	Authorize new communication sites on a case-by-case basis.	Create new communication sites after existing sites are at maximum capacity.	Provide communication site locations that support community and economic development.	Establish specific limited communication site areas based on minimal impacts to public lands.
Parameter – Land Use Authorizations (Rights-of-way, Permits, Leases, and Easements)				
Issue land use authorizations on a case-by-case basis. Where feasible, locate and consolidate new land use authorizations within or adjacent to existing authorizations. ACECs will be avoidance or exclusion areas.	Issue land use authorizations on a case-by-case basis. Desert tortoise ACECs would be avoidance or exclusion areas.	Same as the Proposed RMP.	Process land use authorizations to facilitate community and economic development. ACECs would be avoidance or exclusion areas.	No new land use authorizations.
RENEWABLE ENERGY				
Goal – Provide opportunities for development of renewable energy sources such as wind, solar, biomass, and other alternative energy sources while minimizing adverse impacts to other resources such as wildlife and visual resources.				
Parameter – Wind, Solar, and Biomass Energy				
Consider applications for renewable energy development on a case-by-case basis. Establish avoidance and exclusion areas. Increase use of biomass from BLM lands.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP except no applications would be approved.
TRAVEL MANAGEMENT AND OFF-HIGHWAY VEHICLE USE				
Goal – Provide and maintain suitable access to public lands. Manage off-highway vehicle use to protect resource values, promote public safety, provide off-highway vehicle opportunities where appropriate, and minimize conflict. Work closely with local, state, tribal, and other affected parties and other resource users to address off-highway vehicle management including land use and route designations, and monitoring and adaptive management strategies such as applying the Limits of Acceptable Change process.				
Parameter – Transportation Plan				
Close designated wilderness and wilderness study areas to motorized and mechanized travel. Incorporate the Duck Creek Basin designations into the transportation plan. Limit all vehicular traffic to existing roads and trails, exceptions apply.	Outside desert tortoise habitat, road and trail designation would be on a case-by-case basis.	All motorized vehicle traffic would be limited to designated roads and trails. Wilderness study areas would be closed to motorized traffic. Designate roads and trails to emphasize landscape restoration.	Designate roads and trails to emphasize specific administrative needs, recreation opportunities, and tourism.	All motorized vehicle travel would be limited to designated roads and trails. Road and trail designations would be limited to mechanically maintained roads.
Parameter – Off-highway Vehicles				
Manage off-highway vehicles in accordance with the following designations.	Manage off-highway vehicles in accordance with the following designations.	Manage off-highway vehicles in accordance with the following designations.	Manage off-highway vehicles in accordance with the following designations.	Off-highway vehicles will be limited to maintained roads and trails.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
0 acres – open to cross-country off-highway vehicle use.	9,798,300 acres – open to cross-country off-highway vehicle use.	0 acres – open to cross-country off-highway vehicle use.	32,000 acres in dry lake beds – open to cross-country off-highway vehicle use.	0 acres – open to cross-country off-highway vehicle use.
10,306,500 acres – limited to designated roads and trails.	589,000 acres – limited to designated roads and trails (wilderness study areas and the Desert Tortoise Amendment area).	Same as the Proposed RMP.	10,355,300 acres – limited to designated roads and trails.	Approximately 400,000 acres – limited to designated roads and trails.
1,153,500 acres – closed to off-highway vehicle use (designated wilderness and wilderness study areas).	1,072,700 acres – closed to off-highway vehicle use.	Same as the Proposed RMP.	1,072,700 acres – closed to off-highway vehicle use.	11,100,000 acres – closed to off-highway vehicle use.
RECREATION				
Goal – Provide quality settings for developed and undeveloped recreation experiences and opportunities while protecting resources. Conduct an assessment of current and future off-highway vehicle demand, and plan for and balance the demand for this use with other multiple uses/users. Develop sustainable off-highway vehicle use areas to meet current and future demands, especially for urban interface areas.				
Parameter – Special Recreation Management Areas				
Manage 1,202,000 acres as five special recreation management areas.	Manage an estimated 550,000 acres as one special recreation management area.	Manage 2,675,000 acres as nine special recreation management areas.	Manage 2,555,000 acres as nine special recreation management areas.	No special recreation management areas would be managed and existing developed sites would be eliminated.
Emphasis will be to promote recreation across a wide spectrum of opportunities, both developed and undeveloped.	Emphasis would be on maintaining existing developed facilities.	Same as the Proposed RMP.	Emphasis would be focused on additional developed recreation sites.	There would be no special recreation management areas.
Three of the five special recreation management areas will be managed to accommodate motorized recreation.	No recreation management areas with an emphasis on off-highway vehicle use of designated roads and trails.	Recreation management on approximately 844,000 acres would emphasize off-highway vehicle use of designated roads and trails.	Recreation management on approximately 1,104,000 acres would emphasize off-highway vehicle use of designated roads and trails.	Same as Alternative A.
Parameter – Special Recreation Permits				
Limit outfitter and guide permits for the first 3 years following plan implementation. Monitor use for 3 years to establish permit numbers for geographic areas. After the monitoring period, issue permits with special stipulations and conditions to protect resources and reduce user conflicts.	No limitations on outfitter and guide permits for hunting.	Issue outfitter and guide permits for hunting through a competitive bid process with no limits on the number of permits offered.	Same as Alternative A.	No outfitter and guide permits for hunting would be issued.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Desert tortoise ACECs will be protected by limiting or closing habitat to all types of non-speed, off-highway vehicle events from March 1 to June 15 and September 1 to October 31, and closing to all high-speed, competitive events, including horse endurance rides. An off-highway vehicle monitoring plan will be developed to assess impacts to desert tortoise habitat within ACECs.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	No competitive events would be permitted.
Establish four special recreation permit areas totaling approximately 1.33 million acres to maximize opportunities for motorcycle special recreation permit events.	Limit motorcycle events to 12 races on routes subject to NEPA analysis.	Establish two special recreation permit areas totaling approximately 656,000 acres to maximize opportunities for motorcycle special recreation permit events.	Same as the Proposed RMP.	No motorcycle events would be permitted.
A maximum of two truck events will be permitted each year on four routes established for all truck events. Non-competitive off-highway vehicle events permitted on case-by-case basis. Restrict special recreation permits in desert tortoise ACECs.	Close desert tortoise ACECs to all organized off-highway vehicle events from March 15 to June 15 and August 31 to October 15. The maximum number of events allowed in desert tortoise ACECs would be larger than under the Proposed RMP.	Same as Alternative A.	A maximum of eight truck events would be permitted each year on twelve routes established for all truck events.	No truck events would be permitted.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
LIVESTOCK GRAZING				
Goal – Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health. **Northeastern Great Basin Area Standards. Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form. Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria. Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** **Mojave/Southern Great Basin Area Standards. Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle. Watershed should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function). Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special species should be able to sustain viable populations of those species.**				
Approximately 11,246,900 acres will be available for livestock grazing consistent with maintaining and restoring watershed function and health and subject to modification associated with disposal actions. Future modifications also could occur based upon monitoring of tortoise habitat.	Approximately 11,247,000 acres would be available for livestock grazing.	Approximately 7,651,900 acres would be available for livestock grazing consistent with maintaining and restoring watershed function and health subject to modification associated with disposal actions.	Approximately 11,240,600 acres would be available for livestock grazing subject to modification associated with disposal actions. The Tamberlaine Allotment would be used as forage reserves if the permit is relinquished.	No acres available for livestock grazing due to the elimination of livestock grazing throughout the planning area.
The total area unavailable for livestock grazing is 253,100 acres.	The total area unavailable for livestock grazing is 253,000 acres.	The total area unavailable for livestock grazing is 3,848,100 acres.	The total area unavailable for livestock grazing is 259,400 acres.	The entire planning area (11.5 million acres) is unavailable to livestock grazing.
Continue to monitor and evaluate livestock grazing allotments.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	No livestock grazing.
When changes to BLM grazing permits are being considered in Rocky Mountain desert bighorn sheep occupied habitat, manage domestic sheep and goats in accordance with current BLM policies.	Domestic sheep and goats would continue to be managed in accordance with current BLM policies for management of domestic sheep and goats in bighorn sheep habitat when proposed changes to BLM grazing permits are being considered.	Domestic livestock (sheep and cattle) grazing would be unavailable in all Rocky Mountain and desert bighorn sheep habitat.	Same as Alternative A.	No livestock grazing.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
FOREST/WOODLAND AND OTHER PLANT PRODUCTS				
Goal – Provide opportunities for traditional and non-traditional uses of vegetation products on a sustainable, multiple-use basis.				
Parameter – General Forest/Woodland and Other Plant Product Management				
Do not allow the harvest of bristlecone pine, limber pine, swamp cedar, or rare, unique or unusual trees and shrubs. Authorize the salvage of desert vegetation based on NEPA analysis. Authorize harvest of desert vegetation for educational or scientific research purposes.	Harvest is restricted to specified areas.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Parameter – Fuelwood Collection				
Allow collection of fuelwood for personal (pinyon-juniper/mountain mahogany) and commercial use (pinyon-juniper) throughout the planning area except in closed areas. Allow harvest/collection of other tree species on a case-by-case basis.	Same as the Proposed RMP except tree species are limited to those specified and commercial permits would be issued where appropriate.	Allow fuelwood collection for personal and commercial use in designated areas only; harvesting of live trees allowed on a case-by-case basis in designated areas.	Same as Alternative A except additional species allowed for collection are Gambel's Oak, aspen, white fir, ponderosa pine, and spruce.	No fuelwood collection.
Parameter – Pinyon Pine Nut Harvesting				
Free personal use of pine nuts across the planning area. Commercial use is allowed in designated areas to the highest bidder after consultation with American Indian tribes.	Free personal use of up to 25 pounds across the planning area. Commercial use is allowed in designated areas to the highest bidder. Mechanical harvesters are not allowed.	Same as the Proposed RMP.	Same as Alternative A except mechanical harvesting is allowed.	Only personal use, including American Indians, would be allowed. No commercial use.
Parameter – Christmas Tree Harvesting				
Pinyon, juniper, and white fir will be available for personal use across the planning area except in closed areas. Allow commercial use of pinyon and juniper across the planning area. White fir could be available for commercial use in some areas.	Pinyon and juniper are available for personal and commercial use across the planning area except in designated areas. Commercial permits would be issued as appropriate.	Same as the Proposed RMP.	Pinyon, juniper, spruce, and white fir would be available for personal and commercial use across the planning area.	No Christmas tree harvesting allowed.
Parameter – Post and Pole Harvesting				
Pinyon and juniper will be available for personal and commercial use across the planning area except in closed areas. Use of aspen, fir, and spruce will be allowed on a case-by-case basis if health of stand is improved.	Pinyon and juniper are available for personal and commercial use in non-restricted areas across the planning area. Commercial harvest locations would be designated at the time of sale.	Same as the Proposed RMP.	Pinyon, juniper, aspen, fir, and spruce would be available for personal and commercial use across the planning area. Emphasize areas identified for land disposal.	No post and pole harvest allowed.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Seed Collection				
Commercial use (hand collection and limited mechanical collection) allowed on a case-by-case basis limited to no more than 50 percent of the annual seed crop. Allow harvest of special status plant seeds only as specified.	Same as the Proposed RMP.	Commercial use (hand collection and limited mechanical collection) allowed except in restoration areas.	Same as Alternative B. Hand and mechanical collection methods would be allowed.	No commercial use allowed. Hand collection allowed for personal use.
Parameter – Other Vegetation Product Collection (e.g., wildings, boughs, etc.)				
Personal and commercial use allowed on a case-by-case basis. Limit collection methods to least disruptive.	Non-commercial sale of wildings and petrified wood subject to limits. Other product sold on a case-by-case basis.	Same as the Proposed RMP.	Commercial use allowed across the planning area.	Collection not allowed.
Parameter – Biomass Products				
Allow biomass harvest when tree removal is planned if harvest meets project objectives.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	No biomass harvest allowed.
GEOLOGY AND MINERAL EXTRACTION				
Goal – Allow for meeting the Nation's energy needs while providing environmentally responsible production of fluid leasable minerals, and geophysical exploration for energy resources on public lands. Allow development of solid leasable and locatable minerals in a manner to prevent unnecessary or undue degradation. Allow development of mineral materials in a manner that will prevent unnecessary or undue degradation, meet public demand, and minimize adverse impacts to other resource values.				
Parameter – General Geology and Mineral Management				
Manage in accordance with desert tortoise habitat protection, including restrictions allowing exploration only on existing roads and trails, containment of cuttings and drilling fluids and limitations on exploration methods within desert tortoise habitat. Remuneration fees to be set and indexed for inflation.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP in those few circumstances in which any mineral development is allowed within desert tortoise habitat under this alternative.
Parameter – Fluid Leasable Minerals				
6,073,400 acres – open to leasing under standard lease terms and conditions.	2,715,200 acres – open to leasing under standard lease terms and conditions.	1,053,200 acres – open to leasing under standard lease terms and conditions.	3,489,200 acres – open to leasing under standard terms and conditions.	0 acres – open to leasing.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
		8,483,600 acres – open to leasing, subject to programmatic stipulations for greater sage-grouse, ferruginous hawk, bighorn sheep, and cultural/ archaeological resources. For wildlife stipulations, BLM would determine on a site specific basis whether or not stipulations would apply. Applicant provides for site specific survey if required. Large areas subject to potential stipulations.	682,900 acres – open to leasing, subject to programmatic surface use/timing restrictions.	
3,728,200 acres – open to leasing subject to moderate restrictions. Specific area timing and surface use stipulations (desert tortoise habitat) will apply.	1,188,100 acres – open to leasing subject to moderate restrictions. Specific area timing and surface use stipulations would apply.	429,600 acres – open to leasing subject to moderate restrictions. Specific area timing and surface use stipulations (desert tortoise habitat) would apply.	5,597,100 acres – open to leasing, subject to moderate restrictions. Specific area surface use and timing restrictions would apply unless lessee applies to BLM for exception. More defined areas subject to stipulations.	0 acres – open to leasing, subject to moderate restrictions.
233,600 acres – open to leasing subject to major restrictions (No Surface Occupancy).	46,000 acres – open to leasing subject to major restrictions (No Surface Occupancy).	32,300 acres – open to leasing subject to major restrictions (No Surface Occupancy).	27,300 acres – open to leasing subject to major restrictions (No Surface Occupancy).	0 acres – open to leasing subject to major restrictions (No Surface Occupancy).
1,464,800 acres – closed to leasing.	591,700 acres – closed to leasing.	1,501,300 acres – closed to leasing.	1,703,500 acres – closed to leasing.	11,500,000 acres – closed to leasing.
Evaluate oil and gas geophysical exploration on a case-by-case basis. Apply special management direction for leasing within desert tortoise habitat.	Evaluate oil and gas geophysical exploration on a case-by-case basis.	Same as the Proposed RMP.	Consider geophysical exploration in areas closed to leasing or with No Surface Occupancy and/or timing restrictions, based on impacts identified in site specific analysis.	Seismic and geophysical exploration activities would only be allowed in non sensitive areas.
Parameter – Solid Leasable Minerals				
9,852,000 acres – open to solid mineral leasing.	10,134,100 acres – open to solid mineral leasing.	9,971,400 acres – open to solid mineral leasing.	9,777,500 acres – open to solid mineral leasing.	0 acres – open to solid mineral leasing.
1,648,000 acres – closed to solid mineral leasing.	1,365,900 acres – closed to mineral entry.	1,528,600 acres – closed to solid mineral leasing.	1,722,500 acres – closed to solid mineral leasing.	11,500,000 acres – closed to solid mineral leasing.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Locatable Minerals				
9,852,000 acres – open to locatable mineral entry. 1,648,000 acres – closed to locatable mineral entry – includes designated wilderness and wilderness study areas.	10,134,100 acres – open to locatable mineral entry. 1,365,900 acres – closed to locatable mineral entry.	9,971,400 acres – open to locatable mineral entry. 1,528,600 acres – closed to locatable mineral entry.	9,777,500 acres – open to locatable mineral entry. 1,722,500 acres – closed to locatable mineral entry.	5,178,600 acres – open to locatable mineral entry. 6,321,400 acres – closed to locatable mineral entry.
Parameter – Mineral Materials				
9,857,700 acres – open to mineral materials disposal subject to discretionary closures in resource sensitive areas. 1,642,300 acres – closed to mineral materials disposal.	9,955,200 acres – open for mineral materials disposal subject to discretionary closures in resource sensitive areas. 1,544,800 acres – closed to mineral materials disposal.	9,318,600 acres – open for mineral materials disposal subject to discretionary closures in resource sensitive areas. 2,181,400 acres – closed to mineral materials disposal.	9,256,900 acres – open for mineral materials disposal subject to discretionary closures in resource sensitive areas. 2,243,100 acres – closed to mineral materials disposal.	0 acres – open to mineral materials disposal subject to discretionary closures in resource sensitive areas. 11,500,000 acres – closed to mineral materials disposal.
Maintain adequate spacing between pits. Apply special management actions within desert tortoise habitat.	The desert tortoise ACECs are closed to mineral materials disposal except a corridor on select roads. Mineral materials pit spacing varies within the planning area.	Same as the Proposed RMP.	Mineral materials pits would be appropriately spaced as determined by the authorized officer.	Sales would be allowed only from existing pits.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
WATERSHED MANAGEMENT				
Goal – Manage watersheds to achieve and maintain resource functions and conditions required for healthy lands and sustainable uses. **Mojave/Southern Great Basin Resource Advisory Council Standards. Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle. Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover; capture sediment; and capture, retain, and safely release water (watershed function). Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.** **Northeastern Great Basin Resource Advisory Council Standards. Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form. Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria. Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics; to provide suitable feed, water, cover, and living space for animal species; and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species. Land use plans will recognize cultural resources within the context of multiple use.**				
Perform watershed analysis initially on the 41 high priority watersheds followed by the 20 low priority watersheds. After Standards for Rangeland Health have been met at the watershed level, use a balanced approach to allocate additional forage for watershed maintenance, livestock, and wild horses or reserve for wildlife.	Same as the Proposed RMP except allocate additional forage to livestock and wild horses (70 percent) and reserve for wildlife in Schell Resource Area (30 percent). Allocate additional forage proportionately among all users in remainder of the planning area.	Same as the Proposed RMP except allocate additional forage for watershed maintenance and wildlife after Standards for Rangeland Health have been met at the watershed level.	Prioritization of watershed analysis is the same as the Proposed RMP. Allocate additional forage for livestock after Standards for Rangeland Health have been met at the watershed level.	Prioritization of watershed analysis is the same as the Proposed RMP. After Standards for Rangeland Health have been met at the watershed level, allocate additional forage for watershed maintenance, wildlife, and wild horses within herd management areas and reserve for watershed maintenance and wildlife outside herd management areas.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
FIRE MANAGEMENT				
Goal – Provide an appropriate management response to all wildland fires, with emphasis on firefighter and public safety, consistent with overall management objectives. Return fire to its natural role in the ecological system and implement fuels treatments, where applicable, to aid in returning fire to the ecological system. Establish a community education program that includes fuels reduction within the wildland urban interface to create fire-safe communities.				
Implement and update the Ely Fire Management Plan, as needed. Tier the Ely Fire Management Plan to the general fire management actions in this RMP. Use Fire Regime Condition Class methods along with resource objectives to determine fire response. Wildland fire use could be available on approximately 8.9 million acres. Protect desert tortoise habitat.	Implement the current fire management plan, which incorporates the Ely Managed and Prescribed Fire Plan. Approximately 3.6 million acres would be available for wildland fire use.	Same as the Proposed RMP.	Suppress all wildland fires. Use prescribed fire in limited situations as a management tool for vegetation restoration.	Develop a new fire management plan with emphasis on no suppression of wildland fires unless they are human-caused or threaten life and/or property.
NOXIOUS AND INVASIVE WEED MANAGEMENT				
Goal – Prevent the introduction and spread of noxious and invasive weeds. Control or eradicate existing populations.				
Use integrated pest management to treat weed infestations. Develop weed management plans that address weed vectors and minimize the movement of weeds on public lands. Remove cut weeds from manual weed control. Specify weed-free materials for reclamation/stabilization activities. Clean vehicles and clean/quarantine animals prior to use on public lands. Conduct weed surveys prior to project approval. Control weeds in compliance with BLM policy.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP except herbicide restrictions apply.
SPECIAL DESIGNATIONS				
Goal – Evaluate areas of interest for special designation and appropriately manage those areas that meet necessary requirements.				
Parameter – Areas of Critical Environmental Concern				
Retain the three current ACECs, totaling 203,670 acres. Designate 17 new ACECs totaling 114,270 acres (see Appendix D).	Retain the three current ACECs, totaling 203,670 acres (see Appendix D).	Retain the three current ACECs, totaling 203,670 acres. Designate 15 new ACECs totaling 134,350 acres (see Appendix D).	Retain the three current ACECs, totaling 203,670 acres. Designate 17 new ACECs totaling 129,720 acres (see Appendix D).	Designate no new ACECs and remove ACEC designation from the three existing ACECs.
Parameter – Back Country Byways				
Retain the Mount Wilson Back Country Byway. In addition, designate the Rainbow Canyon and the Silver State Trail as back country byways.	Designate no additional back country byways.	Designate the Silver State Trail Back Country Byway.	Same as the Proposed RMP.	Same as Alternative A.

Table 2.9-1 (Continued)

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Parameter – Designated Wilderness				
Manage 22 designated wilderness areas in accordance with existing Acts and Regulations.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Parameter – Wilderness Study Areas				
Manage wilderness study areas under the Interim Management Policy for Lands Under Wilderness Review until such time as Congress makes a determination regarding wilderness designations.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Parameter – Other Special Designations				
Retain 2 special designation areas totaling 1,710 acres.	Retain 23 special designation areas totaling 34,495 acres.	Same as the Proposed RMP.	Retain 2 special designation areas totaling 600 acres.	None of the special designation areas would be retained.
Drop 9 areas from special designation totaling 2,275 acres.	No existing special designation areas would be changed.	Same as the Proposed RMP.	Drop 7 areas from special designation totaling 1,995 acres.	None of the special designation areas would be retained.
Designate 8 special designation areas as ACECs.	No existing special designation areas would be designated as ACECs.	Same as the Proposed RMP.	Ten special designation areas, totaling 31,900 acres, would be designated as ACECs. An additional 28,700 acres associated with Mount Irish and Hendry's Creek/Rock Animal Corral also would be designated as part of these ACECs.	Same as Alternative A.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

Chapter 3.0 provides background information on the various resources, resource uses, and programs managed by the Ely Field Office, and describes their existing conditions, trends, and current management. These subsections contain the following information:

- Existing Conditions – description of the current state of each resource, resource use, or program.
- Trends – description of the direction of change that has occurred from past to existing conditions.
- Current Management – description of how the Ely Field Office currently is managing the resource, resource use, or program.

This format does not lend itself equally well to every resource, resource use, or program. Where a subsection is not applicable (e.g., trends for special designations), this is noted in the text.

NEPA regulations require that an EIS contain a description of the environmental conditions that would be affected by the alternatives being analyzed. Thus, rather than being encyclopedic, the Affected Environment chapter must focus on those resources and uses that would be impacted by the management actions presented in Chapter 2.0 for the Proposed RMP and Alternatives A through D.

The amount of quantitative information that is available to describe existing conditions and particularly trends varies from resource to resource. In general, resources that have formal administrative requirements, such as livestock grazing, have more quantitative information available than resources that are used casually, such as recreation. Where quantitative information is available, it is reflected in the existing conditions and trends descriptions. Where it is not available, the descriptions rely on the observational knowledge of the planning area developed by the Ely Field Office staff.

All maps referenced in Chapter 3.0 are presented in the separate Map Volume.

3.2 Air Resources

3.2.1 Existing Conditions

Air Quality

The current condition of air quality in the planning area is good, relative to other areas of the nation. The air resource is primarily affected by particulate matter produced by land management activities or natural events on federally-administered lands, including wildland fire, prescribed burning, road or wind-blown dust, construction, mining, and vehicle use. Of these emission sources, most of the particulate matter of concern is produced from wildland fire. Smoke emissions consist mostly of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), as well as fine particulates with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$). According to Sisler et al. (1996), on a national level, the lowest concentrations of fine particulates occur in the Great Basin in Nevada. In other parts of the nation, the largest mass fractions of the fine aerosol are sulfate and organics; however, organic carbon (presumably from wildland burning) is the largest single component in the Great Basin (Sisler et al. 1996).

Climatology and Meteorology

Most of the planning area is internally drained and surface runoff is confined to the basins. A few drainages in the southern part of the planning area in Lincoln County drain into the Virgin River. Those drainages are, from west to east, Coyote Spring Valley, Meadow Valley Wash, and Toquop Wash. The White River Valley, which is located on the eastern edge of Nye County and extends into White Pine County, drains into Pahranagat Wash in the Coyote Spring drainage and then into the Muddy River. The Virgin River drains into the Colorado River at Lake Mead, south of the planning area's southern boundary.

The planning area is located in the center of the Great Basin and in the northern Mojave Desert. Terrain is internally and externally drained. External drainage is south to the Colorado River. Otherwise, valley drainage is typical of the Great Basin and is covered with a variety of desert shrubs and grasses. The terrain consists of alternating mountain ranges and valleys primarily situated in the Basin and Range physiographic province. The southern portions of the planning area are more arid and consist of mixed aggraded desert plains situated between elevated terrain in north-south oriented mountain ranges. Elevations in the planning area range from approximately 2,000 feet above mean sea level in southern Lincoln County to nearly 11,000 feet in White Pine County.

Baseline meteorology, air quality, and dispersion conditions for the planning area were characterized by data collected at the Ely airport starting in 1948 and continuing through the present. Data from Caliente were used to characterize the climate in the aggraded desert plains in the southern portions of the planning area. The climate in the northern portion of the planning area is classified as a cool semi-arid steppe, and the southern portion is classified as a hot arid desert. The climate is characterized by low rainfall, low humidity, clear skies, and relatively large annual and diurnal temperature ranges (Brown 1974).

Because of the typically dry atmosphere, bright sunny days and clear nights frequently occur. This in turn allows rapid heating of the ground surface during daylight hours and rapid cooling at night. The average range between the highest and the lowest daily temperatures is about 30 to 35 degrees Fahrenheit. Daily ranges are larger in summer than in winter. Since heated air rises and cooled air sinks, winds tend to blow upslope during the day and downslope at night. This upslope and downslope cycle generally occurs in all the geographical features, including mountain range slopes and river courses. The larger the horizontal extent of the feature, the greater the volume of air that moves in the cycle. Terrain diversity causes complex movements in the cyclic air patterns, with thin layers of moving air embedded within the larger scale motions. The low-level, thermally driven winds also are embedded within larger scale upper wind systems (synoptic winds). Synoptic winds in the region are predominantly west to east, characterized by daily weather variations that enhance or diminish the boundary layer winds, and substantially channeled by regional and local topography.

Atmospheric Dispersion

The most important meteorological factors influencing the dispersion of pollutants in the atmosphere are mixing height, wind speed, wind direction, and stability. Mixing height is the thickness of the layer of air above ground within which rising warm air from the surface would mix by convection and turbulence. Local atmospheric conditions, terrain configuration, and source location determine the degree to which pollutants are diluted in this mixed layer. Mixing heights vary diurnally, with local weather systems, and with season. For the RMP area, the mean annual morning mixing height is estimated to be approximately 980 feet, and the mean annual afternoon mixing height is approximately 7,800 feet (Holzworth 1972).

Winds

The planning area is located at a latitude that places it within the belt of prevailing westerly winds that circle the globe around the earth's northern hemisphere. However, much of the area consists of complex terrain where the winds are affected by local topographic features. This is evident in the wind data collected at the Ely airport that show prevailing winds from the south during all months of the year. Wind speed has an important effect on area ventilation and the dilution of pollutant concentrations from individual sources. Light winds, in conjunction with large source emissions, may lead to an accumulation of pollutants that can stagnate or move slowly to downwind areas. During stable conditions, downwind usually means down valley or toward lower elevations. Wind speeds are most frequently observed in the 5- to 10-mile per hour range and the annual average wind speed at Ely is 10.3 miles per hour.

Temperature

Observed normal temperatures at Ely range from the teens to upper 30s (degrees Fahrenheit) in winter and from nearly 50 to the upper 80s (degrees Fahrenheit) in summer (Western Region Climate Center 2003). **Figure 3.2-1** depicts average, maximum, and minimum normal temperatures and precipitation at Ely measured during the period of record from 1971 to 2000. At Caliente, average maximum temperatures for all seasons are about 5 to 10 degrees warmer than at Ely. **Figure 3.2-2** depicts average, maximum, and

minimum normal temperatures and precipitation at Caliente measured during the period of record 1971 to 2000. Summer conditions in the area are typically hot and dry except in the higher mountain ranges.

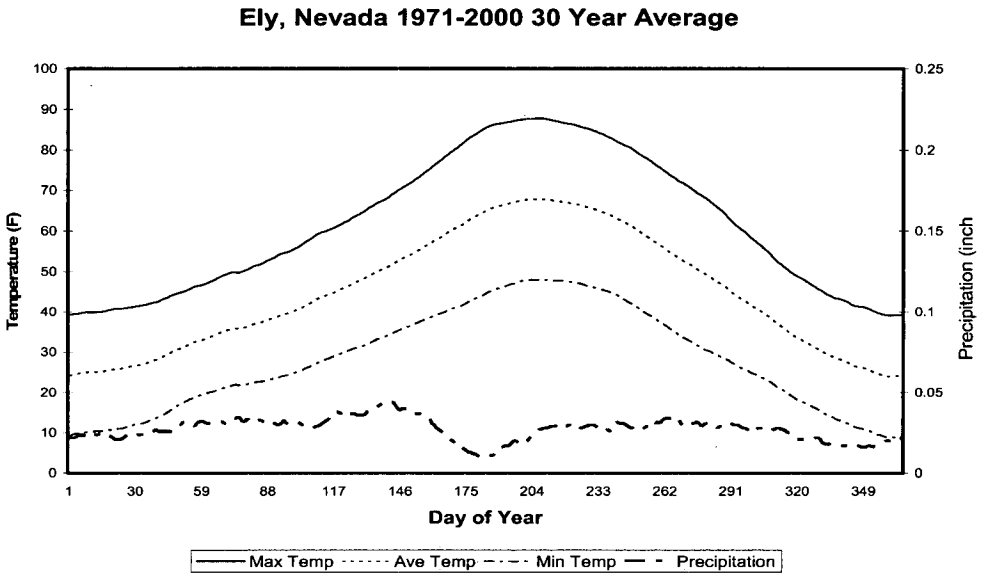


Figure 3.2-1. Climate Data for Ely, Nevada

Precipitation is spread throughout the year, and much of the annual precipitation results from spring snow storms and summer convective thunderstorms. The average total annual precipitation measured is slightly less than 10 inches of water equivalent.

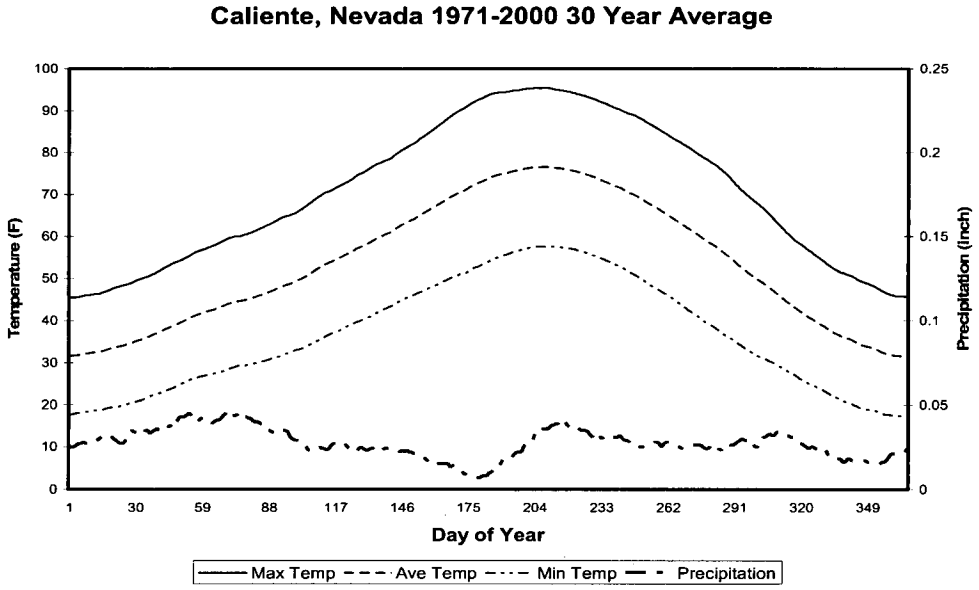


Figure 3.2-2. Climate Data for Caliente, Nevada

Stability

Morning atmospheric stability conditions tend to be stable because of the rapid cooling of the layers of air nearest the ground. Afternoon conditions, especially during the warmer months, tend to be neutral to unstable because of the rapid heating of the surface under clear skies. During the winter, periods of stable afternoon conditions may persist for several days in the absence of synoptic scale storm systems to generate higher winds with more turbulence and mixing. A high frequency of inversions at lower elevations during the winter can be attributed to the nighttime cooling and sinking air flowing from higher elevations to the low lying areas in the basins. Although winter inversions generally are quite shallow, they tend to be more stable because of reduced surface heating.

Precipitation

Nevada lies on the eastern, lee side of the Sierra Nevada Range, a massive mountain barrier that markedly influences the climate of the state. One of the greatest contrasts in precipitation found within a short distance in the U.S. occurs between the western slopes of the Sierras in California and the valleys just to the east of this range. The prevailing winds are from the west, and as the warm moist air from the Pacific Ocean ascends the western slopes of the Sierra Range, the air cools, condensation takes place, and most of the moisture falls as precipitation. As the air descends the eastern slope, it is warmed by compression and very little precipitation occurs. The effects of this mountain barrier are felt not only in the west but throughout the state, with the result that the lowlands of Nevada are largely desert or steppes.

A summer precipitation maximum occurs in the eastern portion of the state where thunderstorms are most frequent. Precipitation is lightest over the southern portions of the planning area where the average annual precipitation is less than 5 inches. In eastern Nevada, precipitation increases to 18 inches in Lamoille Canyon on the western side of the Ruby Mountains. In Ely and Caliente, the average annual precipitation is just under 10 inches during the period of record (1971-2000) (Western Region Climate Center 2003). Variations in precipitation are due mainly to differences in elevation and exposure to precipitation-bearing storms. The average annual number of days with precipitation of 0.01 inch or more varies considerably; Las Vegas averages 23, Reno 49, Winnemucca 67, Caliente 46, Ely 72, and Elko 78. Higher elevations in the planning area would have more frequent precipitation events and would receive more annual rainfall than either Ely or Caliente.

Floods

Mountain snowfall forms the main source of water for stream flow. Melting of the mountain snow pack in the spring usually causes some flooding in northern and western streams during April to June, but damaging floods of this type are infrequent. However, flooding from melting of heavy snow pack has occurred in both the southern and northern parts of the state. Flooding also can be caused by a combination of warm rains and melting snow, especially in the western section. Heavy summer thunderstorms occasionally cause flooding of local streams, but they usually occur in sparsely settled mountainous areas. These storms, locally termed cloudbursts, may bring to a locality as much rain in a few hours as would normally fall in several months.

Severe Storms

Thunderstorms in most areas of the state are infrequent, with the average annual number of days, during the period of record being 13 at Reno, 15 at Las Vegas and Winnemucca, 21 at Elko, and 33 at Ely. The number and intensity of thunderstorms is greater in eastern portions of the state, and lightning caused wildland fires would be more likely in the planning area than in most other areas of the state. Tornadoes are rare, but have occurred in all months from April through September (Western Region Climate Center 2003). Winds are generally light. Storms with high winds rarely occur and seldom cause appreciable damage, except locally along the east slope of the Sierras.

3.2.2 Trends

Air Quality

Emissions from wildland fires have occurred in the planning area for thousands of years. Wildland fires substantially affect the air resource. Current wildland fires produce higher levels of smoke emissions than historical fires, because fuel available to be consumed by wildland fire has increased. Within the planning area, the current trend in increased use of prescribed fire also is expected to result in an increase of smoke emissions, although over shorter time periods.

3.2.3 Current Management

Regulatory Framework

The Clean Air Act, originally enacted in 1955 by Congress and amended several times since then, is the primary legal instrument used to regulate and protect air quality. The Clean Air Act requires the U.S. Environmental Protection Agency to, among other things, identify and publish a list of common air pollutants that could endanger public health or welfare. These commonly encountered pollutants, referred to as "criteria pollutants," are listed by the U.S. Environmental Protection Agency along with the results of studies documenting the health effects of various concentrations of each pollutant. For each criteria pollutant, the U.S. Environmental Protection Agency has designated a concentration level above which the pollutant would endanger public health or welfare. These levels are called the National Ambient Air Quality Standards. To date, the National Ambient Air Quality Standards have been established for six criteria pollutants:

- Sulfur dioxide;
- Particulate matter (PM_{10} and $PM_{2.5}$);
- Carbon monoxide;
- Ozone;
- Nitrogen dioxide; and
- Lead.

Except in certain developed urban and industrial areas, these standards are not typically violated where the general public has access throughout the entire nation.

If National Ambient Air Quality Standards are violated in an area, the area is designated as a "nonattainment area," and the state is required to develop an implementation plan to bring it back into compliance with these standards. The Clean Air Act and the Federal Land Policy and Management Act of 1976 require that actions conducted or approved by BLM comply with all applicable local, state, tribal, and federal air quality requirements. Pollutants such as oxides of nitrogen and sulfur are of concern to federal land managers because of their potential to cause adverse effects on plant life, water quality, and visibility. However, the sources of these pollutants generally are associated with urbanization and industrialization rather than with natural resource management activities. Therefore, these pollutants would not be considered further in this RMP/EIS. However, particulates, ozone, and carbon monoxide are criteria pollutants that can be created by fire; these pollutants are discussed in this RMP/EIS. The pollutant of greatest concern for management activities in the planning area is particulate matter. Three elements of the Clean Air Act generally apply to management activities that produce emissions in the planning area:

- Protection of National Ambient Air Quality Standards (Section 109);
- Conformity with State Implementation Plans (Section 110[a]2, Section 107, Section 172, and Section 176[a]); and
- Protection of Visibility in Class I Areas (Section 169A).

Because fire and smoke are a natural part of forestland and rangeland ecological systems, particulate matter produced from fire does not seriously affect these ecological systems. However, it does have effects on human health. Particulate matter (PM_{10} and $PM_{2.5}$) can be drawn deep into the alveolar region of the lungs, the part of the respiratory system most sensitive to chemical injury. Wood smoke also contains certain carcinogenic compounds, including poly-aromatic hydrocarbons.

Air Quality

Air quality is: 1) dependent on the amount and character of air pollutant emissions, climatology including dispersion conditions, and topography; 2) interpreted as specific pollutant concentrations for specific time periods; and 3) evaluated for potential harm to public health and welfare, based on scientifically defined criteria. Measurement of pollutants in the atmosphere is expressed in units of parts per million or micrograms per cubic meter. Both long-term climatic factors and short-term weather fluctuations are considered part of the air quality resource because they control dispersion and affect concentrations. Physical effects of air quality depend on the characteristics of the receptors and the type, amount, and duration of exposure. Air quality standards specify acceptable upper limits of pollutant concentrations and duration of exposure. Air pollutant concentrations below the standards are not considered detrimental to public health and welfare.

The relative importance of pollutant concentrations can be determined by comparison with an appropriate national or state ambient air quality standard. National and state ambient air quality standards are presented in **Table 3.2-1**. These are the standards applicable to Nevada and the planning area. An area is designated

Table 3.2-1
Ambient Air Quality Standards Applicable in the Planning Area

Pollutant	Averaging Time	Nevada Standards[1]		National Standards[2]		
				Primary[3,4]		Secondary[3,5]
		(parts per million)	(micrograms per cubic meter)	(parts per million)	(micrograms per cubic meter)	
Ozone	1 hour	0.12	235	0.12	235	Same as primary
	8 hour	0.08	157	0.08	157	Same as primary
Carbon monoxide (less than 5,000 feet above mean sea level)	8 hours	9	10,000	9	10,000	None
Carbon monoxide (at or greater than 5,000 feet above mean sea level)	8 hours	6	6,670	NA	NA	
Carbon monoxide (at any elevation)	1 hour	35	40,000	35	40,000	
Nitrogen dioxide	Annual arithmetic mean	0.053	100	0.053	100	Same as primary
Sulfur dioxide	Annual arithmetic mean	0.03	80	0.03	80	None
	24 hours	0.14	365	0.14	365	
	3 hours	0.5	1,300	--	--	0.5 parts per million (1,300 micrograms per cubic meter)
PM_{10}	Annual arithmetic mean	--	50	--	50	Same as primary
	24 hours	--	150	--	150	--
$PM_{2.5}$	Annual arithmetic mean	--	15	--	15	Same as primary
	24 hours	--	65	--	65	
Lead	Quarterly arithmetic mean	--	1.5	--	1.5	Same as primary
Visibility	Observation		In sufficient amount to reduce the prevailing visibility[6] to less than 30 miles when humidity is less than 70 percent	--	--	--
Hydrogen sulfide[7]	1 hour	0.08	112	--	--	--

[1] These standards must not be exceeded in areas where the general public has access.
[2] These standards, other than for ozone, particulate matter, and those based on annual averages, must not be exceeded more than once per year. The 1-hour ozone standard is attained when the expected number of days per calendar year with a maximum hourly average concentration above the standard is equal to or less than one. The 24-hour standard for PM_{10} is attained when the expected number of days per calendar year with a 24-hour average concentration above the standard, rounded to the nearest 10 micrograms per cubic meter, is equal to or less than one. The expected number of days per calendar year is generally based on an average of the number of times the standard has been exceeded per year for the last 3 years.
[3] Where applicable, concentration is expressed first in units in which it was adopted. All measurements of air quality that are expressed as mass per unit volume, such as micrograms per cubic meter, must be corrected to a reference temperature of 25 degrees Celsius and a reference pressure of 760 millimeters of mercury (1,013.2 millibars); parts per million in this table refers to parts per million by volume, or micromoles of regulated air pollutant per mole of gas.
[4] National primary standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.
[5] National secondary standards are the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a regulated air pollutant.
[6] For the purposes of this section, prevailing visibility means the greatest visibility which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.
[7] The ambient air quality standard for hydrogen sulfide does not include naturally occurring background concentrations.

Source: Nevada Administrative Code NAC 445B.22097 Standards of quality for ambient air (NRS 445B.210, 445B.300).

by the U.S. Environmental Protection Agency as being in attainment for a pollutant if ambient concentrations of that pollutant are below the National Ambient Air Quality Standards. An area is not in attainment if violations of National Ambient Air Quality Standards for that pollutant occur. Areas where insufficient data are available to make an attainment status designation are listed as unclassifiable and are treated as being in attainment for regulatory purposes. A maintenance area is a former nonattainment area that has improved to the point where ambient air quality standard violations no longer occur.

The existing air quality of the planning area is typical of the largely undeveloped regions of the western U.S. There are no monitoring networks currently measuring air quality in the Ely area. Monitors in the state and local programs are concentrated in population centers. Nonetheless, for the purposes of statewide regulatory planning, this area has been designated as in attainment for PM_{10} and as unclassified for other criteria air pollutants. The region is designated as a Class II area under the Prevention of Significant Deterioration regulations. The Class II designation allows for moderate growth or some degradation of air quality within certain limits above baseline air quality. These limits include the National Ambient Air Quality Standards referred to above and shown in **Table 3.2-1** as well as other incremental limits set by the Nevada Department of Environmental Protection.

As natural air pollutant emission sources, wildland fires are not subject to air quality regulations, whereas prescribed fires (including wildland fire managed for natural resource purposes) are subject to applicable smoke management regulations, including permitting.

State Implementation Plans

The Clean Air Act requires each state to develop, adopt, and implement a State Implementation Plan to ensure that the National Ambient Air Quality Standards are attained and maintained for the criteria pollutants. These plans must contain schedules for developing and implementing air quality programs and regulations. State Implementation Plans also contain additional regulations for areas that have violated one or more of the National Ambient Air Quality Standards (nonattainment areas). The general conformity provisions of the Clean Air Act (Section 176[c]) prohibit federal agencies from taking any action within a nonattainment area that would cause or contribute to a new violation of the National Ambient Air Quality Standards, increase the frequency or severity of an existing violation, or delay the timely attainment of a standard. The federal conformity analysis and determination regulations are applicable for certain actions within either nonattainment or maintenance areas. Federal agencies are required to ensure that their actions conform to applicable State Implementation Plans. The U.S. Environmental Protection Agency developed and finalized criteria and procedures for demonstrating and ensuring conformity of federal actions to State Implementation Plans. However, as written, they apply only to federal actions that occur within nonattainment areas. As of the printing of this RMP/EIS, neither the BLM-administered lands nor national forest parcels within the planning area lie within nonattainment areas. Therefore, requirements of the conformity regulations do not apply to management actions proposed in this RMP/EIS. However, federal actions still must comply with the State Implementation Plans.

Visibility in Class I Areas

Congress, in the Clean Air Act, declared as a national goal "the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I federal areas which impairment results from manmade air pollution." Class I areas include designated wilderness of at least 5,000 acres or national parks of at least 6,000 acres that were in existence by August 7, 1977. The Clean Air Act also enabled tribes to classify tribal lands as Class I areas.

The entire planning area is Prevention of Significant Deterioration Class II, and the nearest mandatory federal Prevention of Significant Deterioration Class I area is the Jarbidge Wilderness Area, located on the Nevada-Idaho border. Several designated wildernesses in Nevada (including Mount Moriah) were designated after 1977, and, therefore, are not mandatory Prevention of Significant Deterioration Class I areas.

To assure protection of visibility in mandatory Class I areas, some states have adopted (or would adopt) visibility protection requirements as part of their State Implementation Plans, to limit the amount of air pollutant emissions that can take place (including prescribed fire emissions). However, the State Implementation Plan for Nevada does not currently include visibility protection requirements. Class I areas are subject to the most limiting restrictions regarding how much additional pollution can be added to the air. Fine particulate matter ($PM_{2.5}$) is the primary cause of visibility impairment. Emissions from wildland fires and prescribed burning, which stay suspended for long time periods and distances, are typically in the 0.1 to 2.5 micron size class and reduce visibility.

Federal land managers have an obligation to complete smoke management reports and apply appropriate mitigation measures to reduce potential impacts on air quality. Managers use, although they are not limited to, available computer software to estimate fuel consumption, emissions, and smoke dispersion from prescribed burns.

3.3 Water Resources

3.3.1 Existing Conditions

Groundwater

Carbonate Rock Aquifer Province. Groundwater of the Carbonate Rock Aquifer Province is stored in ancient consolidated marine sediments, which underlie much of southern and eastern Nevada and extend into western Utah, eastern California, and southeastern Idaho (Dettinger et al. 1995). The carbonate rocks consist of thick discontinuous sequences of limestone and dolomite of Paleozoic age, underlain by clastic and crystalline rocks of Cambrian and Pre-Cambrian age. Some major springs found along faults, such as Murry Springs, may represent the surface expression of these deep carbonate aquifers. The extensive springs along the western side of Ruby Lake in northern White Pine County are another example of such springs.

Currently, the carbonate aquifer systems are not extensively utilized. The occurrence and availability of groundwater in the carbonate province varies with location, and water quality is generally good. Although large amounts of groundwater are stored within the carbonate aquifer province regionally, the supply of groundwater to wells varies according to the distribution and alignment of fractures, faults, and other geologic factors. In many places, groundwater flows between these deeper carbonate bedrock aquifers and overlying unconsolidated basin-fill aquifers.

Basin-Fill (alluvial) Aquifers. In Nevada, the Great Basin is divided into 14 closed or semi-closed hydrographic areas. Each hydrographic area in the region is underlain by a structural basin partially filled with clastic material eroded from adjacent mountains. These deposits form basin-fill aquifers that are bounded by the consolidated rocks of the structural basin. Most are connected to adjacent or underlying carbonate-rock aquifers (Harrill and Prudic 1998). Alluvial aquifers of the Great Basin typically consist of two distinct units: a deep older unit and a younger shallow aquifer separated by a clay layer of Pliocene age. These alluvial aquifers have a wide range of beneficial uses.

Table 3.3-1 summarizes water availability in the shallow alluvial aquifers of the planning area. The perennial yield values shown in **Table 3.3-1** were derived by the state to estimate the water in shallow alluvial aquifers that can be withdrawn without creating substantial drawdown in the water table. Perennial yield is a hydrologic concept; it generally is about equal to the estimated net annual recharge. It should be noted that values for perennial yields are subject to change, and represent estimates from Nevada Division of Water Resources at the time this document was prepared. Other values exist from other sources. Estimates between sources may differ considerably, based on the scope and intensity of investigations, the availability and interpretation of data, and when studies were conducted. Additional investigations of perennial yield and potential pumping effects are being undertaken for water development projects and NEPA actions involving the planning area. These are mentioned in Section 3.3.2.

Table 3.3-1
Water Availability in Shallow Alluvial Aquifers[1] in the Planning Area

Hydrographic Area	Basin Number	Perennial Yield (acre-feet/year)	Committed Resources (acre-feet/year)	Designated Groundwater Basin[2]
White Pine County				
Humboldt River Basin				
Huntington Valley	47	25,000	8,124	Yes
Central Region				
Newark Valley	154	18,000	12,035	No
Little Smokey Valley-north	155A	5,000	3,484	No
Railroad Valley-north	173B	75,000	40,820	No
Jakes Valley	174	12,000	54	No
Long Valley	175	6,000	3,307	No
Ruby Valley	176	53,000	33,822	Yes
Butte Valley-south	178B	14,000	318	No
Steptoe Valley	179	70,000	78,531[3]	Yes
Cave Valley	180	2,000	13	No
Lake Valley	183	12,000	28,981[3]	Yes
Spring Valley	184	100,000	24,778	No
Tippett Valley	185	3,500	472	No
Antelope Valley-south	186A	800	637	No
Antelope Valley-north	186B	1,700	613	No
Great Salt Lake Basin				
Deep Creek Valley	193	2,000	0	No
Pleasant Valley	194	1,500	976	No
Snake Valley	195	25,000	12,389	No
Hamlin Valley	196	5,000	368	No
Colorado River Basin				
White River Valley	207	37,000	25,007	No
Lincoln County				
Central Region				
Emigrant Valley-Groom Lake	158A	2,800	12	No
Emigrant Valley-Papoose	158B	10	0	No
Frenchman Flat	160	16,000	0	No
Three Lakes Valley-north	168	4,000	0	No
Tikapoo Valley-north	169A	1,300	7	No
Tikapoo Valley-south	169B	3,000	0	No
Penoyer Valley	170	4,000	19,768[3]	Yes
Coal Valley	171	6,000	25	No
Garden Valley	172	6,000	366	No
Railroad Valley-north	173B	75,000	40,820	No
Cave Valley	180	2,000	13	No
Dry Lake Valley	181	2,500	56	No
Delamar Valley	182	3,000	7	No
Lake Valley	183	12,000	28,981[3]	Yes
Spring Valley	184	100,000	24,778	No

Table 3.3-1 (Continued)

Hydrographic Area	Basin Number	Perennial Yield (acre-feet/year)	Committed Resources (acre-feet/year)	Designated Groundwater Basin[2]
Great Salt Lake Basin				
Hamlin Valley	196	5,000	368	No
Escalante Desert Basin				
Escalante Desert	197	1,000	2	No
Colorado River Basin				
Dry Valley	198	1,000	7,207[3]	No
Rose Valley	199	100	1,660[2]	No
Eagle Valley	200	300	297	No
Spring Valley	201	4,100	1,164	No
Patterson Valley	202	4,500	5,435[3]	No
Panaca Valley	203	900	28,134[3]	Yes
Clover Valley	204	1,000	3,690[3]	No
Lower Meadow Valley Wash	205	5,000	29,680[3]	Yes
Kane Springs Valley	206	0	0	No
White River Valley	207	37,000	25,007	No
Pahroc Valley	208	21,000	7	No
Pahranagat Valley	209	25,000	9,714	No
Coyote Springs Valley	210	18,000	0	Yes
Muddy River Springs	219	37,000	8,328	Yes
Lower Moapa Valley	220	16,500	5,660	Yes
Tule Desert	221	1,000	4	No
Virgin River Valley	222	3,600	13,307[3]	Yes
Nye County				
Central Region				
Little Smokey Valley-north	155A	5,000	3,484	No
Little Smokey Valley-central	155B	100	2	No
Little Smokey Valley-south	155C	1,000	17	No
Hot Creek Valley	156	5,500	4,219	No
Coal Valley	171	6,000	25	No
Garden Valley	172	6,000	366	No
Railroad Valley-north	173B	75,000	40,820	No
Colorado River Basin				
White River Valley	207	37,000	25,007	No
Pahroc Valley	208	21,000	7	No

[1] Source: Nevada Division of Water Resources 2003. The information is as published as of August 2003, but may be revised by the Division as necessary in ongoing water resources administration. Information from other sources or studies may differ.
[2] Designated groundwater basins are basins where permitted ground water rights approach or exceed the average annual recharge and the water resources are being depleted or require additional administration. State-declared preferred uses may include, among others, municipal and industrial, domestic, and/or agriculture. The Nevada State Engineer has additional authority to administer water resources in a designated groundwater basin.
[3] The shallow alluvial groundwater resource currently is fully allocated by the Nevada Division of Water Resources.

The committed resources represent the total volume of permitted, certificated, and vested groundwater rights recognized by the Nevada Division of Water Resources in each basin (Nevada Division of Water Planning 1992). Committed resources are administratively determined, and values are subject to change as existing permits and applications are approved, denied, forfeited, or undergo other administrative actions involving the Nevada Division of Water Resources, State Engineer.

Groundwater quality in shallow alluvial aquifers of the planning area is highly variable (Thompson and Chappell 1984). Most basins have groundwater chemistry dominated either by calcium bicarbonate or sodium bicarbonate. Often, a basin would grade from calcium bicarbonate water along the mountain front recharge area to sodium bicarbonate water in the interior of the basin. Springs in the alluvial basins are usually the surface expression of the shallow alluvial groundwater table. Alluvial basin recharge generally occurs year-round due to springtime mountain runoff and storms during other seasons. This runoff percolates through the alluvial pediment gravel at the mountain fronts, recharging the shallow groundwater table. This recharge maintains the water table and is expressed as springs near the interior of the basins. These springs are used by wildlife and by ranchers. Flow rates in the springs are variable. During the summer months and especially during periods of drought, the springs cease to flow. The water quality in the springs reflects the water quality in the shallow alluvial aquifer.

Groundwater evapotranspiration losses have been studied in Nevada since the 1940s. More recent research using current data and techniques has been carried out to revise regional groundwater evapotranspiration and groundwater budgets in the Great Basin of eastern Nevada (Nichols 2000). As Nichols' estimates indicate, evapotranspiration by phreatophytic plant communities accounts for a significant consumption of groundwater recharge resources. In the Great Basin, plants considered phreatophytes (basically, those that normally reach and consume groundwater by root system adaptations) consist of riparian-area trees, shrubs, grasses, and grass-like plants; and some salt-desert shrubs and grasses.

In addition to groundwater consumption by phreatophytes, shrubs and tree species common to the planning area develop extensive near-surface lateral root systems that capture rainfall and snowmelt. Although they may generate deep taproot systems, pinyon, juniper, and big sagebrush frequently have a high proportion of active roots at shallow soil depths (Evans 1988; Flanagan et al. 1991; Gedney et al. 1999). In addition to their winter transpiration demand, pinyon and juniper are particularly efficient at utilizing summer precipitation (Flanagan et al. 1991). This may result in the increased growth and competition of these species in areas where such seasonal rainfall forms an important part of the annual average.

Consumptive use of soil moisture and groundwater by plant transpiration is one of the major factors affecting water availability in the planning area. Numerous studies have been made of evapotranspiration rates in arid and semi-arid settings. The research is useful for comparative purposes. Annual water use by pinyon-juniper woodlands ranges from about 14.5 to 27.5 inches (American Society of Civil Engineers 1989). Big sagebrush consumes on the order of 8 to 12 inches per year, and tamarisk water consumption generally ranges from 30 to 70 inches per year. Upland grass communities utilize about 6 to 12 inches per year (American Society of Civil Engineers 1989).

Canopy cover and interception losses also affect water availability in the planning area. Interception is the component of precipitation captured by the vegetation canopy or underlying debris. Rangeland interception losses are generally between 20 and 40 percent of precipitation, but may have a wider range in juniper (Wilcox et al. 2003; Gedney et al. 1999). Subsequent evaporation prevents much of this water from reaching the soil surface and, therefore, it is not available for other plant species. Pinyon and juniper stands intercept large quantities of precipitation and, thus, reduce water available for groundwater recharge.

Surface Water

Surface water resources in the eastern Great Basin include perennial, intermittent, and ephemeral streams, marshlands and small lakes, intermittently inundated playas, and manmade impoundments. Springs, which are an expression of the groundwater/surface water interface, are discussed above under "Groundwater." The overall combination of limited precipitation, upstream agricultural diversions, soil and geologic conditions, and evapotranspiration demand in the planning area has resulted in limited streamflows in general, and few intermittent or perennial streams. Most streams in the planning area are ephemeral and flow from the mountains to the alluvial basins in response to spring snow melt or heavy rains. Most perennial streams that flow from the mountain fronts seep into unconsolidated deposits or are diverted for irrigation. **Map 3.3-1** shows the approximate location of perennial streams and mapped springs within the overall boundary of the planning area. Water data are available from the U.S. Geological Survey for perennial streams in the planning area by accessing the U.S. Geological Survey water data web site: http://www.water.usgs.gov.

Approximately 6,800 square miles occur within the Colorado River drainage of the planning area (Nevada Division of Water Resources 2003). The primary streams in the planning area that historically drained into the Colorado River system include Lower Meadow Valley Wash and the White River. The southernmost reaches of these streams are ephemeral, and flow only during extreme runoff events. When flowing, they empty into the Muddy River and then into the Colorado River by way of Lake Mead. Over the last several decades, salinity in the Colorado River has become a primary water quality concern.

National, state, and local programs based on the Clean Water Act and the Colorado River Basin Salinity Control Act have been developed to regulate water quality in the Colorado River Basin. In 1994, the BLM was directed (by amendment to the Colorado River Basin Salinity Control Act) to develop a comprehensive program for minimizing salt contributions from lands it administers (U.S. Bureau of Reclamation 2004). The agency objective is to reduce the salt load of the Colorado River by 89,000 tons per year by 2015 (National Applied Resource Sciences Center 1999). Land management activities within the Colorado River watershed must consider the agency's role and objectives as a member of the multi-agency Colorado River Basin Salinity Control Forum.

In addition, an objective within BLM is to reduce the density and distribution of tamarisk (salt cedar) along drainages (Medlyn 2004). As tamarisk displaces native vegetation, the original habitat values for many native wildlife species are reduced (Lovich 1996). In addition to being an aggressive invasive plant, the biological characteristics of tamarisk can cause undesirable modifications in the surrounding environment. Common changes include increased soil salinity that inhibits native plant germination and growth, and

increased water consumption (Wiesenborn 1996). Additional noxious weeds present in several riparian areas include whitetop and tall whitetop. In areas where vegetation has declined because of overgrazing, wildland fires, or other land disturbing activities, soil erosion has caused an increase in the total suspended sediments in streams. Springs attract cattle and wildlife. Water quality immediately downgradient of ephemeral or intermittent streams or flowing springs may exhibit a decline due to physical site alteration and concentration of animal fecal material (Tippets et al. 2001; Rockwell 2002; Health Effects Review 1996).

The Nevada Division of Environmental Protection classifies water bodies based on the degree of impact from human activities, such as urban drainage, industrial activity, agricultural irrigation, and waste disposal. These classes are used by the State Environmental Commission to generally describe the waters and their beneficial uses, and to assign water quality standards. Class A waters are those least affected by human activity, while Class D waters are substantially affected. The classification of waters in White Pine, northeastern Nye, and Lincoln counties (Nevada Administrative Code 445A.124 to 445A.127) are presented in **Table 3.3-2**. This table shows that many reservoirs are Class B or Class C waters, while most streams in the planning area are Class A waters.

3.3.2 Trends

Groundwater

Current trends in Nevada have been toward the development of groundwater for municipal, industrial, and agricultural uses. Nevada, especially eastern Nevada, has seen increasing demand for groundwater appropriations that involve interbasin transfer of water. As in other regions that are undergoing significant population increases, these transfers are from primarily agricultural areas to large municipalities, or to areas of residential and recreational development adjacent to municipalities. Areas around Reno, Carson City, and especially Las Vegas have experienced an increasing demand for water that only can be met by greater conservation, implementation of other technologies (e.g., desalinization), revised interstate agreements, or further water resources development (including groundwater development) in agricultural areas, river systems, or undeveloped basins, and transfer of the water to the more populated regions. Interstate and intrastate infrastructure and agreements may be necessary to address water supply issues in the region and elsewhere. In the past decade or so, the Las Vegas metropolitan area has experienced record population growth and associated water demand increases. This trend is projected to continue, with an additional approximately one million residents predicted for Clark County by 2030 (Southern Nevada Water Authority 2004). The Southern Nevada Water Authority has identified several water supply options to address current and future water supply issues in the area (Southern Nevada Water Authority 2004). Groundwater diversion applications for between 125,000 and 200,000 acre-feet per year from White Pine, Nye, and Lincoln counties have been filed with the Nevada Division of Water Resources by the Southern Nevada Water Authority (Southern Nevada Water Authority 2004). Groundwater would be piped from the source regions into the Las Vegas metropolitan area. Additional groundwater development projects are proposed in the planning area, including those by White Pine County, Lincoln County, and private parties.

Table 3.3-2
Classification of Waters in the Planning Area[1]

Water Body	Hydrographic Region	Hydrographic Area
Class A Waters (Relatively pristine waters not affected by industrial or agricultural activity)		
Nye County		
Bailey Creek	10	140
Currant Creek	10	173
Pine Creek	10	140
Stoneberger Creek	10	140
White Pine County		
Huntington Creek	4	47
Lehman Creek	11	195
Silver Creek	11	195
Berry Creek	10	179
Bird Creek	10	179
Cave Creek	10	179
Cleve Creek	10	184
Currant Creek	10	173
Duck Creek	10	179
East Creek	10	179
Goshute Creek	10	179
North Creek	10	179
Pine Creek	10	184
Ridge Creek	10	184
Silver Creek	10	195
Timber Creek	10	179
Baker Creek	11	195
Hendry's Creek	11	195
White River	13	207
Class B Waters (Waters with light-moderate human habitation, light industrial activity, light-moderate agricultural use, and moderate influence of human activity on the watershed)		
Lincoln County		
Clover Creek	13	204
Eagle Valley	13	200
Eagle Valley Reservoir	13	201
White Pine County		
Cave Lake	10	179
Illipah Reservoir	10	174
Silver Creek Reservoir	11	195
White River[2]	13	207
Nye County		
Currant Creek	10	177

Table 3.3-2 (Continued)

Water Body	Hydrographic Region	Hydrographic Area
Class C Waters (Waters with moderate urban use, moderate industrial activity, intensive agricultural use, and a watershed altered by man)		
Lincoln County		
Echo Canyon Reservoir	13	199
Nesbitt Lake	13	209
Pahranagat Reservoir	13	209
Schroeder Reservoir	13	222
White Pine County		
Comins Reservoir	10	179
Gleason Creek[3]	10	179
Snake Creek	11	195
Willow Reservoir	10	179
Class D Waters (Waters in industrial areas, agricultural waters, and waters subject to multiple discharge of wastes)		
White Pine County		
Gleason Creek[4]	10	179
Murry Creek[5]	10	179

[1] Based on ongoing Nevada Division of Environmental Protection investigations regarding potential sources of potable waters of the state. Additional information regarding aquatic and stream resources for fisheries and wildlife is presented in Section 3.6. Per Nevada Administrative Code Chapter 445A.123, existing stream standards and classifications do not preclude the State Environmental Commission from establishing standards and classifications for additional public waters, nor reclassifying the waters covered by Nevada Administrative Code Chapter 445A.123-127 inclusive.
[2] National Forest to Ellison Creek.
[3] From its origin to State Highway 485.
[4] State Highway 485 to Murry Creek confluence.
[5] Gleason Creek to south line of Section 35, T17N, R63E.

Source: Nevada Administrative Code Chapter 445A.124-127.

Table 3.3-1 shows the groundwater demands and estimated perennial yield in the planning area. In some hydrographic areas, the estimated perennial yield is fully committed to existing uses. In White Pine County, these areas are Steptoe Valley, and Lake Valley. In Lincoln County, these areas are Indian Springs Valley, Penoyer Valley, Railroad Valley (south) Lake Valley, Dry Valley, Rose Valley, Patterson Valley, Panaca Valley, Clover Valley, Lower Meadow Wash Valley, and the Virgin River Valley. Many of these hydrographic areas are designated basins, indicating that the Nevada Division of Water Resources would closely monitor future groundwater use and may not issue new groundwater permits.

Surface Water

All surface waters within the planning area, with the exception of some small springs and seasonal streams, have been appropriated.

3.3.3 Current Management

Water Rights

The State Engineer administers water rights for both surface water and groundwater. In addition to considering if sufficient water is available for a proposed appropriation or reallocation, the State Engineer also must consider other criteria when reviewing a permit application. Examples of these criteria include whether the appropriation or reallocation would benefit the public interest or prove detrimental to it, relevant protests or court actions, or if a proposed appropriation or reallocation conflicts with existing water rights. Applications for permits to appropriate water rights must be approved by the State Engineer.

In general, surface water in Nevada is fully appropriated (Nevada Division of Water Planning 1999). New applications for permits to appropriate groundwater resources may be made. Springs and small streams exist throughout the state for which no determination of water quantity has been made by the State Engineer's office. One must make application on a particular source before this determination of water quantity is made. The State Engineer may approve an application if it is determined that there is sufficient water for the proposed use. There may be vested claims on various sources. Vested claims are those in which a beneficial use of the water can be established before the establishment of Nevada water law. It is not necessary for vested claims to be filed until such a time as so ordered by the State Engineer. Federal reserved water rights are water rights reserved by applicable Executive Orders or legislation. The doctrine of federal reserved rights evolved to ensure that public lands would have sufficient water to meet the purposes for which they were reserved. The priority date for federal reserved rights is the signing date of the reservation. If the BLM identifies a need for a new water development on public lands, the BLM would apply to the Nevada State Engineer for a permit to appropriate water for beneficial use recognized in Nevada Regulatory Statute 533. Public Water Reserves are federal reserved rights created by Presidential Executive Order to preclude monopolization of water sources on arid rangelands of the west. They reserve water from springs and water holes specifically for livestock watering or domestic use only. By agreement, the BLM notifies the State Engineer of all claimed Public Water Reserves. All other beneficial uses of springs or water holes require application for a state appropriative right.

Water Quality

The Nevada Division of Environmental Protection administers the Clean Water Act as amended (P.L.10 0-4) for waters of the State of Nevada, including those in the Ely RMP decision area. A Memorandum of Understanding for Water Quality Management Activities (dated September, 2004) was approved by the Nevada Division of Environmental Protection and BLM which identified opportunities for cooperation to administer the Clean Water Act to the extent practical and as allowed by other applicable laws and available resources. The Memorandum of Understanding is limited to identifying responsibilities and activities to be performed by each agency in carrying out water quality programs on lands administered by the BLM. These opportunities include: development of best management practices, coordinated water quality monitoring programs, review of policies and procedures, and cooperative efforts to establish water quality objectives and requirements. Further, the BLM agrees to recognize the state's beneficial uses of water, water quality standards, and monitoring and nonpoint source program objectives. The state acknowledges the BLM's role

and responsibility for the maintenance of water quality consistent with the Clean Water Act and state regulations.

Wellhead Protection

Wellhead protection is one way communities in the planning area can protect their current and future drinking water supply. Since the majority of public drinking water supply systems in Nevada rely upon groundwater, preventative action such as wellhead protection is important because remediation of contaminated groundwater is expensive and, in some cases, it may be impossible to return the water to drinking water quality. Many of the communities in the planning area have begun wellhead protection programs. In Nevada, wellhead protection programs are developed and managed at the local level (town or city). The state may provide guidance and technical assistance with the various program elements.

The state encourages communities to submit their wellhead protection programs to the state. The state endorses wellhead protection programs that provide adequate protection to the community drinking water supply. Criteria for state endorsement are outlined in the U.S. Environmental Protection Agency-approved Nevada Wellhead Protection Program.

The goal of wellhead protection is to protect the water flowing to the well. The wellhead protection area is represented on the land surface generally as a circular or elliptical shape around the well. In some cases, it also may be necessary to manage the activities in a rechange zone located some distance from the well.

Potential contamination sources are land uses or activities that could release toxic substances onto the ground surface or into the soil. These substances potentially could travel down through the soil to the water table, contaminating the ground water. Some examples of potential contaminant sources are:

- Landfills;
- Leaking underground storage tanks;
- Septic systems;
- Fertilizers and pesticides;
- Poorly constructed or improperly abandoned wells; and
- Household hazardous waste.

Communities within or near the planning area that have state-endorsed wellhead protection plans, or are in the endorsement process, include (Nevada Division of Environmental Protection, Bureau of Water Pollution Control 2005, Nguyen 2007):

Ely;
Ruth (plan in process);
McGill (plan in process);
Baker
Pioche
Caliente
Alamo
Eureka

3.4 Soil Resources

3.4.1 Existing Conditions

The soil types in the planning area are strongly associated with landforms and physiographic location (Blackburn 1998). The types of soils that have developed have been strongly influenced by the type of bedrock geology. As discussed in Section 3.18, Geology and Mineral Extraction, the valley areas are typified by unconsolidated sedimentary deposits including alluvial and lakebed deposits. The areas adjacent to the mountain ranges (piedmonts) are composed of alluvial fans and related features. The mountain ranges generally are composed of sedimentary, metamorphic, and igneous rocks.

Soils can be found in the following four major settings in any of the valleys and adjacent mountain ranges.

Basin Floors. These soils occupy level to gentle slopes and can be very deep. Texture ranges from moderately coarse to fine-grained. They generally show little soil profile development, although in some cases, accumulations of soluble salts or silica occur at depth. Only a few of these soils are subject to high water tables, and they are seldom flooded.

Alluvial Fans and Stream Terraces. Soils in these areas occupy level to moderate slopes, and consist of fine to coarse textures. They generally exhibit little profile development. Some of the soils are associated with high water tables and occasionally can be flooded.

Fan Piedmonts. These soils formed where alluvial fans coalesced into a single linear feature that paralleled a mountain front (Blackburn 1998). These soils have level to moderately steep slopes and can be shallow to very deep. Texture ranges from moderately course or gravelly to moderately fine. Silica and lime cementation may be present in some of these soils.

Hills and Mountains. These soils are found on mountain slopes, and the sides of hills and are very shallow to deep. They contain gravel and coarse-textured material and in many places are underlain by bedrock at shallow depths. These soils, while not subject to flooding, may be at risk for erosion, especially on steeper slopes.

Soils can indicate the natural mosaic in a landscape or watershed as the complex geology, climate, topography, vegetation, and time work together as factors of soil formation.

Soil surveys are inventories of soils that indicate their spatial distribution. As an example, **Map 3.4-1** shows the distribution of soil mapping units in the Egan Basin, a small watershed in the planning area. The soil map unit descriptions indicate where soils occur within map unit polygons and in what percentages they occur. Soil map unit descriptions also explain the relationship of soil types to their correlating plant communities.

Biological soil crusts (also referred to variously as cryptogamic, microbiotic, crytpobiotic, and microphytic crusts) are found in the Great Basin and parts of the Mojave Desert. Living organisms and their byproducts

form the biological crusts by binding soil particles together with organic materials. These biological crusts contribute to important ecological functions such as soil stabilization, water infiltration, and plant establishment.

3.4.2 Trends

Soil erosion and related losses of productivity are ongoing concerns within the planning area. The primary concerns are related to sites where herbaceous vegetation is sparse to absent. Where understory vegetation is eliminated or degraded, soil erosion potential is greatly increased. Based on increasing density and abundance of woody species, combined with field observations of erosion features, soil resources appear to be on a trend of increasing risk.

Available literature and an understanding of erosion processes indicate that surface water runoff is highly correlated to erosion and generally correlated to sediment yield (Blackburn 1975; Blackburn and Skau 1974; Pierson et al. 2003; Wilcox et al. 2003). Runoff and erosion rates vary primarily with specific storm duration and intensity, topography, infiltration and soil profile characteristics, vegetation canopy and ground cover, and surface roughness. Studies in a semi-arid watershed in south-central Oregon indicated that the highest sediment production rates were found in juniper woodlands (approximately 1,640 kilograms/hectare, or about 0.73 ton per acre) (Buckhouse and Mattison 1980). Big sagebrush communities typically had sediment yields of approximately 1,440 kilograms per hectare (0.64 ton per acre), with substantial increases where juniper was encroaching. Low sagebrush/grass and grassland communities had the lowest sediment yields, about 785 kilograms per hectare (0.35 ton per acre) (Buckhouse and Mattison 1980). Mean annual precipitation in that study area is approximately 340 millimeters (13.4 inches) (Eddleman and Miller 1991).

These findings are generally consistent with studies done elsewhere on western semi-arid and arid watersheds. In large-plot rainfall simulations, Pierson et al. (2003) found that uncut juniper-dominated plots began to run off after rainfall was applied equivalent to a 2-year return period thunderstorm. In contrast, plots studied 10 years after juniper was cut did not run off until the equivalent of a larger, 100-year return period storm was applied. The uncut plots also produced high quantities of interrill and rill erosion in comparison to much smaller levels measured on the plots where juniper had been removed 10 years earlier (Pierson et al. 2003).

Studies in or near the planning area indicate larger variations in sediment production for several watersheds (Blackburn and Skau 1974). Canopy and herbaceous understory cover were not described, but substantial variation in infiltration and sediment yield was noted between the watersheds, and between the different community types on a given watershed. This is probably due to factors discussed below. Sediment yields from juniper and pinyon/juniper woodlands yielded 0.003 to 0.42 ton per acre of sediment, and sagebrush communities yielded 0.01 to 0.64 ton per acre. The highest infiltration rates and lowest sediment production were observed in the Steptoe watershed southeast of Ely, whereas the lowest infiltration rates and the highest sediment production were found in the Duckwater watershed southeast of Eureka. The smallest sediment yield in the Duckwater watershed came from singleleaf pinyon/Utah juniper communities, and the largest quantities of sediment came from big sagebrush, shadscale, and winterfat communities. In contrast, on the Steptoe watershed, the singleleaf pinyon/Utah juniper community consistently produced greater

sediment than other sampled types (Blackburn and Skau 1974). The least sediment yield came from big sagebrush and crested wheatgrass (reseeded) types, although there was no significant difference or trend in sediment production compared to unseeded sagebrush/grass communities on the watershed.

On the Pine and Mathews Canyon watershed southeast of Caliente, the largest sediment yields were observed from the big sagebrush/rubber rabbitbrush community and from the singleleaf pinyon/Utah juniper/black sagebrush/serviceberry community (Blackburn and Skau 1974). The lowest sediment production came from Utah juniper/crested wheatgrass, black sagebrush/intermediate wheatgrass and Utah juniper/big sagebrush/ squirreltail types. Vegetation communities that were railed and seeded or chained and seeded showed no statistically significant difference in sediment production from their unseeded counterparts, although there was a trend of increasing sediment production from the untreated sites (Blackburn and Skau 1974).

In further analysis, the amount of space between coppice dunes (areas of accumulated soil and litter under shrub or grass cover) was found to be associated with sediment production. Typically as dune interspaces increase and vesicular soil horizons form, sediment production increases (Blackburn and Skau 1974; Blackburn 1975). (Vesicular soil horizons are surface layers having strong platy or massive soil structure with numerous interconnected pores or air pockets; they are relatively unstable when saturated.) Similar relationships with increasing sediment yields were found for percent bare ground and percent silt. As organic matter, percent sand, coppice dunes and litter increase, sediment production decreases. The large variation in sediment yields overall can be explained by the variation in plot slope and the location of coppice dunes and interspaces (Blackburn 1975). Similarly, on a watershed basis, erosion and sediment yields vary according to precipitation, soils, topography, and vegetation characteristics. Significantly, the unstable, massive or platy vesicular horizons form in arid and semi-arid areas of sparse vegetation, and tend to increase where herbaceous vegetation is removed between the protected accumulations of litter and soil under shrubs and grasses (Blackburn and Skau 1974). The instability of the massive or platy vesicular soil horizons accounts for larger sediment production from these areas.

In addition, accelerated soil erosion and sediment delivery to aquatic resources commonly are observed soon after catastrophic fires, especially on steep slopes. Regional trends toward increasing fuels and increased fire frequency and severity contribute further to the increasing risk of soil erosion in the planning area. Also, trampling by livestock, wild horses, or wildlife, and increasing recreational use and severe wildland fires affect biological crusts. When the crusts are diminished, soil erosion potential increases.

3.4.3 Current Management

Erosion rates are estimated using contemporary prediction models, such as the Revised Universal Soil Loss Equation or the Watershed Erosion Prediction Program, prior to substantial ground disturbing activities in the planning area. Best management practices typically are used to minimize soil erosion and sediment yield on the site-specific local level. Soil inventories are conducted by the U.S. Department of Agriculture Natural Resource Conservation Service.

3.5 Vegetation Resources

3.5.1 Existing Conditions

The planning area is located in a dry climate characterized by annual losses of water through evaporation and transpiration that exceed annual water gains in precipitation. Two divisions of dry climates commonly are recognized: the arid desert and the semiarid steppe (U.S. Department of Agriculture Natural Resources Conservation Service 2003). The greatest portion of the planning area (northern two-thirds) lies within the semiarid, cold desert steppe better known as the Great Basin ecological system. The southern portion lies within the arid, hot desert, Mojave Desert ecological system with a transitional vegetation zone between it and the Great Basin. The Great Basin and the Mojave Desert are distinguished by the presence of distinctive native shrub communities, dominated by sagebrush and creosotebush, respectively.

As discussed further in Section 3.5.2, these vegetation communities are products of the various natural and human-related disturbances and environmental factors occurring during the past 200 years. As noted by Tausch et al. (1993), the warming trend of the past century has coincided with increased livestock grazing in the early 1900s and a reduced frequency of fire. All of these factors have contributed to existing vegetation communities and patterns.

The planning area lies within all or portions of five Major Land Resource Areas as delineated by the U.S. Department of Agriculture Natural Resources Conservation Service and modified to reflect current knowledge from recent soils data (**Map 3.5-1**). The general characteristics of these Major Land Resource Areas are summarized in **Table 3.5-1**. Actual land cover types representing major vegetation types are displayed in **Map 3.5-2**. The major vegetation types that occur in the planning area within the broad cover classes are listed in **Table 3.5-2** with their relative abundance.

The array of vegetation types in the planning area (except riparian/wetland) are broken down in **Table 3.5-3** with respect to their current conditions relative to the range of desired conditions discussed in Section 2.5.5. Existing conditions of the major vegetation types are further discussed in the remainder of this section. Appendix C discusses the state and transition models that help explain how these vegetation communities change over time and in response to various environmental factors.

Vegetation communities, as described in the ecological site descriptions, express the composition and cover consistent with site potential for a variety of species. Therefore, ecological site descriptions would be used as the initial basis for determining the desired range of conditions for vegetation within this RMP. State and transitions models are being used to guide treatments to meet the standards. These models are based on the potential existence of multiple successional pathways and multiple steady states within a pathway for any given ecological site (Westoby et al. 1989; Tausch et al. 1993; Stringham et al. 2003). These models describe the anticipated vegetation changes on a given ecological site over time in response to various types of disturbances and environmental factors.

A vegetation state is a recognizable, relatively resistant and resilient complex of phases with attributes that include characteristic climate, soil resource including soil biota, and the associated above ground plant

Table 3.5-1
General Characteristics of Major Land Resource Areas of the Planning Area

Major Land Resource Area	Major Plant Indicators	Elevation/Topography	Climate	Acres and Percent of the Planning Area	Associated Watersheds	Special note
25	Bluebunch wheatgrass, Thurber needle grass, Idaho fescue, low sagebrush, antelope bitterbrush, Utah juniper	4,590 to 7,540 feet on rolling plateaus and gently sloping basins, some steep mountains, Steep, north-south trending ranges are separated by broad basins filled with alluvium.	Average annual precipitation is from 8-15 inches, Precipitation is evenly distributed thought the year, but is low from midsummer to early autumn. Growing season is 90 to 120 days.	76,038 acres or 1 percent of the planning area	Huntington Valley, Newark	Salt desert shrub plant communities that occur in association with Major Land Resource Area 25 sagebrush grass communities are recognized as either Major Land Resource Areas 24, 28A, or Major Land Resource Land Area 28B, depending on plant species composition.
28A	Galleta, bluebunch wheatgrass, Indian ricegrass, needle-and-thread, mutton grass, black sagebrush, winterfat, antelope bitterbursh, kochia, single leaf pinyon, Utah juniper	4,000 to 6,500 feet in basins and 6,500 to 11,000 in mountains. Nearly level basins bordered by long, gently sloping alluvial fans between widely separated north-south trending steep mountain ranges.	Average annual precipitation is 5 to 8 inches at lower elevations to 20+ inches on higher mountains. Significant rainfall occurs during the growing season in the form of summer convection storms. Growing season is 60 to 160 days.	2,455,907 acres or 21 percent of the planning area	Antelope Valley. Cave Valley, Deep Creek, Dry Lake Valley, Dry Valley, Eagle Valley, Escalante Desert, Fox-gap Mountain, Hamblin Valley, Lake Valley, North Antelope, North Spring Valley, Panaca Valley, Patterson Wash, Rose Valley, Snake Valley North, Snake Valley South, South Spring Valley, Spring Valley, Spring Valley South East, Spring Valley South West, White River Central	8 to 12 inches rainfall – dominant shrub is Wyoming big sagebrush; black sagebrush is dominant when root depth is restricted. On deep soils basin big sagebrush and basin wildrye communities predominate. 12 to 14 inches rainfall - dominant shrub is mountain big sagebrush with Utah juniper and pinyon. 14 to 18 inches rainfall – dominant shrubs are mountain big sagebrush, antelope bitterbrush, Utah serviceberry, and pinyon.
28B	Bluebunch wheatgrass, Indian ricegrass, needle-and-thread, mutton grass, black sagebrush, winterfat, antelope biterbursh, single leaf pinyon, Utah juniper	4,500 to 6,500 feet in valley and basins and from 6,500 to 13,000 feet in the mountains. Nearly level valleys and basins are bordered by long, gently sloping to strongly sloping alluvial fans between north-south trending steep mountains.	Average annual precipitation ranges from 5 to 25 inches, increasing with elevation. Driest period is from mid-summer to mid autumn. Growing season is 60 to 120 days.	3,711,386 acres or 33 percent of the planning area	Antelope Valley, Big Sand Springs Valley, Butte, Cave Valley, Central Little Smokey Valley, Coal Valley, Deep Creek, Duck Creek Basin, Duck Water, Egan Basin, Garden Valley, Gleason Creek, Huntington, Jakes Valley, Lake Valley, Long Valley, Newark, North Antelope, North Little Smoky Valley, North Spring Valley, Park Range, Railroad Valley, Ruby Valley, Smith Valley, Snake Valley North, Snake Valley South, South Little Smoky Valley, South Spring Valley, South Steptoe, Spring Valley, Steptoe A, Steptoe B, Steptoe C, White River Central, White River North	8 to 12 inches of precipitation - dominant shrubs are winterfat, black sagebrush, and Wyoming big sagebrush. 12 to 16 inches rainfall - Utah juniper and pinyon, are extensive in the mountains. 16 inches rainfall or more - dominant shrubs are mountain big sagebrush, snowberry, serviceberry, curleaf mountain mahogany, quaking aspen, and mixed conifer.

Table 3.5-1 (Continued)

Major Land Resource Area	Major Plant Indicators	Elevation/Topography	Climate	Acres and Percent of the Planning Area	Associated Watersheds	Special note
29	Galleta, King's desertgrass, Indian ricegrass, needle-and-thread, black sagebrush, antelope bitterbrush, desert bitterbrush, cliffrose, Bailey greasewood, single leaf pinyon, Utah juniper	3,000 to 13,000 feet on Boundary Peak in White Mountains. North-south trending mountains ranges are separated by broad valleys bordered by sloping fans and pediments.	Average annual precipitation ranges from 3 inches in lower areas to over 20 inches on higher mountains. Summers are dry and hot, but convection storms of high intensity and short duration are common in July and August. In the eastern portion of the major land resource area, summer storms occur frequently enough to influence the production and species composition of plant communities. Growing season is 60 to 200 days.	4,293,679 acres or 37 percent of the planning area	Beaver Dam Wash, Big Sands Springs Valley, Cave Valley, Central Little Smoky Valley, Clover Creek North, Clover Creek South, Coal Valley, Coyote Springs, Delamar Valley, Dry Lake Valley, Dry Valley, Duck Water, Eagle Valley, Emmigrant, Escalante Desert, Fox-gap Mountain, Garden Valley, Kane Spring Wash, Meadow Valley Wash North, Meadow Valley Wash South, North Little Smoky Valley, Panaca Valley, Park Range, Patterson Wash, Railroad Valley, Rose Valley, Sand Hollow Wash, Sand Spring Valley, South Little Smoky Valley, Tikaboo Valley, Toquop Wash, Tule Desert, White River Central, White River North, White River South	8 to 12 inches rainfall – dominant shrub is Wyoming big sagebrush; black sagebrush is dominant when root depth is restricted. 12 to 16 inches rainfall – dominant shrubs are mountain big sagebrush, antelope bitterbrush, Utah serviceberry, and Utah juniper and pinyon are extensive. Salt desert shrub communities dominated by bailey greasewood and shadscale or shadscale and bud sagebrush occur extensively throughout the low elevations.
30	Big galleta, bush muhly, Indian ricegrass, desert needlegrass, white bursage, creosotebush, catclaw, mesquite	500 to 6000 feet. Most valleys and basins in this area range between 2000 to 4000 feet. Widely spaced, north-south trending mountain ranges are separated by broad valleys bordered by smooth, gently sloping alluvial slopes.	Average annual precipitation ranges from 3 inches in lower areas to over 20 inches on higher mountains. Summers are dry and hot, but convection storms of high intensity and short duration are common in July and August. In the eastern portion of the major land resource area, summer storms occur frequently enough to influence the production and species composition of plant communities.	863,001 acres or 8 percent of the planning area	Beaver Dam Wash, Coyote Springs, Emmigrant, Kane Spring Wash, Meadow Valley Wash North, Meadow Valley Wash South, Sand Hollow Wash, Tikaboo Valley, Toquop Wash, Tule Desert, White River South	In the eastern portion of the area, plant species more representative of the Sonoran Desert are intermingled with the Mojave Desert vegetation. Shrubs include creosotebush, white bursage, range ratany, shadscale, Joshua tree and other yuccas, catclaw, and ephedra. Saltcedar, mesquite, and other phreatophytes are common along stream floodplains. Shadscale, desert needlegrass, Indian ricegrass, fluffgrass, and bottlebrush squirreltail are important plants associated with the creosotebush and white bursage communities in the western portion of the area.

communities. Vegetation conditions (e.g., composition and cover) within a watershed or across vegetation types could range from herbaceous dominated to shrub dominated states, but individual life forms (i.e., shrub, forbs, and grasses) would be present or could return after fire or other disturbances within ranges expressed in the ecological site guides. Transitions are the trajectory of system change between states that would not cease before the establishment of a different state. The transition to undesired states and phases would be avoided if possible. States are relatively stable and resistant to disturbance up to a threshold point. A threshold is the boundary between two states, such that one or more of the ecological processes has been irreversibly changed. The term "phase" is used to describe each of the multiple, identifiable plant communities within a particular state. Communities may shift over time between phases in response to various environmental factors, but these shifts are commonly reversible as the environmental factors return to earlier conditions. The overall goal would be to attain a diverse mixture (mosaic) of vegetation states and phases consistent with site potential and watershed objectives.

Title 1 of the Healthy Forest Restoration Act requires identification and mapping of the fire regimes and fire regime condition classes on BLM-administered lands at risk of wildland fire and insect or disease epidemics. Data extrapolated from fire regime condition class maps as well as current condition of vegetation states indicate the following approximate acreages for fire regime condition classes: Class 1 is 277,000 acres, Class 2 is 2.2 million acres, and Class 3 is 8.9 million acres.

Shrub Lands

Approximately 68 percent of the planning area vegetation is characterized as sagebrush, salt desert shrub, or Mojave Desert (**Table 3.5-2**). Within the shrub land vegetation type there are many plant communities described, of which creosotebush, blackbrush, shadscale, salt desert shrub, winterfat, and sagebrush are most widespread. Current conditions of the major vegetation types are presented in **Table 3.5-3**.

Table 3.5-2
Major Vegetation Types Found on the Public Lands in the Planning Area

Vegetation Type	Approximate Area (acres)	Proportion of the Planning Area (percent)
Pinyon-juniper	3,593,400	31.5
Aspen	7,000	0.1
High elevation conifers	56,000	0.5
Salt desert shrub	1,221,000	10.7
Sagebrush[1]	5,619,500	49.3
Mountain mahogany	46,000	0.4
Mojave Desert vegetation	850,000	7.5
Riparian/wetland	3,100	0.0
Nonnative seedings[2]	269,500	2.4

[1] Sagebrush category includes broad array of sagebrush species and communities as well as grassland inclusions.
[2] Seedings duplicate areas listed in other categories.

Source: Estimates have been extrapolated from Ecological Status Inventory and Southwest ReGAP data.

Table 3.5-3
Current Conditions of Major Vegetation Types

Pinyon-Juniper		
	Herbaceous State	9%
	Herbaceous State (Immature Woodland Phase)	1%
	Tree State (Mature Woodland Phase)	9%
	Tree State (Overmature Woodland Phase)	81%
	Tree State (Annual Invasives Phase)	0%
Aspen		
	Herbaceous State (Herbaceous, and Herbaceous-Shrub and Sapling Phase)	0%
	Herbaceous State (Immature Phase)	0%
	Tree State (Mature Woodland Phase)	40%
	Tree State (Overmature Woodland Phase)	60%
High-elevation Conifer		
	Herbaceous State (Herbaceous, and Herbaceous/Sapling Phase)	0%
	Herbaceous State (Immature Woodland Phase)	0%
	Tree State (Mature Phase)	43%
	Tree State (Overmature Phase)	57%
Salt Desert Shrub		
	Herbaceous State	18%
	Shrub State	64%
	Altered: Annual Invasive/Exotic	18%
	Altered: Perennial Nonnative Seeded	0%
Sagebrush		
	Herbaceous State	18%
	Shrub State	54%
	Tree State (Expansion of pinyon and juniper into shrublands)	17%
	Annual	9%
	Seeded	2%
Mountain Mahogany		
	Herbaceous State (Herbaceous Phase)	0%
	Herbaceous State (Shrub Phase)	0%
	Shrub State (Shrub - Herbaceous Phase)	5%
	Shrub State (Shrub Phase)	42%
	Shrub - Tree Like State (No Understory Phase)	53%
Creosotebush-Bursage		
	Herbaceous State	42%
	Shrub State	43%
	Altered State (Annual Invasive and Exotics)	15%
Blackbrush		
	Herbaceous State	60%
	Shrub State	30%
	Altered State (Annual Invasive and Exotics)	10%
Nonnative Seeding		
	Herbaceous State	35%
	Shrub State	49%
	Tree State (Expansion of pinyon and juniper into nonnative seedings)	15%
	Altered: Annual Invasive	1%

At the lower elevations in the hot desert climate regime of Major Land Resource Area 30, ephemeral vegetation grows in response to infrequent precipitation events and tolerates extended dry periods. Perennial vegetation associated with Major Land Resource Area 30 also is adapted to extended dry periods, and responds similarly to ephemeral vegetation by growing immediately after infrequent precipitation events. In this unit, shrub communities are variously dominated by blackbrush, creosotebush, and bursage. Current management is to manage for a minimum of 15 percent canopy for each ecological site in the Mojave Desert as determined by native perennial species and within the limitations of ecological site potential.

Lower elevations of Major Land Resource Area 29 are characterized by extensive salt desert shrub communities dominated by greasewood and shadscale or shadscale and bud sagebrush. Salinization is a dominant phenomenon resulting from high evaporation. Salty crusts accumulate on the soil surface. Salt-loving plants, or halophytes, such as saltbush and shadscale dominate large portions of the area because other plants have few or no physiological capabilities to tolerate the high salt conditions. Winterfat occurs both in pure monospecific stands and as a primary component of mixed shrub communities, commonly with shadscale. Distribution of salt desert shrub vegetation within the planning area is shown on **Map 3.5-3**.

Within Major Land Resource Areas 28a, 28b, and 29, the mid-elevations are dominated by various species, forms, and densities of sagebrush. Nearly all species and varieties of sagebrush are endemic to the western U.S. where this group of species is the most widely distributed of all shrubs (**Map 3.5-4**). The most widespread of these in the planning area are black, Wyoming big, mountain big, and big sagebrush, although others occur. The local sagebrush species and varieties are separated along ecological gradients related to soil and climate conditions (Young and Evans 1986). For example, the occurrence of deep soils coincides with the distribution of big sagebrush in the Great Basin (Hironaka 1986). The 12-inch mean annual precipitation line generally divides the ranges of Wyoming big and mountain big sagebrush.

Mountain mahogany sites occur on slopes at the mid to higher elevations. Mountain mahogany is long-lived, and many stands are mature with individual plants reaching tree size in height and diameter. Mature mahogany tends to be shade intolerant and loses its competitive advantage when overtopped by conifers (Schulz et al. 1990). Distribution of mountain mahogany sites within the planning area is illustrated on **Map 3.5-5**. Most mountain mahogany sites occur within the same elevation range as mountain big sagebrush.

Native perennial bunchgrasses, such as bluebunch wheatgrass, bottlebrush squirreltail, Indian ricegrass, and Great Basin wildrye, historically were associated with the interspaces between sagebrush plants. In many areas today, the perennial bunchgrasses have been replaced by a variety of invasive annual species such as halogeton and cheatgrass, as the result of fires, lack of fires, past grazing practices, or various soil disturbances (**Map 3.5-6**). For further discussion of cheatgrass in the planning area, refer to Section 3.21, Noxious and Invasive Weed Management. Crested wheatgrass, an introduced species, has been seeded in some areas, and has become well established in some areas. In addition to its value for livestock, wild horses, and some wildlife species, it has proven to have both fire resistance and soil-binding abilities. Where crested wheatgrass occurs, it can preclude dominance by cheatgrass.

Forests and Woodlands

Approximately 31 percent of the planning area is pinyon-juniper woodlands, dominated by single leaf pinyon pine and/or Utah juniper (**Table 3.5-2**) (**Map 3.5-7**). Pinyon-juniper woodland is predominant at the lower elevations of the mountain slopes. Less than 1 percent of the area is occupied by forests of ponderosa pine, white fir, spruce, aspen, and bristlecone pine distributed primarily on steep mountain slopes and ridges.

Over 80 percent of the pinyon-juniper woodland type contains high tree densities and high canopy closure with little or no understory. Annuals, mainly cheatgrass, dominate the understory of an estimated 9 percent of the woodland type (**Table 3.5-3**).

Aspen plant communities in the planning area generally occur as small stands in isolated pockets, mainly on northern and eastern slopes at higher elevations on the mountains and within drainages (**Map 3.5-8**). Approximately 7,000 acres of this type are identified in the planning area. Approximately 60 percent of this community is characterized as being over-crowded with coniferous trees. Many of these stands have little or no aspen regeneration (**Table 3.5-3**).

Kay (2001) found in his study of aspen communities in central Nevada that excessive herbivory, primarily by domestic livestock, is a key factor limiting regeneration of these stands. Because environmental conditions are rarely favorable for growth and establishment of aspen seedlings, the species spreads and regenerates primarily through vegetative propagation, i.e., root sprouting. The young shoots, both leaves and stems, are highly palatable to various grazing animals including livestock and wild ungulates.

High elevation conifer forests cover an estimated 56,000 acres of the planning area (**Map 3.5-9**). Approximately half (57 percent) of this area is characterized as being in the overmature phase of the tree state with canopy cover exceeding 40 percent (**Table 3.5-3**).

Riparian/Wetland Vegetation

As discussed in Section 3.3, Water Resources, there is a limited amount of surface water in the planning area that manifests in perennial and ephemeral streams, small lakes, and groundwater springs. Riparian areas are transition areas between permanently saturated wetlands and the surrounding upland areas. These areas are characterized by vegetation or physical characteristics that reflect the relatively higher availability of moisture. Definitions contained in BLM Technical Reference 1737 exclude ephemeral streams and washes where riparian vegetation is absent as riparian areas in need of special management (BLM 1998a).

Riparian wetland sites in the planning area are lentic, which refers to standing water as in lakes, springs, and bogs, or lotic, where water is flowing as in rivers and streams. There are approximately 188 miles and 3,100 acres of riparian/wetland vegetation in the planning area associated with lotic and lentic environments, respectively (BLM 2001b, BLM unpublished data). Riparian/wetland vegetation communities are diverse in composition and structure, ranging from herbaceous wetlands to drainages dominated by woody plants. Sedges, rushes, and cattails characterize herbaceous wetlands in the planning area. Virtually

all of the riparian areas in the planning area are classified as emergent herbaceous wetlands. Important woody riparian plants in the planning area include narrow-leaf cottonwood, willows, aspen, chokecherry, water birch, and dogwood, depending primarily on elevation and stream gradient.

One of the most substantial riparian habitats in the planning area is Meadow Valley Wash, located predominantly in Major Land Resource Area 30. Meadow Valley Wash is one of only two perennial streams within Major Land Resource Area 30. Altered hydrologic conditions in Meadow Valley Wash are subject to frequent flash floods. This riparian area has been noted to have unstable soils and high levels of runoff, which have led to landslides and associated increases in sediment loading to the stream. In 2005, wildland fires and floods occurred in Meadow Valley Wash. These events have substantially affected the current condition of these riparian areas.

3.5.2 Trends

Limited quantitative data exist regarding trends of vegetation communities within the planning area. However, the general consensus among BLM managers and scientific advisors to the agency is that the general patterns of movement toward thresholds for key vegetation communities, especially sagebrush, observed in other portions of the Great Basin are equally valid within the planning area. Thus, while the rates of decline are not defined under current knowledge, it appears that historic deterioration in these communities continues to varying degrees under current management.

Shrub Lands

Substantial alterations of shrub communities in various portions of the Great Basin have been identified and attributed to historical poor grazing management, the introduction and rapid expansion of annual bromes on degraded rangelands, increased fire suppression since the early 1900s, and the resulting changes in fire regime (Pellant 1990; Sparks et al. 1990; Whisenart 1990; Billings 1994). For example, in south-central Oregon, Miller and Rose (1999) found that the most rapid period of establishment of western juniper in mountain big sagebrush steppe communities occurred between 1885 and 1925, a period of above average precipitation, few fires, and intensive livestock grazing. Within the planning area these alterations are less advanced, but definitely present as pending threats. In creosotebush and sagebrush dominated communities, shrub recovery after fire is slow, because most of the shrub species are easily killed by fire and have no adaptations to fire, such as resprouting. Pre-settlement fire return intervals in the sagebrush zones of the Great Basin varied from 12 to 140 years (see Section 3.20). According to Perryman et al. (2003), sagebrush communities at higher elevations and moisture levels have experienced decreasing fire frequencies (lengthened fire return intervals) that have been accompanied by increasing abundance of pinyon and juniper trees in these communities and reduced abundance of perennial herbaceous understory species. In lower elevation, drier sagebrush communities and salt desert shrub communities, the reduction in perennial herbaceous understory species, due largely to past grazing management and increased competition from shrubs in the absence of a normal fire regime, has been accompanied by substantial increases in the abundance of invasive annual grasses. Competition for available soil resources from nonpalatable species is the predominant factor deteriorating plant productivity, plant survival, and site resilience in many areas. Past grazing from large ungulates may have made this problem worse in local

situations by favoring root growth of woody species such as sagebrush or pinyon and juniper trees. This transition provides sporadic periods of abundant fine fuels for increased fire frequencies. The combination of increased fire suppression and abundant fine fuels, such as cheatgrass, makes many of these communities more susceptible to stand-replacing fires.

Frequent fire in the salt desert shrub and sagebrush types in portions of the Great Basin over the last 25 years is a recent trend, largely attributable to the establishment of cheatgrass (West 1994). The reduction in shrub cover following major fires has facilitated a rapid and extensive conversion to a cheatgrass system with short fire return intervals (Meyer et al. 2001) (see Section 3.21, Noxious and Invasive Weed Management). Altered fire regimes have further affected species composition, shrub densities, fuel loads, and processes such as nutrient cycling (Perryman et al. 2003).

At some mid and low elevations, decades of fire suppression and overly intense, prolonged, or poorly timed grazing have led to shrub dominant sagebrush systems that cover large portions of the landscape. These areas are characterized by sagebrush plants with few perennial herbaceous grasses and forbs in the understory. Monocultures of even-aged sagebrush are common in the planning area.

Rowland et al. (2003) estimated that approximately 43 percent of the sagebrush communities in the planning area are at moderate and 24 percent at high risk of displacement of sagebrush by cheatgrass. They similarly estimated 21 percent moderate risk and 36 percent high risk for displacement of other susceptible native species by cheatgrass. They rated approximately 3 percent of the sagebrush communities at moderate risk and 32 percent at high risk for replacement of sagebrush cover types by pinyon-juniper woodlands. Connelly et al. (2004) indicated that the displacement of sagebrush by the expansion of pinyon-juniper woodlands has severely reduced the area of the sagebrush ecological system and degraded its habitat quality.

Pinyon and juniper trees have been expanding into grass and shrub lands throughout the west for decades as described below under Forests and Woodlands. Tree presence appears to be highest in black sagebrush communities.

The recent trend within sagebrush communities are increasing abundance of young pinyon and juniper trees. Junipers tend to be more widespread than the pinyons and first to establish in lower elevations. Principal factors contributing to changes in tree density and distribution have been identified by various researchers as historic improper grazing, fire suppression, global warming, and increased carbon dioxide, all of which seem to favor woody species proliferation.

Blackburn and Tueller (1970) concluded that the invasion of pinyon and juniper into black sagebrush communities at several sites in the planning area was very limited until the late 1800s and early 1900s when rapid expansion of the woodland species occurred at numerous locations. At these sites, the most rapid invasion by both pinyon and juniper occurred after 1920. They attributed the accelerated invasion by both species to a combination of overgrazing, fire suppression, and climatic changes (particularly when a series of drought years is followed by several moist years). Tausch et al. (1981) conducted a study of pinyon-juniper woodlands in 18 randomly selected mountain ranges in the Great Basin and found that

approximately 40 percent of the sampled plots had trees establishing during the past 150 years. They note that this period generally coincides with introduction of heavy livestock grazing, harvest of trees for mining and smelting activity, and increased fire suppression following settlement of the region.

Most researchers agree that fire was historically the controlling factor preventing pinyon and juniper trees from expanding into shrub communities, and the lack of fire has allowed pinyon and juniper seedlings to increase in shrub communities adjacent to their historic landscape position on ridgetops and high rocky ground (Burkhardt and Tisdale 1969, 1976; Miller and Tausch 2001). Historic livestock grazing that decreased herbaceous plant densities has further facilitated the current rates of woody plant expansion into shrublands.

Forests and Woodlands

Along with expansion of pinyon and juniper into shrublands, the trend of increasing numbers of young trees and increasing tree density in the pinyon-juniper woodlands has led to two distinct trends within the pinyon-juniper woodland zone. Increased tree densities contribute to fuel loading, and when ignitions do occur, they may sustain extremely hot fires under suitable conditions. Secondly, increased tree densities have been accompanied by a widespread reduction of herbaceous understory components, probably through competition for sunlight and nutrients, which has led to accelerated rates of soil loss (Tausch and West 1995; Naillon et al. 1999; West 1999; Perryman et al. 2003).

As a community type, aspen has been declining in the Intermountain West since shortly after European settlement (Kay 2001). Kay's (2001) studies of aspen communities in central Nevada concluded that generally poor conditions prevail, and that many stands have not reproduced in over 100 years. As discussed in Section 3.5.1, this absence of regeneration appears to be primarily the result of herbivory by livestock and wildlife. As a result of minimal regeneration, these aspen communities tend to be even-aged. Bartos and Campbell (1998) advocated prompt action by resource managers to preserve western aspen stands. Within various situations, the necessary actions may include fire, cutting, fencing, spraying, chaining, or other approaches to enhance regeneration.

Native and nonnative insect and disease populations currently known to be affecting local forest and woodland areas include the pinyon Ips beetle, dwarf mistletoe, and white pine blister rust. A recent, dramatic increase in pinyon mortality in various localities throughout the West has been attributed to pinyon Ips responding to prolonged drought that weakened trees and a series of mild winters that have enabled rapid increases in beetle populations. A Nevada BLM news release of July 2, 2004, indicates that "Insect damage to pinyon and juniper woodlands is severe in...White Pine County..." Climate change is, and would continue to be, a major factor determining insect and disease conditions.

White pine blister rust is an introduced disease, which is infecting and causing widespread mortality in all five-needle pines. It recently has been found in the Jarbidge and Ruby Mountains and is expected to infect neighboring mountains in the foreseeable future (U.S. Department of Agriculture Forest Service 2003; Vogler and Charlet 2004). There is concern that white pine blister rust could have substantial adverse effects upon bristlecone pine populations, if it becomes established in close proximity.

Riparian/Wetland Areas

Declines in native woody riparian species have been documented throughout the West and Great Basin. The extent to which woody riparian vegetation has been reduced from its former distribution in the planning area is not known.

The exotic tree tamarisk has become established in waterways throughout the Intermountain West including available habitat in the planning area, where it has replaced native woody riparian species such as cottonwood and willows. Inventories to date have located tamarisk infestations on approximately 12,500 acres and along 123 miles of watercourses.

A total of 108 sites (primarily springs) have been assessed for proper functioning condition, representing approximately 393 acres of lentic communities. Of these, 294 acres or 75 percent were classified as being in proper functioning condition; 85 acres or 22 percent were classified as functioning at risk (**Table 3.5-4**). The remainder were determined to be non-functional. Throughout the entire planning area, it is estimated that approximately 713 acres of riparian communities may be non-functional or functioning at risk.

Table 3.5-4
Riparian Conditions of Select Sites in the Planning Area Based on Field Assessment of Proper Functioning Condition in Lentic Environments

	Function Class					
	Proper Functioning Condition		Functioning At Risk		Non-functioning	
Trend	Number of Sites	Acres	Number of Sites	Acres	Number of Sites	Acres
Upward	8	7	3	15	0	0
Downward	0	0	9	26	0	0
Unknown	62	287	13	44	13	14
Totals	**70**	**294**	**25**	**85**	**13**	**14**

Source: BLM unpublished data.

3.5.3 Current Management

Vegetation resources are managed to meet existing land use plan goals and objectives and achieve land health standards.

Nonnative seedings are represented on approximately 270,000 acres of the planning area. These are largely characterized by crested wheatgrass, which was planted in the Great Basin over several decades.

Vegetation treatments conducted in the planning area between 1990 and 2004 are tabulated in **Table 3.5-5** according to type of activity. Over a 13-year period, an average of approximately 12,700 acres per year actively were managed primarily through burning, seeding, and chaining. Seeding with aerial- and ground-based equipment accounts for 80 percent of the acres treated during this period. The highest

number of acres is attributable to seeding activities accomplished in 2000 and 2001 after wildland fires (see Section 3.20). Fire rehabilitation during 1990 and 1997 also coincide with wildland fire activity.

Table 3.5-5
Acres of Vegetation Treated per Year in the Planning Area
1990 through 2004[1]

Year	Treatment Type (acres)				Total Acres Treated	Wildland Fires
	Seeding[1]	Mechanical Including Chaining[2]	Prescribed Fire[1]	Fire Rehabilitation[3]		
1990	0	600	0	7,180	7,780	2,022
1991	600	0	0	0	600	205
1992	15	0	580	0	595	2,603
1993	400	0	0	0	400	37,669
1994	200	855	100	21,683	22,838	58,917
1995	0	1,650	0	0	1,650	1,122
1996	0	580	2,700	11,785	15,065	51,504
1997	430	1,034	1,000	8,247	10,711	10,255
1998	0	634	2,600	16,942	20,176	14,439
1999	0	0	4,103	6,559	10,662	42,701
2000	0	0	447	21,698	22,145	31,831
2001	0	1,137	2,927	12,209	16,273	16,236
2002	309	1,152	614	16,159	18,234	17,844
2003	0	2,470	530	382	3,382	792
2004	950	1,320	2,260	9,925	14,455	10,549
Total Acres	**2,904**	**11,432**	**17,861**	**132,769**	**164,966**	**298,689**

[1] Excluding chemical weed treatments.
[2] Source: Range improvement projects database.
[3] Source: BLM unpublished data.

Chaining and other methods such as fire, herbicide, and traditional tree cutting are used to reduce canopy cover of woody species. Although not accounted for in **Table 3.5-5**, tamarisk removal has been occurring in riparian habitats in the planning area consistent with the listing of tamarisk as a noxious weed by the State of Nevada.

Although riparian areas are a small portion of the eastern Nevada landscape, they are disproportionately valuable for watershed function, wildlife habitat, and recreation. In 1989, the BLM issued a Riparian Policy and Procedures Handbook, which increased the level of special management direction for riparian areas.

The BLM's Riparian Wetlands Initiative for the 1990s directed field units to restore or maintain riparian-wetland areas so that 75 percent or more would achieve proper functioning condition by 1997.

In order to integrate disturbance ecology, management activities, and vegetation growth and development across large and variable landscapes for site evaluation and management purposes, state and transition models were conceived in the 1980s (Westoby et al. 1989, Stringham et al. 2003, Briske et al. 2005). The models provide a means for organizing complex sets of ideas about the different interrelated processes

directing ecological system change and the role management can take in affecting those processes. Use of the model can improve analysis, monitoring, and management in semi-arid rangelands (see Appendix C).

Management recommendations have been developed based on general draft state and transition models and LANDFIRE Biophysical setting models for vegetation communities in the planning area. To date, management recommendations, threshold indicators, and desired conditions are available for black, Wyoming big, and mountain big sagebrush; winterfat; and shadscale communities. Additional recommendations for aspen and mountain shrub types are in progress.

The Ely Field Office currently manages the three designated natural areas and two research natural areas. These areas bring attention to, and protect selected components of the special and unique native flora within the planning area. These five special designations total approximately 12,600 acres and feature bristlecone pine, pygmy sage, swamp cedar, and riparian gallery forests (see Section 3.22, Special Designations).

3.6 Fish and Wildlife

3.6.1 Aquatic Habitat and Fisheries

Existing Conditions

Aquatic habitat in the planning area includes a mixture of perennial, intermittent, and ephemeral streams, springs, lakes, and reservoirs that support fish (game and native nongame species) and invertebrate species for at least a portion of the year. In total, the planning area contains over 50 perennial stream segments on BLM-administered land (**Table 3.6-1**). Most of the perennial stream segments with game fish species are located in White Pine County. The majority of the lakes and reservoirs in the planning area are located on private or state-administered lands, which are not included in **Table 3.6-1**. BLM-administered land adjoins the boundary of a limited number of the reservoirs in White Pine County (i.e., Cold Creek Reservoir, Bassett Lake, and Comins Lake). Illipah Reservoir is included in this list because the Ely Field Office has developed and maintained recreational facilities (campsites and picnic areas) adjacent to the reservoir. No reservoirs or lakes in Lincoln or Nye counties are adjacent to BLM-administered land. Springs and their associated stream segments provide persistent habitat for fish and aquatic invertebrates. Based on inventories within the planning area, over 2,600 undeveloped springs have been mapped (see **Map 3.3-1**). Spring habitats provide important requirements for aquatic species such as water, food, and cover consisting of bottom substrate and vegetation.

Habitat quality in planning area water bodies depends on numerous factors such as annual precipitation, flow regimes or water volumes, extent of riparian vegetation, diversity of habitat features (i.e., pools, runs, and riffles), bank stability, types of fish cover, food sources, and water quality. Habitat quality varies by stream reach, with forested, higher-elevation stream segments generally containing better conditions compared to low-gradient, non-forested areas. Most of the water bodies located within the planning area are considered low quality aquatic habitat due to the lack of persistent year-round stream flow, relatively high water temperatures, and limited riparian vegetation.

Both cold water and warm water fish species occur in watersheds within the planning area. Cold water fish are represented by trout species such as rainbow, brown, brook, Bonneville cutthroat, and rainbow-cutthroat hybrid. Warm water game fish species include largemouth bass and northern pike. Except for Bonneville cutthroat trout (native species), these species were introduced in Nevada. One of the game species, Bonneville cutthroat trout, also is a BLM-sensitive species and is discussed in Section 3.7, Special Status Species. The occurrence of game fish species in streams, reservoirs, and lakes within the planning area is provided in **Table 3.6-1**. The basis for the list is that at least a portion of the stream segment is located on BLM-administered land. Numerous other streams in the Humboldt National Forest also support trout populations. Trout in these forest streams may move downstream during high flow periods and be present temporarily on BLM-administered land. However, the segments of these streams on BLM-administered land were not included in the list since these segments typically do not provide year-round habitat for aquatic species.

Table 3.6-1
Game Fish Resources in the Planning Area

County/Water Body	Location (Township, Range)	Species
Lincoln		
Beaver Dam Wash	T3S, R71E	Rainbow trout
Clover Creek	T4S, R67E	Rainbow trout
Meadow Valley Wash	T2S, R69E	Rainbow trout, brown trout
Nye		
Cherry Creek	T3N, R57E	Rainbow trout, brown trout
North Fork Cottonwood Creek	T2N, R56E	Brook trout
Forest Home Creek	T6N, R59E	Brown trout
Pine Creek	T3N, R56E	Brook trout
White Pine		
Baker Creek	T13N, R68E	Rainbow trout, brook trout, brown trout
Bassett Creek	T18N, R66E	Rainbow trout
Bassett Lake	T13N, R68E	Northern pike, largemouth bass
Bastian Creek	T15N, R66E	Rainbow trout, brown trout
Big Wash Creek	T12N, R70E	Bonneville cutthroat trout
Bird Creek	T18N, R65E	Rainbow trout, brook trout
Board Creek	T13N, R68E	Rainbow trout, rainbow-cutthroat hybrid
Cherry Creek	T24N, R63E	Rainbow trout
Chin Creek	T25N, R67E	Rainbow trout
Cleve Creek	T16N, R66E	Rainbow trout, brown trout
Cold Creek	T23N, R55E	Rainbow trout
Cold Creek Reservoir	T23N, R55E	Rainbow trout
Comins Lake	T15N, R64E	Rainbow trout, brown trout, northern pike, largemouth bass
Duck Creek	T17N, R65E	Rainbow trout, brown trout, brook trout
Duck Creek	T19N, R63E	Northern pike, largemouth bass
East Creek	T19N, R65E	Rainbow trout
Egan Creek	T22N, R62E	Rainbow trout
Eightmile Creek	T18N, R68E	Rainbow trout
Ellison Creek	T14N, R59E	Rainbow trout
Geyser Creek	T9N, R65E	Rainbow trout, brook trout
Goshute Creek	T25N, R63E	Bonneville cutthroat trout
Hampton Creek	T16N, R70E	Bonneville cutthroat trout
Hendry's Creek	T16N, R70E	Bonneville cutthroat trout
Huntington Creek	T25N, R55E	Brown trout
Illipah Creek	T17N, R59E	Rainbow trout, brown trout
Illipah Reservoir	T17N, R59E	Rainbow trout, brown trout
Indian Creek, Big	T21N, R65E	Rainbow trout, brook trout
Kalamazoo Creek	T20N, R66E	Rainbow trout, brown trout, brook trout
Lehman Creek	T13N, R86E	Brown trout, brook trout, rainbow trout
Mattier Creek	T21N, R64E	Rainbow trout, brook trout
McCoy Creek	T18N, R66E	Rainbow trout, brown trout
Meadow Creek	T19N, R66E	Brown trout
Mill Creek	T14N, R69E	Rainbow trout, Bonneville cutthroat trout
Muncy Creek	T20N, R66E	Rainbow trout, brown trout, cutthroat trout
North Creek	T10N, R65E	Rainbow trout, brook trout
Odgers Creek	T18N, R66E	Rainbow trout

Table 3.6-1 (Continued)

County/Water Body	Location (Township, Range)	Species
Paris Creek	T25N, R62E	Brook trout
Piermont Creek	T19N, R66E	Brown trout
Pine Creek	T13N, R68E	Bonneville cutthroat trout
Pine/Ridge Creeks	T19N, R54E	Bonneville cutthroat trout
Seigel Creek	T22N, R66E	Rainbow trout
Shingle Creek	T13N, R68E	Brown trout, rainbow trout, rainbow-cutthroat hybrid
Silver Creek	T14N, R70E	Rainbow trout, brown trout, brook trout
Snake Creek	T12N, R70E	Rainbow trout, brown trout, brook trout
Steptoe Creek	T16N, R65E	Rainbow trout, brown trout, brook trout
Strawberry Creek	T14N, R69E	Bonneville cutthroat trout
Sunkist (North) Creek	T21N, R65E	Brook trout
Taft Creek	T17N, R66E	Rainbow trout, brook trout
Tailings Creek	T18N, R63E	Brook trout, northern pike
Timber Creek	T18N, R65E	Rainbow trout, brook trout
Unnamed	T16N, R68E	Rainbow trout, brown trout, brook trout
Vipont (Stephens) Creek	T16N, R66E	Rainbow trout
Water Canyon Creek	T19N & T20N, R55E	Rainbow trout, brook trout
White River	T13N, R61E	Rainbow trout, brown trout, brook trout
Willard Creek	T13N, R68E	Rainbow trout, rainbow-cutthroat hybrid
Williams Creek	T13N, R68E	Rainbow trout, rainbow-cutthroat hybrid
Willow Creek	T14N, R63E	Rainbow trout, brown trout

Source: Crookshanks 2004, 2003; Hutchings 2004, 2003; Nevada Department of Wildlife 2003a,b; and Nevada Department of Wildlife 2005a.

Water bodies in the planning area also support native nongame fish species, which mainly comprise the sucker, minnow, and killifish families. Habitat used by native nongame fish species includes perennial streams, springs, spring outflows, reservoirs, and lakes. In general, the sucker species prefer stream habitats, while the killifish species usually are found in springs and slow-moving stream segments. The native minnow species utilize both flowing and standing water environments. Some of the native fish are discussed in Section 3.7, Special Status Species. Several nonnative nongame species such as *Gambusia*, convict cichlid, and shortfin molly affect native fish populations due to predation. Crayfish and bullfrogs also prey on native fish species.

Game fish species in the planning area utilize a variety of habitat conditions. Trout have adapted to a wide range of habitat conditions including lakes, reservoirs, and small to large-size streams (Sigler and Sigler 1987). Cover in the form of undercut banks, instream structure, and overhanging vegetation are important aspects of quality habitat for trout species. Natural reproduction for trout species occurs within numerous stream segments such as Goshute Creek (Bonneville cutthroat trout) and Clover Creek (rainbow trout). Spawning occurs in the spring for these species. Brown trout and brook trout are fall spawners. Largemouth bass and northern pike occur in reservoirs, lakes, and slow-moving streams such as Duck Creek. Both species usually are associated with instream structure and aquatic vegetation (Sigler and Sigler 1987). Largemouth bass is a spring and summer spawner, while northern pike breed in the spring. Habitat preferences and spawning periods for game fish species are provided in **Table 3.6-2**.

Table 3.6-2
Game Fish Habitat Preferences and Spawning

Species	Habitat	Spawning	References
Rainbow trout	Optimum riverine habitat is characterized by clear, cold water with silt-free rocky substrate in riffle-run areas, abundant instream cover, and well-vegetated banks. Lake/reservoir habitat is characterized by clear water, cool temperatures, and available deeper water.	Spring, almost exclusively in streams.	Raleigh et al. 1984
Brown trout	Riverine habitat consists of clear, cool to cold water; a relatively silt-free rocky substrate in riffle-run areas; mixture of pools, riffles and runs; well vegetated streambanks and abundant instream cover. Most cover-oriented of all trout species. Lake/reservoir habitat is the same as described for rainbow trout.	Fall, typically stream spawners.	Raleigh et al. 1986
Cutthroat trout	Habitat preferences are similar to rainbow trout. Cutthroat tend to occupy headwater stream areas when other trout are present in the same river system.	Spring, stream spawners.	Hickman and Raleigh 1982
Brook trout	Habitat preferences are similar to other trout species except that they are quite adaptable to a headwater streams, large rivers, ponds, and large lakes. Species is most commonly found in headwater streams.	Fall, stream spawners but utilize spring upwelling areas of lakes and ponds.	Raleigh 1982
Largemouth bass	Riverine habitat preferences include large, slow-moving rivers or pools of streams with soft bottoms and some aquatic vegetation. Lake/reservoir habitat conditions include excessive shallow areas with submergent vegetation and some deeper water.	Spring, usually in lakes/reservoirs.	Stuber et al. 1982

Trends

Limited information is available to make documented statements about trends in aquatic habitat quality or fish populations in the planning area. Habitat surveys have been conducted by the Nevada Department of Wildlife and the Ely Field Office in some streams during the past 5 years, but in most cases, previous data are lacking for comparison and trend analysis (Crookshanks 2003). Stream segments on BLM-administered land exhibit varying habitat conditions from low to moderate quality habitat. Fish population numbers are not monitored or censused on a frequent basis. Most of the streams listed in **Table 3.6-1** maintain viable fish populations through natural spawning. Stream stocking only occurs in upper White River, Cleve Creek, and Steptoe Creek, and is used to supplement natural spawning in these popular fishing streams.

Threats to native and nonnative fishes in the planning area include habitat alterations, water depletions, disease, predation, competition, and hybridization. Climatic events involving drought have contributed to reduced water levels for aquatic species.

Current Management

In Nevada, fish species and their habitat in public waters are managed cooperatively by the BLM and the Nevada Department of Wildlife to provide optimal habitat for fish species. The Nevada Department of Wildlife determines the species being managed (both game and nongame) and the management policies involving fishing regulations and habitat protection. Management direction and guidance are provided by Nevada Administrative Code, Chapter 503 – Hunting, Fishing and Trapping/Miscellaneous Protective Measures. The Federal Land Policy and Management Act of 1976 also states that public lands would be managed in a manner "...that will provide food and habitat for fish and wildlife..." Beneficial use for aquatic life is included in all Nevada water quality classifications (A, B, C, and D) (see Section 3.3, Water Resources). The Recreational Fisheries Conservation Plan Implementation Strategy (Implementation Memorandum WO-97-053) also identified a goal to increase fishing opportunities nationwide through conservation, restoration, and enhancement of aquatic systems and fish populations by increasing fishing access, education, and partnership opportunities.

The Nevada Department of Wildlife has prepared fisheries management plans for several reservoirs (Cold Creek and Illipah) that are bordered by BLM-administered land or have adjacent recreational facilities maintained by the Ely Field Office (Nevada Department of Wildlife 1996; Haskins 1989). Trout species are managed using various coldwater fishery concepts under the *Nevada Coldwater Fishery Program Management Concepts*. Fishery management concepts for these reservoirs are listed in **Table 3.6-3**.

Stocking efforts have involved trout releases in a selected number of reservoirs and stream segments such as rainbow trout in Cave Lake, Cleve Creek, Steptoe Creek, White River, Comins Lake, Illipah Reservoir, and Cold Creek Reservoir in White Pine County (Nevada Department of Wildlife 2003a). No recent stocking has been done in water bodies on BLM-administered land in Lincoln County. In 2003, Nevada Department of Wildlife stocked rainbow trout and brown trout in Eagle Valley and Echo Canyon reservoirs. Some of these fish may have been washed downstream (e.g., to Meadow Valley Wash). Limited fishing exists in the Meadow Valley Wash segments bordered by BLM-administered land.

Table 3.6-3
Reservoir Fishery Management

Reservoir	Concept	Objectives
Cold Creek	Quality Fishery	Meet harvest objectives of 0.5 fish per hour (2 fish per day) with harvested fish being 50 percent larger than stocking size, while maintaining carryover of 30 percent of the year's stocked fish.
Illipah	General Quality Fishery	Meet harvest rates of 2.0 to 2.5 fish per angler and 0.5 to 0.75 per hour, with harvested fish being 75 percent larger than stocking size (and 25 percent being at least 50 percent larger than stock size). Harvest rates should be attainable in all but low water years.

3.6.2 Wildlife

Existing Conditions

A diversity of wildlife resources typical of the Great Basin and the Mojave Desert ecological systems occupy a variety of wildlife habitats in the planning area. The vegetation types or communities that comprise the primary wildlife habitats in the planning area include sagebrush, pinyon-juniper woodland, and salt desert shrub. Other, less abundant wildlife habitats that occur in the planning area include high elevation conifer/aspen forests, Mojave Desert shrub, and riparian/wetland habitats (see Section 3.5, Vegetation). The riparian habitat associated with wetlands and perennial stream channels is considered the highest value habitat for area wildlife. Available water for wildlife consumption and riparian vegetation for cover, breeding, and foraging are the predominant limiting factors for wildlife in the planning area. Therefore, riparian habitats, particularly those with multistoried canopies and open (free) water, typically support a greater diversity and population density of wildlife than the drier, upland habitats.

Surface water sources potentially available to wildlife are described in Section 3.3, Water Resources. Riparian and associated wetlands range from lower-elevation lakes, streams, wetlands, stock ponds, or isolated springs that primarily are composed of small, narrow drainages or moist soils with scattered patches of emergent vegetation to higher-elevation springs that maintain a greater-value riparian habitat for wildlife use. Important habitat characteristics for wildlife include the amount of open water; the extent of both woody and herbaceous vegetation for cover, foraging, and breeding activities; the quality of plant communities relative to the long-term use by wildlife (i.e., community longevity); and the diversity of plant species present.

Big Game. Big game species within the planning area consist primarily of Rocky Mountain elk, mule deer, pronghorn antelope, and desert bighorn sheep. Other big game species within the planning area include Rocky Mountain bighorn sheep, mountain goat, and mountain lion.

Rocky Mountain Elk. Rocky Mountain elk occur in a wide variety of habitats from low to upper elevations within the planning area. Summer habitats include ponderosa pine, white fir, mixed conifer, Engelmann spruce, aspen, and higher elevation pinyon-juniper woodlands and meadows above 6,200 feet in elevation. Winter habitat consists primarily of pinyon-juniper woodlands and sagebrush-grasslands between 5,000 and 9,500 feet in elevation. Pinyon-juniper, aspen, mixed-conifer forests, and mountain mahogany provide thermal and escape cover. Shrub species, including antelope bitterbrush and sagebrush, also provide important cover and forage for elk. Although elk forage largely on grass species, they also consume a wide variety of forbs and shrubs (Lincoln County Elk Management Technical Review Team 1999). Important elk ranges within the planning area are presented in **Map 2.4.6-1**.

Elk at Guzzler
Photo by BLM

After being eliminated from most of their range in eastern Nevada in the early settlement period, Rocky Mountain elk were reintroduced to White Pine County in a series of releases, with the first release of Yellowstone elk occurring in 1932. Augmentation releases occurred in the late 1980s, early 1990s, and in 2001. Elk also are reported to have immigrated into the planning area from transplanted populations in western Utah (Lincoln County Elk Management Technical Review Team 1999). Elk presently occupy many mountain ranges within the planning area. The largest herd occurs in the Egan and Schell Creek ranges of the Nevada Department of Wildlife Management Areas 11 and 22. Since the late 1990s, elk populations in Lincoln and White Pine counties have been managed under the guidance of the Lincoln and White Pine Elk Management Sub-plans to the Statewide Elk Species Management Plan. These management sub-plans established population objectives by management unit.

Pronghorn Antelope. From 1950 to 2003 Nevada Department of Wildlife has released a total of 2,310 pronghorn antelope statewide, including White Pine, Lincoln, and Nye counties. Currently, pronghorn are found in all major valleys in White Pine County, and in the central and northern portions of Lincoln and Nye counties within the planning area (Nevada Department of Wildlife 2003c). Pronghorn prefer gently rolling to flat topography that provides good visibility of the surrounding area. The majority of Nevada's pronghorn inhabit Great Basin sagebrush/grassland habitat types. Water is a key component of pronghorn habitat. The amount of drinking water required for pronghorns is related both to maximum air temperatures and the amount of moisture in the forage (Nevada Department of Wildlife 1983). Pronghorn diet consists of grasses, forbs, and browse plants. Within the planning area, pronghorn depend on sagebrush for both food and cover. Other important forage species include antelope bitterbrush, saltbush, rabbitbrush, cheatgrass, Indian ricegrass, and shadscale. During the summer, pronghorn are widely distributed throughout the

valleys and mountain foothills and primarily are associated with low sagebrush habitat with mixed vegetation (i.e., grasses, forbs, and shrubs). Important pronghorn ranges within the planning area are presented in **Map 2.4.6-2**.

Mule Deer. Mule deer are widespread within the planning area and typically are associated with middle to upper elevations. Habitat for mule deer within the planning area includes big sagebrush, low sagebrush, shadscale, and grasslands. Deer generally are classified as browsers, foraging primarily on forbs and shrubs. However, the importance of forage type tends to vary by season and climate. Forbs and grasses are an integral part of the mule deer diet during the spring and fall growth seasons when succulence is greatest. Shrubs are utilized more heavily during dry summer and winter periods. Important forage on range for mule deer includes snowberry, sagebrush, serviceberry, antelope bitterbrush, and mountain mahogany. Mountain mahogany and pinyon-juniper woodlands are important for thermal and escape cover during winter. During summer, mule deer tend to rely on riparian and mountain sagebrush communities. Important mule deer ranges within the planning area are presented in **Map 2.4.6-3**.

Rocky Mountain Bighorn Sheep. Rocky Mountain bighorn sheep prefer high, steep rocky slopes that are in close proximity to suitable feeding sites. Primary forage includes grasses, grass-like plants, forbs, and shrubs. Twelve Rocky Mountain bighorn sheep were reintroduced to Mount Grafton in the late 1980s. To date, limited populations of Rocky Mountain bighorn sheep occur on Mount Moriah and Mount Wheeler in White Pine County, and on Mount Grafton in Lincoln County (see **Map 2.4.6-4**).

Desert Bighorn Sheep. Typical desert bighorn sheep habitat consists of rough, rocky, and steep terrain, broken by canyons and washes. Bighorn sheep require access to freestanding water during the summer months, and throughout the year during drought conditions. The diet of bighorn sheep consists primarily of grasses, shrubs, and forbs. Preferred species include squirreltail grass, galleta grass, big sagebrush, winterfat, shadscale, and Mormon tea (Nevada Department of Wildlife 1978).

Historically, the desert bighorn occupied suitable habitat in all 17 counties throughout Nevada. However, due to a multitude of various land and resource uses associated with the westward expansion of humans, desert bighorns became extirpated from much of their range in Nevada. By 1960, the distribution of desert bighorns was restricted to five counties in Nevada including Clark, Lincoln, Nye, Esmeralda, and White Pine. Of the remaining desert bighorn populations, those considered the most significant were located in Clark and Lincoln counties. In 1936, 1.5 million contiguous acres were established in these two counties as the Desert National Wildlife Range to primarily benefit desert bighorn conservation. In addition to establishing the Desert National Wildlife Range, considerable funding and effort has been expended in subsequent decades by state and federal agencies, as well as private organizations, to stabilize and expand Nevada's bighorn sheep populations. These efforts include habitat enhancement projects within potentially suitable habitat.

From the late-1980s to present, the Nevada Department of Wildlife has been reintroducing desert bighorn sheep into a number of mountain ranges within the planning area including the Egan, Hiko, South Pahroc, and the Delamar ranges (Scott 2004). These releases were conducted as a result of a number of habitat management plans that evaluated bighorn sheep habitat suitability for potential reintroduction or

augmentation in the planning area (BLM – Nevada Department of Wildlife 1987, 1989, 1991; BLM 1987a,b). Subsequent to the releases, sheep have expanded their distribution to the Mount Irish Range. The primary limiting factors to the success of these reintroductions is the spread of disease from domestic sheep that graze in areas adjacent to reintroduction sites (see Section 4.1.4.4) and restrictions/limitations on movement/migration (Scott 2004). A few desert bighorn sheep were released at the southern tip of the Pahranagat Range in 1991 in a cooperative noise disturbance study with the U.S. Air Force (Nevada Department of Wildlife 2005a). Potential bighorn sheep habitat within the planning area is presented in **Map 2.4.6-4**.

Mountain Goat. Mountain goat habitat consists of steep rocky cliffs, projecting pinnacles, ledges, and talus slopes. Mountain goats are limited to the northwestern-most portion of the planning area boundary in the southern reaches of the Ruby Mountains (Nevada Department of Wildlife Management Unit 103) on U.S. Forest Service-administered lands and in the vicinity of Bald Mountain (Nevada Department of Wildlife Management Unit 108). They are not known to be full-time residents of the planning area (Nevada Department of Wildlife 2005a).

Mountain Lion. Mountain lions occupy the higher mountain elevations within the planning area, but would move down into the lower elevations following the resident mule deer populations. This species is managed as a game species by the Nevada Department of Wildlife. In some areas of livestock or wildlife predation, they are controlled as a predator species by Wildlife Services. From 2002 to 2003, the planning area accounted for 46 mountain lions and approximately 32 percent of the statewide mountain lion harvest. The average mountain lion harvest within the planning area from 1998 to 2003 was 67 lions and approximately 41 percent of the statewide harvest.

Small Game. Examples of upland game birds in the planning area include greater sage-grouse, blue grouse, chukar partridge, Gray (Hungarian) partridge, mourning dove, Gambel's quail, and Rio Grande and Merriams turkey. Although the greater sage-grouse is a small game species, it also is considered a special status species and is discussed in Section 3.7, Special Status Species.

Blue grouse occupy open stands of conifer or aspen with an understory of brush. Winter habitat consists of dense conifers at higher elevations. Chukar partridge occur at low to upper elevations of mountain ranges in the planning area and typically are associated with more rugged slopes, canyons, and drainages in proximity to open water. The limiting factor for chukar is water availability during the late summer months when daytime temperatures are at their maximum and water is least available. The gray (Hungarian) partridge is considered widespread but not common and is associated with grassland, shrubland, and agricultural areas. Mourning dove is one of the more commonly observed game species within the planning area, particularly during the spring, summer, and early fall. Mourning dove typically prefer habitats in close proximity to sources of open water. Gambel's quail occur in scrublands and brushy thickets of the Mojave Desert ecological system, and in agricultural areas. Rio Grande turkey releases within the planning area boundary have occurred in southern Lincoln County since early 1999. However, because brood surveys have not been conducted in Lincoln County, the status of this species is unknown (Nevada Department of Wildlife 2003b). Recently, releases also have occurred on the east side of the Snake Range near Baker in

White Pine County. Rio Grande turkeys prefer riparian woodlands associated with oak-pine and pinyon-juniper woodlands.

Small game mammal species that are found in the planning area include pygmy and cottontail rabbits.

Common waterfowl that occupy open water and wetland habitats within the planning area include American coot, mallard, green-winged teal, and Canada geese. Other waterfowl that occur in the planning area include gadwall, pintail, and a variety of diving ducks (e.g., lesser scaup, canvasback, and redhead).

Furbearers that occur within the planning area include bobcat, beaver, muskrat, coyote, red fox, gray fox, and kit fox.

Nongame Species. A diversity of nongame species (e.g., small mammals, raptors, passerines, amphibians, and reptiles) occupy a variety of trophic levels and habitat types within the planning area. Nongame mammal species in the study area include a variety of shrews, bats, ground squirrels, rabbits, woodrats, and mice. These small mammals provide a substantial prey base for area predators including mammals (e.g., coyote, fox, badger, skunk), raptors (e.g., eagles, buteos, and owls), and reptile species.

Migratory Birds. Some of the more common bird species that occur within the planning area include a wide range of neotropical migrant species such as sage thrasher, lark sparrow, Brewer's sparrow, and chipping sparrow. These bird species are considered integral to natural communities and commonly are viewed as environmental indicators based on their sensitivity to environmental changes caused by human activities. Other bird species that occur within wetland habitats include American bittern, killdeer, common snipe, long-billed curlew, American avocet, willet, and a variety of sandpiper species.

Many raptor species also are known to breed within the planning area including eagles (golden eagle), falcons (prairie falcon, American kestrel, and peregrine falcon), accipiters (sharp-shinned hawk, Cooper's hawk, goshawk), buteos (ferruginous hawk, red-tailed hawk, Swainson's hawk), northern harrier, and owls (e.g., great-horned owl, burrowing owl, long-eared owl, and short-eared owl).

Examples of migratory birds and their associated habitats that are of management concern in the Great Basin include the following:

- Sagebrush Shrubland (Sagebrush Obligate) Species – sage thrasher, sage sparrow, and Brewer's sparrow.
- Shrubland Species – green-tailed towhee, black-throated sparrow, and lark sparrow.
- Shrubland and Grassland Species – loggerhead shrike.
- Grassland Species – long-billed curlew and vesper sparrow.
- Dry Woodland Species – gray flycatcher.

- Riparian Species – MacGillivray's warbler, willow flycatcher, orange-crowned warbler, and yellow-breasted chat.

- Pinyon-juniper Woodland Species – pinyon jay, gray vireo, juniper titmouse, black-throated gray warbler, and ferruginous hawk.

Trends

Habitat Trends. In recent years, land management direction, long-term climatic shifts, and the introduction and spread of noxious weeds and exotic species have resulted in substantial alterations of wildlife habitats and degraded rangeland within the Great Basin and Mojave Desert ecological systems (Dobkin et al. 1998; Fleischner 1994; Jones 2000; National Research Council 1994). These changes are discussed in greater detail in Section 3.5.2.

The sagebrush community provides food and cover for about 100 bird species, 70 mammal species, and 23 amphibian and reptile species, including a number of important game species (e.g., mule deer, pronghorn, Rocky Mountain elk, Rocky Mountain bighorn sheep, greater sage-grouse, Gray partridge, and valley quail) within the planning area (BLM 2000c). However, with the establishment of cheatgrass and other exotic vegetation (e.g., red brome, and medusa head) over the last 25 years (West 1994), sagebrush and other shrub communities such as salt desert scrub, have been converted to an exotic-dominated environment that provides little or no food for wildlife (BLM 2001b, 2000a). Rowland et al. (2003) estimates that approximately 3.06 million acres of vegetation (including 1.11 million acres of sagebrush vegetation) is at risk of displacement from cheatgrass invasion in the planning area. Conversely, some sagebrush communities at mid to low elevations have stagnated as late phase sagebrush communities, resulting from decades of altered fire regimes and poor grazing management. Because of altered fire regimes and poor grazing management within sagebrush communities, the overall habitat trends have been loss or reduction of important grass and forb species for wildlife consumption and a reduction in overall habitat quality for wildlife that depend on these resources. In addition, displacement of sagebrush by the expansion of pinyon-juniper woodlands has placed additional stress on the sagebrush ecological system, which has been severely reduced in area and degraded in habitat quality (Connelly et al. 2004). It is estimated that the planning area has the largest amount of sagebrush (greater than 1.41 million acres) managed by the Nevada BLM that is at high risk of displacement by pinyon-juniper (Rowland et al. 2003).

As discussed in Section 3.5, Vegetation, recent trends within the pinyon-juniper woodland community include increasing age and density of trees, increasing establishment of woody species within ecological conditions that typically support shrub-dominated and grassland communities, and decreasing herbaceous understory as a result of increased tree density. Although these trends benefit species that occur primarily in woodland habitats, these trends also lead to loss in forage (grass and forb) production within dense stands and a reduction of species diversity.

As discussed above, riparian habitat is considered the highest value habitat for area wildlife. In the Great Basin region, as elsewhere throughout the Intermountain West, riparian habitats are considered crucial

centers of biodiversity (Dobkin et al. 1998), providing essential wildlife habitat for breeding, wintering, and migration (Fleischner 1994). One of the most substantial riparian habitats in the planning area is Meadow Valley Wash, which drains through both the Great Basin and Mojave Desert ecological systems. Declines in native riparian habitats throughout the West and Great Basin are attributed to extensive livestock grazing (both past and present), wild horse use, water developments that divert water, and invasive weeds.

Species Trends.

Elk. In general, elk have been increasing both numerically and geographically throughout the planning area with slight to moderate upward trends depending on the management area. However, populations generally remain within the objectives of the existing management plans.

Mule Deer. Mule deer have experienced declining trends throughout the planning area, as in other areas of the West but remain above historic levels (Nevada Department of Wildlife 2005a). Contributing factors to declining population trends include habitat degradation, pinyon-juniper increase, invasive species, poorly managed grazing, wildland fire, and drought (Wasley 2004).

Pronghorn. Pronghorn populations within the planning area have experienced static to upward trends over the last 10 years but remain below historic levels (Nevada Department of Wildlife 2005a). However, the prolonged drought conditions have slowed population growth or resulted in slightly declining pronghorn population trends in the planning area.

Rocky Mountain Bighorn Sheep. Rocky Mountain bighorn sheep populations in the Snake Range in White Pine County are stable at low population numbers. However, bighorn sheep populations on Mount Grafton in Lincoln County have been reduced to only a few individuals (Scott 2004).

Desert Bighorn Sheep. Desert bighorn sheep populations have experienced a slight downward trend from 2002. This trend is attributed to severe drought conditions that have resulted in an overall reduction in lamb recruitment (Nevada Department of Wildlife 2003d). Overall, desert bighorn sheep populations remain well below historic levels and distribution.

Mountain Lion. The mountain lion population trend in the planning area is considered to be stable; however, future trends of mountain lions within the planning area would depend on status and trends of area deer herds (Nevada Department of Wildlife 2003d).

Small Game and Non-game Species. In general, these species' populations fluctuate over short time periods in response to weather cycles and longer term habitat trends, which are discussed above. Greater sage-grouse and pygmy rabbits are discussed under Section 3.7, Special Status Species.

Migratory Birds. Many migratory bird species in the planning area have negative or unknown population trends, with some showing a stable or increasing population trend. Landscapes in the planning area are complex and variable. Grasslands may naturally transition into shrublands and then into woodlands. In addition, sagebrush and grassland habitats across the West have been altered by a century

of settlement, livestock grazing, agriculture, weed invasion, and changes in wildfire frequency. Since certain species have adapted to specific habitat types, these changes in habitat condition and abundance have had negative effects on certain migratory birds. Habitat changes may result in increases in the populations of some bird species at the expense of other bird species. Thus, there is no change that will benefit or adversely affect all migratory bird species.

Current Management

The Ely Field Office manages wildlife habitat on the public lands, and the Nevada Department of Wildlife manages wildlife populations on these public lands. Management direction and guidance for wildlife is provided by the Nevada Administration Code, Chapters 502, 503, and 504, and Nevada Revised Statutes 502, 503, and 504. The Nevada Department of Wildlife provides recommendations to the Ely Field Office relative to managing habitat for wildlife species.

Management guidelines and objectives for elk management within the planning area are presented, in general, in the Statewide Elk Species Management Plan and the Central Nevada Elk Management Plan, and more specifically, in the White Pine County and Lincoln County Elk Management Plans. The county management plans present short- and long-term management actions and strategies that are designed to meet the requirements of an elk management sub-plan as referenced in the statewide elk plan and Assembly Concurrent Resolution Number 46.

Management guidelines and objectives for Rocky Mountain bighorn sheep habitat are presented in the Bighorn Sheep Management Plan – 2001 (Nevada Department of Wildlife 2001a). Current management for Rocky Mountain bighorn sheep habitat is focused on managing historic remote summer habitat as yearlong habitat since lower elevation winter habitat currently is inadequate for wintering sheep because of existing land management practices.

Management guidelines and objectives for desert bighorn sheep habitat are presented in the Meadow Valley – Arrow Canyon – Delamar Habitat Management Plan (BLM 1991), the Pahranagat Habitat Management Plan (BLM 1989), the North Hiko Range Habitat Management Plan (BLM 1987a), the South Hiko Habitat Management Plan (BLM 1987b), and the Bighorn Sheep Management Plan – 2001 (Nevada Department of Wildlife 2001a). Current management for desert bighorn sheep habitat is focused on managing historic remote summer habitat as yearlong habitat since lower elevation winter habitat currently is inadequate for wintering sheep because of existing land management practices.

Guidelines for pronghorn management are presented in the Policy for the Management of Pronghorn Antelope (Nevada Department of Wildlife 2003e).

Migratory birds are protected under the Migratory Bird Treaty Act (16 U.S. Code 703-711) and Executive Order 13186 (66 Federal Register 3853). A list of Birds of Conservation Concern was developed as a result of a 1988 amendment to the Fish and Wildlife Conservation Act. This legislation mandates that the U.S. Fish and Wildlife Service "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered

Species Act of 1973." The goal of the Birds of Conservation Concern list is to prevent or remove the need for additional Endangered Species Act bird listings by implementing proactive management and conservation actions. As a result, Birds of Conservation Concern species would be consulted on in accordance with Executive Order 13186 (U.S. Fish and Wildlife Service 2002a). A total of 29 Birds of Conservation Concern potentially could occur within the Great Basin ecological system of the planning area, and 28 Birds of Conservation Concern potentially could occur within the Mojave Desert ecological system of the planning area (U.S. Fish and Wildlife Service 2002a). (See **Table 3.6-4**.)

Partners in Flight is a multi-faceted organization with the goal of documenting and reversing population declines of neotropical migratory birds and improving their habitats. Partners in Flight Priority Bird Species that potentially could occur within plant communities in the planning area are identified in the Nevada Partners in Flight Bird Conservation Plan (Nevada Partners in Flight 1999).

A draft Memorandum of Understanding among the BLM, U.S. Forest Service, and U.S. Fish and Wildlife Service was drafted pursuant to Executive Order 13186 to promote conservation and protection of migrating birds. Specific measures to protect migratory bird species and their habitats have not been identified within the Executive Order document, but instead, the Executive Order provides guidance to agencies to promote best management practices for the conservation of migratory birds. As a result, the Nevada State BLM prepared Migratory Bird Best Management Practices for the Sagebrush Biome to assist BLM field offices in the consideration of migratory birds in land management activities.

Table 3.6-4
Migratory Birds of Conservation Concern Within the Planning Area

Species[1]	Great Basin Region	Mojave Desert Region
Yellow rail	X	
Black rail		X
Gull-billed tern		X
Black skimmer		X
American golden-plover	X	
Mountain plover		X
Snowy plover	X	X
American avocet	X	
Solitary sandpiper	X	
Whimbrel	X	X
Long-billed curlew	X	X
Marbled godwit	X	X
Red knot		X
Sanderling	X	
Wilson's Phalarope	X	
Yellow-billed cuckoo	X	X
Black swift	X	
Lewis' woodpecker	X	
Gila woodpecker		X
Williamson's sapsucker	X	
White-headed woodpecker	X	
Gilded flicker		X
Loggerhead shrike	X	X
Bell's vireo		X
Gray vireo	X	X
Bendire's thrasher		X
Crissal thrasher		X
Le Conte's thrasher		X
Yellow warbler		X
Virginia's warbler	X	
Brewer's sparrow	X	
Rufous-winged sparrow		X
Black-chinned sparrow		X
Sage sparrow	X	X
Lark bunting		X
Tricolored blackbird	X	X
Lawrence's goldfinch		X

[1] Bird species were taken from the U.S. Fish and Wildlife Service Birds of Conservation Concern 2002 (U.S. Fish and Wildlife Service 2002a).

3.7 Special Status Species

Special status species are those species for which state or federal agencies afford an additional level of protection by law, regulation, or policy. Included in this category are federally listed and federally proposed species that are protected under the Endangered Species Act, species considered as candidates for such listing by the U.S. Fish and Wildlife Service, BLM sensitive species, and species that are state protected. See **Map 3.7-1** for species locations within the planning area.

In accordance with the Endangered Species Act, the lead agency in coordination with the U.S. Fish and Wildlife Service must ensure that any action they authorize, fund, or carry out would not adversely affect a federally listed threatened or endangered species. In addition, as stated in Special Status Species Management Policy 6840 (6840 Policy) (Rel. 6-121), it is BLM policy "to conserve listed species and the ecological systems on which they depend, and to insure that actions requiring authorization or approval by the BLM are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species, either under the provisions of the Endangered Species Act or other provisions" identified in the 6840 Policy. It also is BLM policy to rely on the Nevada Natural Heritage Program database for current status and distribution records of special status species in the planning area. The Ely Field Office as the lead federal agency for the proposed RMP revision is preparing a Biological Assessment for submittal to the U.S. Fish and Wildlife Service in accordance with Section 7(c) of the Endangered Species Act.

3.7.1 Plant Species

Existing Conditions

A total of 34 special status plant species, including one federally listed as threatened species, are known or suspected to occur in the planning area (see **Table E-1** in Appendix E). These plant species occur in a variety of vegetation communities and in a variety of geographic habitats within the planning area. Many are found on distinctive soil types, such as badlands or gypsiferous soils, or in association with unique vegetation communities, such as riparian areas. Approximately two-thirds primarily are associated with the southern portions of the planning area within Major Land Resource Areas 29 and 30. Approximately half of the planning area's sensitive plants are found within habitat types known in the Mojave Desert and transition zone to the north, such as the salt desert shrub and creosotebush communities. Approximately 50 percent are associated with pinyon-juniper woodland or sagebrush complexes. A small number are known to occur on rock outcrops, ledges, cliffs, and other barren areas. Although a preponderance of these rare plant species are located in hot desert ecological systems, only one is a member of the cactus family.

Federally Listed Species

Ute ladies'-tresses. Ute ladies'-tresses (*Spiranthes diluvialis*) typically inhabits moist, sub-irrigated, or seasonally flooded soils at elevations between 1,800 and 6,800 feet (U.S. Fish and Wildlife Service 1995). A wide variety of soils are inhabitable by the Ute ladies'-tresses including sandy or coarse cobbley alluvium to calcareous, histic or fine-textured clays and loams. Suitable soils can be found in locations such as valley

bottoms, gravel bars, or floodplains along springs, lakes, rivers, or perennial streams. Sites where Ute ladies'-tresses are known to occur are characterized by short vegetation cover and periodic exposure to disturbances like flooding or livestock grazing.

The Ute ladies'-tresses was listed as federally threatened in 1992. This species does not have designated critical habitat (57 Federal Register 2048). Records document a historic population of Ute ladies'-tresses within the planning area that once occupied a wet meadow adjacent to the Meadow Valley Wash just north of Panaca in Lincoln County (U.S. Fish and Wildlife Service 1995). Heritage data indicates that this population occurred on private land (Nevada Natural Heritage Program 2005a). However, the precision of the mapped coordinates is classified as reliable only to the minute level, and therefore, there is some uncertainty regarding the location record for this species. Despite searches, there were no observations of this population from 1936 (U.S. Fish and Wildlife Service 1995) until 2005 when this or a different populations was rediscovered in the same vicinity (U.S. Fish and Wildlife Service 2006; Fertig et al. 2005). This population is the westernmost known occurrence of this species. The extirpation of several populations in Utah and Colorado caused genetic losses that most likely led to the need for federal protection of this species.

It is estimated that there are approximately 20,000 acres of riparian habitat in the planning area. It is unknown how much of this area is suitable or potential habitat for the Ute ladies'-tresses.

BLM Sensitive Species

The remaining special status species include 33 BLM sensitive species (see Appendix E).

Sunnyside green gentian. The sunnyside green gentian (*Frasera gypsicola*) is one of the BLM sensitive species of greatest concern to the agencies and environmental groups. It typically inhabits dry, open areas at elevations between 5,180 and 5,510 feet. A wide variety of soils are inhabitable by the sunnyside green gentian including whitish, alkaline, often salt-crusted or spongy silty-clays. Suitable soils can be found in locations such as calcareous flats and barrens, with little if any gypsum content. Sites where the sunnyside green gentian may occur would be characterized by sagebrush, greasewood, and occasionally barberry and swamp cedar vegetation (Nevada Natural Heritage Program 2005a).

There have been three locations where the sunnyside green gentian has been reported in the planning area. Observations were reported at two sites within Nye County (both in the White River Valley near the White River) and at one site in White Pine County, south-southwest of Lund, Nevada, near White River (Nevada Natural Heritage Program 2005a).

Trends

In general, special status species are those species for which population viability is of concern, based on a current or predicted downward trend in population numbers or density, or habitat capability that would limit a species' distribution. As such, special status species are afforded an additional level of protection by law, regulation, or policy from state and federal agencies.

Little information is available regarding population trends of specific rare plants in the planning area. The current trend within their associated vegetation communities is described in Section 3.5, Vegetation.

Systematic surveys for the federally listed Ute ladies'-tresses in Nevada have been conducted to monitor trends and distribution, but likely remain incomplete. Based on available sampling results from 1997, estimated individual species numbers and estimated area of occurrence is unknown. Species inventory searches were conducted until 1997; however, no populations have been identified since 1936.

Threats to the Ute ladies'-tresses were identified in the U.S. Fish and Wildlife Service's Draft Recovery Plan (U.S. Fish and Wildlife Service 1995). Factors that have affected these populations include urbanization, river or stream damming, population displacement as a result of weed expansion, heavy summer livestock grazing and hay mowing, and agricultural conversion. Threats to the sunnyside green gentian and other BLM sensitive species are considered to be similar to factors identified for federally listed species.

Distribution and occurrence information is available for BLM sensitive species within the planning area (Appendix E). The current trend within their associated vegetation communities is described in Section 3.5, Vegetation.

Current Management

The management of rare plants on BLM-administered lands occurs under existing policy. Under the Endangered Species Act, consultation with the U.S. Fish and Wildlife Service takes place if federally listed plants or their habitat may be affected by an action. The majority of rare plant management in the planning area is conducted in response to proposed disturbance activities. This entails field surveys to identify potential impacts and mitigation measures, as needed. Few, if any, general surveys are conducted for inventory or monitoring.

The Recovery Plan for the federally listed Ute ladies'-tresses orchid does not include specific guidelines for management of potential orchid populations or habitat in Nevada. It does recommend that "some type of population and habitat monitoring should be initiated in each watershed until such time as a complete monitoring plan is designed and implemented," and that "drainages, seeps and springs in ... Nevada should be inventoried" (U.S. Fish and Wildlife Service 1995). General threats to sensitive plant populations in the planning area have been reported to include; illegal collecting, habitat destruction and disturbance associated with resource extraction or utility and road construction, and livestock and wildlife trampling.

Three existing ACECs (Kane Spring, Mormon Mesa, and Beaver Dam Slope) contain sensitive plant species populations. Ten sensitive plant species listed below have been reported as potentially being present in the former Caliente planning area (BLM 1999a). Because the three ACECs encompass a large portion of the former Caliente planning area, it is likely that some of these species would occur within the ACECs. These populations are managed in accordance with the ACEC-specific management prescriptions.

Nye milkvetch *(Astragalus nyensis)*
Utah century plant agave *(Agave utahensis)*

Cloky pincushion cactus *(Coryphantha vivipara* var. *roseus)*
Cedar Canyon phlox *(Gilia ripleyi)*
Musky phlox *(Phlox gladiformis)*
Miners compass cactus *(Ferocactus acanthodes* var. *lecontei)*
Meadow Valley sandwort *(Arenaria stenomeres)*
White bearpoppy *(Arctomecon merriamii)*
Threecorner milkvetch *(Astragalus geyeri* var. *triquetrus)*
Sticky buckwheat *(Eriogonum viscidulum)*

3.7.2 Aquatic Wildlife Species

Existing Conditions

The general area encompassing the planning area provides habitat for seven federally listed fish species (**Map 3.7-1**). Habitat is present on BLM-administered land for three fish species: Big Spring spinedace (*Lepidomeda mollispinis pratensis*) in Upper Meadow Valley Wash (Condor Canyon), Pahrump poolfish (*Empetrichthys latos*) in the Shoshone Ponds Natural Area, and White River springfish (*Crenichthys baileyi baileyi*) in Ash Springs. Habitat for Hiko White River springfish (*Crenichthys baileyi grandis*), Railroad Valley springfish (*Crenichthys nevadae*), Pahranagat roundtail chub (*Gila robusta jordani*), and White River spinedace (*Lepidomeda albivallis*) is located on private, state, or tribal land that is surrounded by or adjacent to BLM-administered land. The Ely Field Office would be responsible for any actions on public land that potentially could affect habitat for these federally listed species. The listing designation and distribution of these species are described in Appendix E. Except for Big Spring spinedace, the fish species are mainly associated with springs or pool habitats. Critical habitat has been designated for all of the fish species except Pahranagat roundtail chub and Pahrump poolfish. A summary of the occurrence and habitat information for the federally listed species is provided below.

Federally Listed Species

Big Spring Spinedace. Originally, the Big Spring spinedace was collected from the outflow stream of Panaca Spring and its adjacent wet meadow near Panaca, Nevada in Lincoln County (U.S. Fish and Wildlife Service 1993). This population was extirpated from these areas due to habitat modification and nonnative fish species introductions. The present distribution of this species is restricted to a 4-mile section of Upper Meadow Valley Wash called the Condor Canyon reach, which is located northeast of Panaca. The boundaries of the occupied habitat area are defined by perennial flow. A barrier falls at the north end of the canyon, which restricts movement. A second falls exists near the Delmue property, where the 2-foot drop represents an impediment to fish movement rather than a barrier. Previous surveys in Upper Meadow Valley Wash showed that the species occurred throughout most of the canyon. The largest numbers were collected in a plunge pool below the barrier falls near the Delmue property. Critical habitat also was designated for the species in a 4-mile section of Meadow Valley Wash (above and within Condor Canyon) in Lincoln County near Panaca, Nevada (U.S. Fish and Wildlife Service 1985).

The primary constituent elements of designated critical habitat for this species include: 1) clean, permanent-flowing, spring-fed habitat with deep pools and shallow marshy areas along the shore; and 2) the absence of nonnative fishes (U.S. Fish and Wildlife Service 1993). Habitat characteristics of occupied habitat in Meadow Valley Wash pool areas with depths of 1 to 3 feet, moderate to slow stream velocities, undercut banks, and floating aquatic vegetation (U.S. Fish and Wildlife Service 1993). Bottom substrate consisted of clay and gravel (Sigler and Sigler 1987).

Railroad Valley Springfish. This species is native to thermal spring systems in Railroad Valley, Nye County, Nevada (U.S. Fish and Wildlife Service 1996). The Railroad Valley springfish is native to only two areas (Lockes Ranch area and Duckwater areas), both of which are located in Railroad Valley, Nevada. Nine thermal springs have populations of the species, six at Lockes and three at Duckwater. In addition to these populations, there are four springs where this species has been introduced; Chimney Warm Springs (spring and outflow), Hot Creek Canyon (Dugan Ranch), and Sodaville Warm Springs. An introduction at Warm Springs failed. Critical habitat also was designated at the time of listing, which included six springs historically occupied by this species. The locations included the springs along with portions of the outflow streams and marshes, and a 15-meter (50-foot) riparian zone around each of the springs. The springs occur in three locations: 1) Big Warm Spring (T13N, R36E, NE¼ of Section 31, SE¼ of Section 31, and NW¼ of Section 32); 2) Little Warm Spring (T12N, R56E, Section 5); and 3) North Spring, Hay Corral Spring, and Reynolds Springs (T8N, R55E, SW¼ of Section 11, NW¼ of Section 14, SW¼ of Section 14, SE¼ of Section 15, NE¼ of Section 15, and SW¼ of Section 15) (U.S. Fish and Wildlife Service 1996).

Railroad Valley springfish are adapted to survive in spring environments with relatively high water temperatures (86 to 100 degrees Fahrenheit) at the spring source and low dissolved oxygen concentrations (1.5 to 6.0 milligrams per milliliter) (U.S. Fish and Wildlife Service 1996). Constituent elements of designated critical habitat for this species include clear, unpolluted thermal spring waters ranging in temperatures from 84 to 97 degrees Fahrenheit in pools, flowing channels, and marshy areas with aquatic plants, insects, and mollusks. Discharges in occupied springs ranged from <0.6 to 13.5 cubic feet/second (U.S. Fish and Wildlife Service 1996). Most of the discharges were about 0.5 to 3 cubic feet/second. Current is negligible in the spring pools. The degradation of riparian habitats mainly caused by water diversion, overgrazing, and introduction of exotic fish has contributed to the listing status of the species (Nevada Department of Wildlife 2003f).

Hiko White River Springfish. This species occupies pools in Hiko and Crystal Springs in the Pahranagat Valley, Lincoln County, and has been introduced into Blue Link Spring in Mineral County, Nevada (U.S. Fish and Wildlife Service 1998a). This species was extirpated from Hiko Spring in 1967 but reintroduced in 1984. These springs and their associated open outflows were designated as critical habitat for this species in 1985.

Pahranagat Roundtail Chub. Historically, Pahranagat roundtail chub occurred in Crystal Spring, Hiko Spring, Ash Spring, and the Pahranagat River in Lincoln County Nevada (Stein et al. 2001). The present distribution of this species is limited to a small section of Pahranagat Creek on private land. A new refugium was established for this species in 2004 at the Key Pittman Wildlife Management Area located near Hiko, Nevada. A total of 2,400 individuals were stocked in the former irrigation reservoir that was lined and filled

with well water. No critical habitat has been designated for this species, although this species was included in a recovery plan for aquatic and riparian species in the Pahranagat Valley (U.S. Fish and Wildlife Service 1998a).

Adult and juvenile fish typically inhabit pools below riffle areas, but adults also utilize deeper water with flow. Chub larvae occur in quiet water near the water's surface and near stream banks. Adult fish exhibit seasonal changes in habitat use, with summer habitat consisting of deeper and slower water in comparison to the spring and winter (U.S. Fish and Wildlife Service 1998a).

Pahrump Poolfish. This species was originally called the Pahrump killifish, but it was assigned the common name "poolfish" in 1991. Historically, separate populations occurred in three springs in Pahrump Valley in Nye County. Two of these populations are extinct (Pahrump Ranch and Raycraft Ranch). The Manse Ranch Spring population also disappeared in 1975, but it was transplanted to other sites to provide refugia populations. Presently, introduced populations exist in Corn Creek Springs (Clark County), an irrigation reservoir fed by Sandstone Spring (Clark County), and Shoshone Springs (White Pine County). The Shoshone Ponds Native Fish Refugium in Spring Valley, White Pine County, was established in the 1970s as a cooperative effort between Nevada Department of Wildlife and the Ely Field Office to assist in the conservation and recovery of native fishes (Nevada Department of Wildlife 2003a). It consists of three small spring-fed ponds within a fenced exclosure, and a larger earthen pond (referred to as Stock Pond) located outside of the exclosure. Pahrump poolfish are present in three of the four ponds (North Shoshone, Middle Shoshone, and Stock Ponds). No critical habitat has been designated for Pahrump poolfish, but a recovery plan was prepared in 1980 (U.S. Fish and Wildlife Service 1980).

Habitat for this species consists of shallow thermal springs and their outflow areas. In native springs inhabited by this species, larger individuals also utilized deeper waters in open water areas (U.S. Fish and Wildlife Service 1980). Young fish tend to utilize shallow areas with vegetation. During the breeding period, females seek seclusion in more remote areas of the spring. Fry usually remain near the bottom or adjacent to substrates for protection from predators (U.S. Fish and Wildlife Service 1980).

White River Spinedace. Historically, the White River spinedace occurred in the White River near the confluence with Ellison Creek in White Pine County and below Adams-McGill Reservoir in Nye County (U.S. Fish and Wildlife Service 1994b). Historic distribution also included springs in White County (Preston Big, Cold, Nicholas, and Arnoldson) and Nye County (Flag). The present distribution for this species is limited to Flag Springs and the upper portion of Sunnyside Creek, which includes a series of three springs and stream segment located in the Kirch Wildlife Management Area (U.S. Fish and Wildlife Service 1994b). Critical habitat was designated for three springs and their outflows plus the surrounding land areas at a distance of 15 meters (Preston Big Spring and Lund Spring in White Pine County and Flag Springs in Nye County).

Historically, White River spinedace occupied stream and spring habitats in the northern portion of the White River. The species now persists only in spring habitat. Observations in spring habitat occupied by this species included clear, cool water temperatures; open pools with aquatic vegetation; and bottom substrates consisting of gravel, sand, and mud (U.S. Fish and Wildlife Service 1994b). No information is available concerning habitat used by White River spinedace in riverine areas of the White River.

White River Springfish. Historic and the present distribution of White River springfish are restricted to Ash Springs and its outflow in Pahranagat Valley, Lincoln County, Nevada. The majority of the population is found in the pool; however, fish occasionally occur in the outflow stream (Tuttle et al. 1990). Designated critical habitat includes Ash Springs (Lincoln County, Nevada), its outflow, and the surrounding land for a distance of 50 feet (U.S. Fish and Wildlife Service 1998a).

Constituent elements of the designated critical habitat consist of warm water springs and their outflows and the adjacent riparian area, which provides cover and invertebrate food sources. Specific habitat characteristics in Ash Springs include a relatively large pool (0.2 mile in length) with depths ranging from approximately 1.6 to 6.6 feet. The pool contains dense submergent vegetation and sand and silt bottom substrates. Water temperatures range from approximately 88 to 97 degrees Fahrenheit and the mean discharge is 0.56 cubic feet/second. Adult White River springfish occur at depths ranging from approximately 1.3 to 5.6 feet, but they prefer depths of 3.6 feet or greater. Juvenile fish tend to use shallower water (average of 2.1 feet).

Selected BLM Sensitive Species

Fish. In total, 17 additional BLM-sensitive fish species occur within the planning area (Appendix E). The state-protected and BLM-sensitive fish species lists are the same except for the addition of two BLM-sensitive species (Bonneville cutthroat trout and Meadow Valley Wash speckled dace). All of these fish species are native to Nevada. Bonneville cutthroat trout and the Meadow Valley Desert sucker and some of the dace species (e.g., White River speckled dace and Meadow Valley Wash speckled dace) are found in stream habitats. The other fish species are mainly associated with springs. These species are listed as sensitive by the BLM, meaning that the BLM is mandated to ensure actions authorized, funded, or carried out by BLM do not contribute to the need to list these species as threatened or endangered.

Bonneville Cutthroat Trout. The Bonneville cutthroat trout (*Oncorhynchus clarki utah*) was associated with Lake Bonneville, which covered parts of southern Idaho, eastern Nevada, and western Utah during the late Plieosticene. Remaining populations became isolated in remaining headwaters and streams within the Bonneville drainage basin; an estimated 90 percent of these rivers in the basin once had populations of Bonneville cutthroat trout. Historic populations in Nevada were reported in rivers of the east slope of Snake and Goshute ranges, Pilot Peak Range, and Thousand Springs Creek Drainage (U.S. Fish and Wildlife Service 1998b).

Bonneville cutthroat trout occupy a range of riverine habitats, from rivers in sage-steppe grasslands with herbaceous riparian zones at approximately 3,000 feet above mean sea level to streams with coniferous and deciduous trees at elevations greater than 11,000 feet above mean sea level. Lakes also currently support Bonneville cutthroat trout populations; however, conservation efforts in Nevada have focused on rivers and streams. Populations in Nevada have been observed spawning in late June to early July; spawning is earlier for populations in higher elevations (e.g., May and June in Utah). Fry generally emerge in mid to late summer; males are reproductively mature at 2 years, females at 3 years (Nevada Department of Wildlife et al. 2006).

Amphibians. Three amphibian species (Columbia spotted frog, northern leopard frog, and southwestern toad) are present in the planning area. The Columbia spotted frog is known to occur in one location on tribal lands immediately adjacent to the planning area—the Spring Creek Flat area (approximately 1.5 miles northeast of the Town of Eightmile, Nevada, on West Deep Creek (Nevada Natural Heritage Program Database 2004). This species utilizes wetland habitats in low elevation shrublands and grasslands within the study area. This population is considered part of the west desert population, which is not a federal candidate at this time. There is a conservation agreement for this species. Records for the northern leopard frog include the Lake Valley and South Spring Valley watersheds in Lincoln County and the Spring Valley watershed in White Pine County (Nevada Natural Heritage Program Database 2004).

Arizona Toad. The Arizona toad *(Bufo microscaphus)*, also commonly referred to as the southwestern toad, is found in scattered localities throughout southeastern Utah, southern Nevada, Arizona, and western New Mexico (NatureServe 2006). In Nevada, the Arizona toad is listed as an S2 species by the Natural Heritage ranking system, meaning that its continued presence in the state is imperiled. According to natural heritage records, occurrence of this species in Nevada is primarily limited to Clark and Lincoln counties (NatureServe 2006). Within the planning area, the Arizona toad has been collected in Meadow Valley Wash in Lincoln County, Nevada.

The Arizona toad is primarily nocturnal, preferring to remain underground or under fallen logs and debris in the daytime. The Arizona toad inhabits riparian areas from lowlands near the Colorado River drainage to upland elevations ranging from 600 to 6,000 feet (190 to 1,829 meters) (CaliforniaHerps 2006). It is seen along pools, creeks, and streams bordered by willow and cottonwoods, in low to moderate gradient riverine habitats, and it also is found in cropland/ hedgerow, desert, shrubland/chaparral, conifer woodland, and mixed woodland terrestrial habitats (NatureServe 2006). In the drier portions of its range, it prefers loose gravelly areas of streams and arroyos, and often is seen on the sandy banks of quiet water in other areas (eNature 2006). This toad has been increasingly identified along irrigated cropland and reservoirs. Its breeding season occurs primarily during March to July, and does not seem to be dependent on rainfall; although, at higher elevations, breeding may continue into July or even August (eNature 2006). Its eggs are laid among gravel, leaves, or sticks, on mud or clean sand in shallow ponds, or at the bottom of flowing or shallow, quiet waters of perennial or semi-permanent streams (NatureServe 2006).

Aquatic Invertebrates. In addition, 13 BLM sensitive aquatic invertebrates (i.e., proposed species of concern) are present in the planning area. The invertebrates include the Pahranagat nauconid bug and 12 springsnails or snails (see Appendix E). The Pahranagat nauconid lives among aquatic plants in pools and stream reaches in the White River drainage (U.S. Fish and Wildlife Service 1998a). Springsnails, a group of mollusks found in perennial springs and seeps, are considered important indicators of spring health and usually are confined to the spring source and a wetted area immediately downstream from the spring. Although systematic surveys and other extensive surveys have not been undertaken, springsnails have been collected during select surveys in springs and seeps at scattered locations throughout the planning area (**Table 3.7.1**). While springsnails as a whole can exist in a range of extreme habitats, individual populations have been isolated by the distances between springs and seeps, and have become highly specialized to their habitats. Many species exist only in one or two springs, and can tolerate only slight changes in current velocity, substrate size, water temperature, water depth, and temperature (Sada 2005).

Habitat conditions in springs supporting springsnails generally have shown habitat stability, as well as low to moderate discharges (5 to over 30 gallons per minute), stable substrates, and dense growth of aquatic vegetation. Springsnails in the genus *Pyrgulopsis* generally are associated with gravel substrate and flowing water. Species in the genus *Tryonia* occur less frequently in Nevada, and are found along banks in areas with slow current and sand substrate (Hershler 1998; Hershler and Sada 1987; Sada and Herbst 1999).

Table 3.7-1
Known Springsnail Occurrences in the Planning Area

County	Watersheds
Nye	Duck Water, Railroad Valley, White River Central
White Pine	Huntington, Steptoe B, Steptoe C, Snake Valley South, Spring Valley, Spring Valley South, White River Central, White River North
Lincoln	Cave Valley, Clover Creek South, Dry Valley Lake, Lake Valley, Meadow Valley Wash North, Patterson Wash, Spring Valley Wash East, Spring Valley Wash West, White River South

Source: Nevada Natural Heritage Database 2004.

Trends

Standardized sampling for federally listed fish species in Nevada has been conducted by the Nevada Department of Wildlife to monitor population trends and distribution (Hobbs et al. 2005, 2004, and 2003; Stein et al. 2001; Stein et al. 2000). Based on available sampling results, population trends are noted in **Table 3.7-2**. Sampling would continue for most of these species where access is available.

Threats to federally listed fish species were identified in the recovery plans (U.S. Fish and Wildlife Service 1980, 1993, 1994a,b, 1996, 1998b). Factors that have affected these populations include habitat alterations, water depletions, hybridization, disease, predation, and competition. Habitat alterations have resulted from stream channel changes, overly intense, prolonged, or poorly timed grazing, crop production in adjacent land, and water withdrawals for irrigation and domestic purposes. Introduced nonnative fish species have adversely affected populations of listed fish species due to competition for food and available habitat, transfer of parasites and diseases, and predation. Threats to state-listed and BLM sensitive species are considered to be similar to factors identified for federally listed species. No trend data on these species currently are available.

Habitat conditions in Condor Canyon were adversely affected by a major rangeland fire in 1999. Effects of the fire included loss of riparian vegetation, increased sedimentation from surrounding upland areas, and expansion of emergent vegetation (mostly cattails) into the channel. Tamarisk is expanding in the riparian area but it is not considered severe and could likely be controlled with short-term measures (Hobbs et al. 2003). A Habitat Restoration Plan is being implemented to improve habitat conditions.

Table 3.7-2
Summary of Population Sampling for Federally Listed Fish Species

Species	Years	Sampling Results
Big Spring spinedace	1999-2004	Species is present in the upper portion of Condor Canyon, with the highest densities occurring above Condor Canyon near Delmue Bridge.
		Population estimates have ranged from 8,984 in 2003 to 2,267 in 2004.
Pahrump poolfish	1989, 1997-2004	Species is present in four ponds in the Shoshone Ponds Native Fish Refugium.
		Population estimates (without variance statistics) in North Shoshone Pond have ranged from approximately 89 in 2003 to 496 in 2004.
		Population estimates (without variance statistics) in Middle Shoshone Pond have ranged from 1,714 in 1997 to 115 in 2003.
		Population estimates (without variance statistics) in Shoshone Stock Pond have ranged from approximately 6,572 in 2002 to 718 in 2003.
White River springfish	2001 and 2003	Snorkel survey indicated 600 fish present in 2001. Minnow traps captured 10 springfish in 2003. No sampling was conducted in 2002 or 2004.
Hiko White River springfish	1985-2004	Population numbers (without variance statistics) have ranged from approximately 1,000 in 1985 to 6,000 fish in 2000 and then decreased to 853 in 2004.
White River spinedace	1991-2004	Population estimates increased from a low of 40 fish in 1991 to 1,573 fish in 1999. Recent estimates in 2002 were 914 (March) and 1,264 fish (September).
Pahranagat roundtail chub	1997-2001	Trend in population numbers has declined from 568 fish in 1997 to less than 10 fish in 2002 in a 0.25-mile section downstream of Ash Springs. No recent sampling has been done because of access restriction.
Railroad Valley springfish	1996-2004	Population estimates (without variance statistics) have shown the following ranges in the Lockes Ranch area: North Spring (2,634 in 2000 to 587 in 2004); Hay Corral (5,776 in 1999 to 346 in 2002); Reynolds Spring (983 in 1999 to 2,079 in 2001); Big Spring (500 in 1998 to 4,982 in 2002); and Chimney Spring (1,030 in 1997 to 3,356 in 2002).

Bonneville Cutthroat Trout. Current populations of Bonneville cutthroat trout occupy only a fraction of historic ranges; however, recent conservation efforts are helping to increase population numbers. In the late 1880s through 1920s, Bonneville cutthroat trout were plentiful, occupying an estimated 90 percent of streams within the Bonneville drainage basin. By 1987, populations had declined due to many factors, including alteration of stream channel and riparian habitats, impaired water quality, and competition from introduced species (Nevada Department of Conservation and Natural Resources 2002), and occupied only 12.5 stream miles in Nevada, including Goshute, Hendry's, Hampton, and Pine-Ridge creeks (Haskins 1987). By 1998, distribution had expanded to include Deadman Creek (U.S. Fish and Wildlife Service 1998b). As of 2006, 13 conservation populations are confirmed in Nevada, inhabiting over 32 miles of riverine habitat (Nevada Department of Wildlife et al. 2006). This represents an increase in occupied habitat of approximately 250 percent over 20 years.

Arizona Toad. The Arizona toad is estimated to be absent from 75 percent of its historic range (NatureServe 2006). This decline is thought to be due to dramatic alterations in riparian corridors throughout the west. These alterations are the results of impoundments, which restrict the flow of stream water, creating quiet waters more favored for breeding by a competing toad species, *Bufo woodhousei*, with which it hybridizes (CaliforniaHerps 2006). A recent survey in Arizona indicated local declines but no obvious major trend. It is estimated that the overall short-term population trend for the species is slightly declining or stable, with an approximate 10 percent fluctuation in the population size and up to a 30 percent decline in the overall species population (NatureServe 2006).

Aquatic Invertebrates. Distribution and occurrence information is available for known populations of BLM-sensitive springsnails within the planning area (Appendix E). However, no systematic or frequent sampling has been conducted for invertebrate species to provide information on trends (Sjöberg 2004). Currently, no springsnails have state protection; however, 58 springsnail species are on the list of Nevada Species of Conservation Priority based on prioritization developed by the Nevada Department of Wildlife (Wildlife Action Plan Team 2006). Maintenance of habitat through protection of springs and their associated stream segments currently are part of management for native spring-dependant species.

Current Management

Management of sensitive aquatic species depends on their listing status. Federally listed species are regulated by the U.S. Fish and Wildlife Service under the Endangered Species Act and managed by the Nevada Department of Wildlife. The Ely Field Office must follow the requirements of the Endangered Species Act to protect the listed species and their habitat. The Ely Field Office also manages their lands to protect Nevada BLM sensitive and State of Nevada listed species as described in BLM Manual 6840. Management guidance for the sensitive fish species is provided in recovery plans and habitat management plans (**Table 3.7-3**). In addition, the Ely Field Office is involved with Recovery Implementation Teams for the federally listed Pahranagat Valley fish species, Big Spring spinedace, White River spinedace, and Railroad Valley springfish.

Table 3.7-3
Management Guidance for Special Status Fish Species

Species	Plan/Citation
Big Spring spinedace	Big Spring Spinedace Recovery Plan (U.S. Fish and Wildlife Service 1993); Big Spring Spinedace Monitoring and Nonnative Species Control Plan (Nevada Department of Wildlife 1999a); Big Spring Spinedace Recovery Implementation Plan (Draft) (Nevada Department of Wildlife 1999b); Condor Canyon Habitat Management Plan (Guerrero et al. 1989)
Hiko White River springfish, White River springfish, Pahranagat roundtail chub, White River speckled dace, White River desert sucker	Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley (U.S. Fish and Wildlife Service 1998a); White River Valley Native Fishes Management Plan (Nevada Department of Wildlife 2000a), Pahranagat Valley Native Fishes Management Plan (Nevada Department of Wildlife 1999c)
Pahrump poolfish	Recovery Plan Pahrump Killifish (U.S. Fish and Wildlife Service 1980)
Railroad Valley springfish	Railroad Valley Springfish Recovery Plan (U.S. Fish and Wildlife Service 1996); Railroad Valley Springfish Species Monitoring Plan (Nevada Department of Wildlife 2000b)
White River spinedace	White River Spinedace Recovery Plan (U.S. Fish and Wildlife Service 1994b)
Bonneville cutthroat trout	Conservation Agreement and Conservation Strategy for Bonneville Cutthroat Trout in the State of Nevada (Nevada Department of Wildlife et al. 2006)

3.7.3 Terrestrial Wildlife Species

Existing Conditions

A total of 60 special status terrestrial species (18 mammals, 31 birds, 5 reptiles, and 6 invertebrates) potentially could occur within the planning area. These species and their associated habitats are summarized in Appendix E.

Federally Listed Species

Southwestern Willow Flycatcher. The southwestern willow flycatcher (*Empidonax traillii extimus*) was listed as federally endangered in 1995 (60 Federal Register 10694). The range of this subspecies in Nevada is confined primarily to the southern portion of the state. No designated critical habitat for this subspecies occurs within or near the planning area (62 Federal Register 39129). The final recovery plan for the southwestern willow flycatcher was published in 2002 (U.S. Fish and Wildlife Service 2002b).

Data obtained from the Nevada Department of Wildlife indicate that the southwestern willow flycatcher has been documented at eight known locations in the planning area in Lincoln County. One location occurs at the Pahranagat National Wildlife Refuge where this subspecies was recorded in 1976, 1979, 1986, 1989, 1990, 1991, 1994, 2004, and 2005. This subspecies also was recorded at Key Pittman Wildlife Management Area where breeding pairs were detected in consecutive years from 1999 through 2005. Breeding pairs also were detected at Crystal Springs in 2002 and near the town of Ash Springs in 1999, 2000, and 2001. Southwestern willow flycatchers were recorded in 1998 at three sites including a site just southwest of the Delamar Mountains in southern Lincoln County, a site south of the East Mormon Mountains in southern Lincoln County, and a site east of the Fortification Range in northern Lincoln County. A southwestern willow flycatcher also was detected at Lower Meadow Valley Wash in southern Lincoln County in 2002 (Nevada Department of Wildlife 2001b, 2002, 2005b, 2006a; SWCA 2005, 2006).

Relative to the planning area, potentially suitable breeding habitat for the willow flycatcher would be limited to riparian shrub and wetland habitat in Lincoln County.

Bald Eagle. The bald eagle (*Haliaeetus leucocephalus*) was downlisted to federally threatened on July 12, 1995, and on August 8, 2007, the bald eagle was delisted by the U.S. Fish and Wildlife Service in the lower 48 states (72 Federal Register 37346-37372). Bald eagles also are protected under the Bald and Golden Eagle Protection Act of June 8, 1940, as amended, and the Migratory Bird Treaty Act of July 3, 1918, as amended June 20, 1936, in all states. The Pacific States Bald Eagle Recovery Plan, which includes management guidelines for bald eagles in Nevada, was prepared in 1986 (U.S. Fish and Wildlife Service 1986). No critical habitat for bald eagles has been designated.

No bald eagle nest sites are known to occur within the planning area. The closest nest site to the planning area was documented in 2005, in Ruby Valley, Elko County. As a result, potential occurrence by this species would be limited to migrating and wintering individuals. The robust branches of cottonwoods are preferred habitat for winter roosts although coniferous trees also are used (Herron et al. 1985). Therefore,

potentially suitable roosting habitat for the bald eagle would be limited to approximately 20,000 acres of riparian habitat present on public and private land in the planning area. Cedar Mountain in Newark Valley has been utilized as winter roosting habitat for the eagle in the past; however, there has been no eagle activity at the site for approximately 3 years. Eagles also were observed in 1982 roosting in a stand of large cottonwoods at Bull Creek Ranch in northern Nye County. However, no birds have been observed at these sites within the last few years. Bald eagles are known to roost in the large cottonwoods and willows at the Pahranagat National Wildlife Refuge during winter months.

Desert Tortoise. The desert tortoise (*Gopherus agassizii*) was listed as federally threatened in 1990 (55 Federal Register 12178). A recovery plan for this species was prepared in 1994 (U.S. Fish and Wildlife Service 1994a). Critical habitat for the Mojave Desert population of the desert tortoise was designated in 1994 (59 Federal Register 5820). Two designated critical habitat units (Mormon Mesa Unit and Beaver Dam Slope Unit) occur within the planning area in southern Lincoln County.

Since the 1994 Desert Tortoise Recovery Plan was approved by the U.S. Fish and Wildlife Service, much new information is available and will likely result in changes to the recovery strategy for the desert tortoise adopted at that time. In 2003, the Desert Tortoise Recovery Plan Assessment Committee was appointed by the U.S. Fish and Wildlife Service to conduct a comprehensive assessment of the Recovery plan. The Desert Tortoise Recovery Plan Assessment Committee consists of a team of scientists with diverse expertise in fields relative to the desert tortoise and its recovery. In 2004, the Desert Tortoise Recovery Plan Assessment Committee completed their assessment and prepared a report of their findings and recommendations. The U.S. Fish and Wildlife Service considers the information in this report relevant in land use planning as well as desert tortoise conservation planning. Currently, efforts are underway to update the Desert Tortoise Recovery Plan as the next step, which is anticipated to be completed in 2007. The Ely RMP must include sufficient flexibility to implement management actions for the desert tortoise and its habitat that will become available in the updated Desert Tortoise Recovery Plan.

The Nevada Department of Wildlife and the Nevada Natural Heritage Program have documented numerous desert tortoise sightings within the planning area. There have been several reports of desert tortoise burrows in the lowlands near the mountains from Ash Springs southward along Pahranagat Wash to the Lincoln County line. Sites occupied by desert tortoise are scattered throughout southeastern Lincoln County, with areas of concentration occurring along Kane Springs Wash, Meadow Valley Wash, and the region just south of the Tule Springs Hills.

There are approximately 726,000 acres of potentially suitable desert tortoise habitat in the planning area, of which approximately 245,012 acres have been designated as critical habitat for this species in southern Lincoln County. Subsequently, three ACECs (Kane Springs, Mormon Mesa, and Beaver Dam Slope) were designated by the Ely Field Office to assist in the recovery of the desert tortoise within the planning area. These ACECs encompass 203,670 acres or approximately 83 percent of the designated critical habitat for the desert tortoise in the planning area (BLM 2000a) (see **Map 2.4.7-1**).

Major wildland fires occurred across the southern end of the planning area in 2005. The South Desert Complex Fires of 2005 affected approximately 15 percent of the desert tortoise designated critical habitat

within the planning area, primarily in the southeast corner of the planning area within and north of the Beaver Dam Slope ACEC. A small portion of the burned designated critical habitat occurs in the northeast corner of the Kane Springs ACEC.

Federal Candidate Species

Yellow-billed Cuckoo. The yellow-billed cuckoo (*Coccyzus americanus*) is a federal candidate species that formerly ranged throughout much of North America from southern Canada to northern Mexico (66 Federal Register 38611). However, the yellow-billed cuckoo has suffered population declines primarily due to the loss of streamside habitat and is declining west of the Continental Divide (Biota Information System of New Mexico 2002).

There have been six locations where the yellow-billed cuckoo has been reported in the planning area in Lincoln County. Observations of yellow-billed cuckoo were reported at two sites along Meadow Valley Wash; a breeding pair at one site in 2001 and a single bird at another site in 2002. At Crystal Springs, two breeding pairs were reported in 2001. South of Crystal Springs, individual birds were observed at a fourth site in 2000 and 2002. At another site at Ash Springs, four breeding pairs and additional single birds were reported in both 2000 and 2001 (Nevada Department of Wildlife 2002). In 1979, a single cuckoo was reported by the Nevada Department of Wildlife just south of Beaver Dam State Park in extreme eastern Lincoln County.

Potentially suitable habitat for the yellow-billed cuckoo in the planning area would be limited to approximately 3,100 acres of riparian and wetland.

Selected BLM Sensitive Species

The remaining special status species include 54 BLM sensitive species (18 mammals, 26 birds, 4 reptiles, and 6 invertebrates) (see Appendix E).

Greater Sage-grouse. The greater sage-grouse (*Centrocercus urophasianus*) had been petitioned to be federally listed under the Endangered Species Act as a result of the downward trend of local populations and a reduction of habitat (Conservation Planning Team 2001; U.S. Fish and Wildlife Service 2006). However, the U.S. Fish and Wildlife Service has subsequently determined that protection under the Endangered Species Act is not warranted (70 Federal Register 2244). Greater sage-grouse typically occupy sagebrush communities, breeding in relatively open lek sites (or strutting grounds). Leks are established in open areas, 0.2 to 12 acres in size (Conservation Planning Team 2001). Nesting habitat is characterized primarily by Wyoming big sagebrush communities with a 15 to 38 percent canopy cover and a grass-forb understory (Conservation Planning Team 2001). On average, most nests occur within 4 miles of a lek site; however, nesting habitat may occur at greater distances from a lek site for migratory populations (Connelly et al. 2000). Early brood rearing generally occurs close to nest sites. Optimum brood rearing habitat consists of sagebrush stands that are 16 to 32 inches tall with a canopy cover of 10 to 25 percent and a herbaceous understory consisting of grass and forb species (BLM 2000c).

Summer habitat consists of sagebrush mixed with areas of wet meadows, riparian habitat, or irrigated agriculture fields. As habitat begins to dry up, greater sage-grouse broods move to more mesic habitat such as wet meadows where succulent grasses and insects are still available. In Nevada, greater sage-grouse greatly rely on wet areas for their survival since Nevada normally receives less precipitation than other states (Conservation Planning Team 2001). Fall habitat in northeastern Nevada consists of a mosaic of low-growing sagebrush and Wyoming big sagebrush (see **Map 3.5-4**). It is crucial that sagebrush be exposed at least 10 to 12 inches above snow level for wintering greater sage-grouse (Conservation Planning Team 2001). Sagebrush is the primary food source of adult greater sage-grouse; however, forb species are an important food source in spring and early summer and improve successful reproduction in females. Numerous forb species also enhance nest concealment and relative nest success (Policy Analysis Center for Western Public Lands 2002).

Seasonal habitat for greater sage-grouse is shown on **Map 2.4.7-2** along with the 293 known lek sites within the planning area. Winter habitat for greater sage-grouse, which is considered a priority habitat, occupies approximately 3.8 million acres within the planning area.

Pygmy Rabbit. The pygmy rabbit (*Brachylagus idahoensis*) is a BLM Sensitive Species which occurs throughout most of the Great Basin. However, the distribution and population trends of this species are largely unknown. Although the pygmy rabbit was petitioned for listing under the Endangered Species Act, the U.S. Fish and Wildlife Service determined that the petition did not provide substantial information indicating that listing was warranted (70 Federal Register 29253). In Nevada, the pygmy rabbit is found in alluvial fans, swales in a rolling landscape, large flat valleys, at the foot of mountains, along creek and drainage bottoms, in basins in the mountains, or in other landscape features where soil may have accumulated to greater depths. They are generally found on flatter ground with deep friable soils. These areas generally are associated with vegetation consisting of sagebrush and rabbitbrush (Ulmscheider 2004; Etzelmiller 2003).

Generally, pygmy rabbits burrow in loamy soils deeper than 20 inches. In Nevada, soils are light-colored and friable (Ulmscheider 2004). Burrows are usually found in relatively tall and dense big sagebrush areas where the sagebrush height can vary from approximately 1.5 to 7 feet tall. Sagebrush density also can vary with canopy cover ranging from approximately 15 to 30 percent (Heady et al. [no date]; Roberts 2001). Various subspecies of sagebrush used by pygmy rabbit include Wyoming (*Artemisia tridentata wyomingensis*), mountain (*A. t. vaseyana*), and Great Basin (*A. t. tridentata*). However, pygmy rabbits also may occupy habitat other than that described above (e.g., short sagebrush or lack of sagebrush, and areas with shallow and less friable soils).

Relative to the planning area, 23 pygmy rabbit observations were recorded – 20 in White Pine County and 3 in Nye County (Nevada Natural Heritage Program 2005b). Eighteen of these observations were recorded between 1980 and 2003 and the five remaining records were from pre-1946 observations. The observation locations are irregularly distributed within the planning area.

Raptors. The planning area is home to many types of raptors including hawks, owls, eagles, accipiters, and falcons (Appendix E). Population information for many of the resident species in Nevada is not available,

and where there is species-specific information, general trends in raptor populations are not consistent. Densities of some raptors such as the short-eared owl fluctuate based on prey availability, but are considered to be adequate for healthy populations. Populations of some species such as the Swainson's hawk have been increasing in Nevada, although surveys indicate they have not reached historic densities. Surveys also indicate populations of other species such as the prairie falcon have continued to decline (Nevada Partners in Flight 1999).

The planning area offers significant habitat for species dependant on sagebrush, salt desert scrub, and pinyon-juniper habitats. The highest densities of ferruginous hawks in Nevada occur within the planning area. Nevada represents a large portion of the basin and range province, which supports 28 percent of the world population of prairie falcons (Nevada Partners in Flight 1999). Prairie falcons nest in cliffs and rock outcrops; other raptors within the planning area may use rock outcrops, trees, or burrows as nesting sites.

Western Burrowing Owl. The western burrowing owl *(Athene cunicularia hypugaea)* is a grassland specialist distributed throughout western North America. The western burrowing owl is protected by the Migratory Bird Treaty Act and is protected under Nevada Revised Statues 501 and the Nevada Administrative Code 503. The Nevada Natural Heritage Program ranks the species as an S3B, meaning that it has rare and uncommon breeding populations in the state (Klute et al. 2003). Data from the Natural Heritage Program shows no occurrences of the western burrowing owl in the planning area, but confirmed sightings have been documented in the Nevada Breeding Bird Atlas project (Klute et al. 2003)

Western burrowing owl nesting habitat is distinguished by large open areas containing mammal burrows. They use a wide variety of arid and semi-arid environments, with well-drained, level to gently sloping areas characterized by sparse vegetation and bare ground. Little is known about the birds' winter habitat requirements; however, in Nevada, it was observed that burrows used by the birds in the winter were the same as those used during the breeding season (Klute et al. 2003). Throughout its North American range, breeding habitats include native prairie, tame pasture, hayland, fallow fields, road and railway rights-of-ways, and urban habitats. They are dependent on the presence of burrowing mammals, whose burrows are used for nesting and roosting. Western burrowing owls rarely excavate their own burrows, preferring to enlarge or modify existing burrows (NatureServe 2006). Burrowing owls have been sighted throughout the entire state of Nevada, primarily breeding in salt desert scrub, Mojave shrub, and in some sagebrush habitat. They also are known to breed around the fringes of agricultural lands, using crop and pasture lands for foraging during the breeding season. Burrowing owls winter most frequently in the southern half of Nevada but have been recorded throughout the state during all months (Klute et al. 2003).

Bats. The majority of the 23 bat species in Nevada could occur throughout the planning area; 15 of these species currently are identified as BLM Sensitive Species (Appendix E). Of these, the spotted bat is the only state-protected bat species known to occur within the planning area (Altenbach et al. 2002). This species is ranked as S2/S1 within the planning area, indicating continued presence in the state is imperiled (Nevada Natural Heritage Program Database 2007). The spotted bat is designated as BLM and U.S. Forest Service sensitive, and is protected by Nevada State Law.

Most bat species are insectivores; foraging habitat includes areas with supporting insect populations, usually with some association to water. Roost sites vary by season and gender, and commonly are close to foraging habitat. Summer roosts are primarily inhabited by females and their young until the young are independent, approximately 1.5 months after birth. Most bats return to their maternal roost each year. During the period of maternal care, males are thought to have widely-spaced, individual roost sites. Once the young are independent, both sexes generally disperse across the habitat, utilizing individual roost sites in the tree crevices, cavities and cracks in rocks, and crevices in cliffs. In the fall, both males and females begin to congregate at winter roost sites that allow more protection during the cold periods. Mating occurs during the fall, just before hibernation, and fertilization occurs in the spring when the female ovulates. One, and occasionally more, young are born per female, 2 to 3 months later in the maternal roost (Bogan 2000).

Gila Monster. The Gila monster *(Heloderma suspectum)* is a state protected species in Nevada, but is not federally listed as threatened and endangered. The Nevada Natural Heritage Program also lists this species as an S2, meaning that its continued presence in the state is imperiled. The Gila monster is a large venomous, slow-moving lizard, with a thick body and colorfully beaded skin. The Gila monster ranges from extreme southwestern Utah, southern Nevada, and adjacent southeastern California south through southern Arizona, southwestern New Mexico, and much of Sonora to Sinaloa, Mexico (NatureServe 2006). In Nevada, the Gila monster is found across Clark, southeastern Lincoln, and extreme southern Nye counties (Heindl 2006). According to the most recent Natural Heritage database records, twelve occurrences of the Gila monster have been documented within the planning area, mainly in southeastern Lincoln County.

The Gila monster is found in most habitats throughout its range. It is common in areas with Saguaro cactus and along washes at elevations from near sea level to 4,100 feet. It is limited in its range to regions that receive very little rain during the summer months and that also have mild winters and hot summers (Nevada Department of Wildlife 2006b). The Gila monster inhabits vegetation types that include desert grassland, Mohave and Sonoran desert scrub, and thorn scrub (Sonora). They are less often found in oak or pine-oak woodland habitats (NatureServe 2006). Refuges include spaces under rock, dense shrubs, burrows, or woodrat nests. These sub-surface shelters are important components of their habitat, and certain sanctuaries, particularly in winter, are used with a high degree recurrence, sometimes by multiple individuals simultaneously. Gila monsters are active primarily during the daytime; however, the majority of their life is spent underground. Eggs are laid primarily in July and August. In Arizona, eggs reportedly overwinter underground and, after an incubation period of about 10 months, hatch the following year in late April to early June (NatureServe 2006).

Trends

In general, special status species are those species for which population viability is of concern, based on current or predicted downward trends in population numbers or density, or habitat capability that would limit a species' distribution. As such, special status species are afforded an additional level of protection by law, regulation, or policy from state and federal agencies.

Specific threats to federally listed wildlife species are identified in U.S. Fish and Wildlife recovery plans (U.S. Fish and Wildlife Service 1982, 1986, 1994a,b, 2002b). Factors that have affected these species and their

habitat include habitat loss or modification, water diversion or depletions, livestock grazing, establishment of invasive nonnative plants, and human disturbance. Threats to state protected species, BLM sensitive species, and U.S. Fish and Wildlife Service species of concern are considered to be similar to those identified for federally listed species.

Greater Sage-grouse. A reduction of overall habitat quality in the sagebrush communities in the planning area is discussed under Habitat Trends in Section 3.6, Fish and Wildlife. Greater sage-grouse populations in Nevada and throughout their range have displayed a substantial downward trend in both numbers and distribution and the greater sage-grouse habitat losses have paralleled the trends in populations (Nevada Department of Wildlife 2003b). Due to population declines throughout their range in the western U.S., including Nevada, the 2001 Nevada Sage Grouse Conservation Strategy was developed to achieve two major goals: 1) create healthy, self sustaining greater sage-grouse populations that are well distributed throughout the species' historic range by maintaining and restoring ecologically diverse, sustainable, and contiguous sagebrush ecological systems and by implementing scientifically sound management practices; and 2) have locally functional, well-informed groups to actively contribute to greater sage-grouse conservation while balancing habitat, bird, and economic considerations (Conservation Planning Team 2001). A total of 293 leks have been identified in the planning area, and based on a 0.25-mile radius for each lek, these total approximately 35,700 acres.

Relative to the planning area, greater sage-grouse currently occur in all of White Pine County, northern Lincoln County, and eastern Nye County. In White Pine County, short-term data from 22 leks indicate an overall downward trend of 8 percent in 2003 following decreases of 26 percent in 2002 and 8 percent in 2001 (Nevada Department of Wildlife 2003b). Harvest questionnaire data for White Pine County showed that the 2005 harvest was slightly below (5 percent) the previous 10-year average and 16 percent below the 2004 level with no recent change in bag limits or season. The Nevada Department of Wildlife estimated the 2006 minimum spring breeding population for the entire White Pine planning area at 8,142 sage grouse, up 13 percent from the 2005 estimate (Mortimore et al. 2006). Survey data from 12 leks counted in 2002 and 2003 in Lincoln County reflect a 5 percent increase in overall attendance over the short term. Although long-term data still are being analyzed, short-term data indicate that breeding populations of greater sage-grouse in the Lincoln County area are stable (Nevada Department of Wildlife 2003b), but are at very low densities. There are no known active leks in that portion of Nye County within the planning area. Many of the historic leks in the planning area are no longer active because of a reduction in the quality of habitat and habitat fragmentation. This has contributed to population declines.

Pygmy Rabbit. The short-term population trends for the pygmy rabbit exhibit declining to rapidly declining populations, with an overall decline of 10 to 50 percent from historic levels. Little information is available on pygmy rabbit population trends; however, the trend for Great Basin shrub steppe habitat is generally downward due to fire, grazing, invasion of exotic annuals, and agricultural conversion, which likely correlates with downward trends for other sagebrush obligate species. Sagebrush cover is critical to pygmy rabbits and sagebrush eradication is detrimental. The overall decline in sagebrush habitat throughout the Great Basin is probably the most significant factor contributing to pygmy rabbit population declines (NatureServe 2006).

Raptors. Population data is available for only a few raptor species within the survey area, exhibiting different trends. Of the species known to nest in Nevada, the Swainson's hawk population decreased by approximately 18 percent between 1966 and 1979, but has shown some recovery; the population recovered 8.5 percent between 1980 and 1996. However, prairie falcon populations consistently declined, losing 11 percent between 1966 and 1996 (Nevada Partners in Flight 1999). Migration surveys in the Goshute Range in eastern White Pine and Elko counties from 1977 to 2001 indicate an overall increase in the number of migrating raptors, although this does not necessarily translate to numbers of nesting birds within the planning area. Of the raptors within the planning area, only ferruginous hawks showed a decline in migration rates from the mid-1990s to 2001 (Hoffman and Smith 2003).

Western Burrowing Owl. Short term population trends of the western burrowing owl exhibit declining populations in Arizona, California, Colorado, Kansas, Nebraska, Nevada, Utah, and Washington. No western states or provinces report increasing burrowing owl populations, and these short term population trends mark a declining to rapidly declining population estimated to be 10 to 50 percent below historic levels (NatureServe 2006). Long term trend analysis predicts a large to substantial decline in the population of up to 50 to 90 percent. The decline in the western burrowing owl population throughout its range is due primarily to threats such as habitat loss and fragmentation as a result of intensive agriculture and urban land development and to habitat degradation resulting from control and extermination of colonial burrowing prairie mammals (NatureServe 2006). In Nevada, local declines are noted where habitat is lost to development at the suburban fringe (Klute et al. 2003).

Bats. While conclusive data indicating bat population declines is not available, it generally is accepted that such declines have occurred. Reproduction is slow, and because many bat species return to historical roost and forage sites every year, conservation for bat populations primarily is associated with protection of foraging habitat and roost sites. Foraging habitat protection includes maintenance of native vegetation and restoration of or mitigation for riparian habitat. Roost sites associated with caves and mines are protected through bat-friendly closure techniques such as gates and fences rather than hard closure techniques such as blasting. Individual roost sites in trees can be maintained through fire and timber management, and sites in cliffs can be protected through management of recreations such as rock climbing (Altenbach et al. 2002).

Gila Monster. Short term trends for the Gila monster exhibit declining populations over most of its range; however, the rate of decline is unknown. The total adult population size is unknown, but is estimated to be at least several thousand, with the Gila monster being fairly common in at least some parts of its range (NatureServe 2006). Population decline in Nevada and elsewhere is mainly due to habitat loss created by urbanization and agricultural uses. In Nevada, illegal collection, restricted range, and limited knowledge and information also have contributed to the population decline (Nevada Department of Wildlife 2006b). Continued road construction and the building of concrete-lined canals have created barriers to the movement of this species, and mortality on roads has increased proportional to the increase in traffic volume (NatureServe 2006).

Current Management

Management of special status species depends on their listing status. Federally listed species are regulated by the U.S. Fish and Wildlife Service and managed by the Ely Field Office under the Endangered Species Act. The Ely Field Office must follow the requirements of the Endangered Species Act to protect the listed species and their habitat. The Ely Field Office also manages their lands to protect U.S. Fish and Wildlife Service candidate species, Nevada BLM sensitive species, and state listed species as described in BLM Manual 6840. Other management guidance for special status species includes the implementation of recovery plans, biological opinions, plan amendments, and interagency recovery implementation teams. Those recovery plans for terrestrial wildlife species that are applicable to the planning area are the Desert Tortoise Recovery Plan (U.S. Fish and Wildlife Service 1994a), the Pacific States Bald Eagle Recovery Plan (U.S. Fish and Wildlife Service 1986), and the Southwestern Willow Flycatcher Recovery Plan (U.S. Fish and Wildlife Service 2002b).

All special status species are being managed to prevent future listing under the Endangered Species Act. Three ACECs (Mormon Mesa, Kane Spring, and Beaver Dam Slope) encompassing 203,670 acres have been designated in the southern end of the planning area for the protection of desert tortoise. Management prescriptions for the protection of desert tortoise and their habitat within these ACECs include such actions as closure or major restrictions on mineral development over much of the area, removal of livestock grazing, limiting off highway vehicle use to designated roads and trails, limiting authorization of new rights-of-way, limitation of fire management activities, and prohibition of land disposals.

As part of Nevada's conservation strategy, two conservation plans (one for White Pine County and one for Lincoln County) were developed by the local greater sage-grouse planning teams. The goal of these county conservation plans is to develop and implement local monitoring strategies to promote greater sage-grouse conservation.

3.8 Wild Horses

3.8.1 Existing Conditions

Current wild horse herds originated from animals released into native habitats since the early white exploration and settlement in the region in the 1800s (see Section 3.9, Cultural Resources). The current populations incorporate genetic material and traits from a wide variety of breeds used historically within the region. Some of the wild horses in the planning area have descended from mining stock and tend to have a draft appearance; others are derived from ranch stock or cavalry remount ancestry. Size and conformation usually are correlated with that ancestry. The most predominant colors are sorrels and bays, but other colors and patterns also are represented. Although they are not a native species, wild horses contribute to the biodiversity of the region, just like all other species present in the planning area.

Wild Horses
Photo by Jake Rajala

Herd structure consists of a lead mare, a dominant stallion, and other mares and foals. From a distance, the lead mare frequently can be recognized by her agitation and vigilance. When a perceived threat materializes, she will take the herd away to a safer location. The stud, or stallion, spends much of his time segregating the herd from bachelor studs, which form small bands on the periphery of the main band. Occasionally, one of these studs will challenge the lead stallion for dominance. Although some predation (primarily by mountain lions) is known to occur, mortality due to predation is relatively limited in most herds because of the preponderance of open spaces and expanses in the planning area. Large predators require cover for stealth and stalking efficiency.

Wild horses compete with livestock and wildlife for available forage. There are both differences and similarities in dietary overlaps and food preferences (Hubbard and Hansen 1976). Managers, biologists, and interested public traditionally have perceived that free-roaming horses are ecologically equivalent to domestic cattle. Both species are regarded as equivalent in calculating animal unit months and having the same influence on structure, function, and composition of semi-arid ecological systems. Beever (2003) stated that it may be inappropriate to assume that influences of horses mirror influences of cattle or other ungulates. The author states that free-roaming horses have an evolutionary history that has given rise to a unique suite of behavioral, morphological, and physiological traits. Horses have a larger body size than cattle and physiologically are less efficient digesters of grass and other forage, therefore, requiring greater quantities of forage. Horses are one of the least selective grazers in western North America. Fewer plant species may remain ungrazed in areas occupied by wild horses compared to areas occupied by cattle and

other ungulates. Because of this non-selectivity and use of a lower quality diet, horses must consume 20 to 65 percent more forage than cattle per unit of body weight. In addition, horses physically are able to remove vegetation closer to the ground, sometimes with adverse effects.

3.8.2 Trends

After passage of the Wild Free-Roaming Horse and Burro Act (Public Law 92-195) in 1971, a comprehensive inventory was conducted in the planning area. Approximately 700 wild horses were found on 29 areas; these were designated as herd areas. The wild horse population in the planning area is approximately 2,000 horses at the present time. Some herds currently exceed the level that can be supported on a long-term basis by the available forage and water. Herd recruitment numbers greatly exceed the numbers being adopted or being placed into the process for eventual adoption.

Since 1973, when the horse and burro adoption program began, the two legal means of disposing of surplus, gathered animals has been through public adoptions and euthanasia. Some animals, especially older studs, lack the physical appeal and disposition that attract adopters. Ultimately, when these animals are perceived as unadoptable, they are returned to holding facilities or released back onto public lands. Euthanasia is no longer used for population control and is not likely to be resumed. Population trends continue to move upward because annual reproduction and recruitment considerably outnumbers adoptions. Population reductions are limited by the fact that herd recruitment exceeds the legal methods and mechanisms for disposal. With present high numbers on the range, the potential for negative impacts is extremely high.

In the fall of 2004, Congress amended the 1971 Act to facilitate the sale of animals over 10 years of age and those that had been offered unsuccessfully for adoption at least three times. It is too soon to judge the effectiveness of the amendment relative to control of herd populations.

In response to herd population problems, the Ely Field Office has attempted in some areas to slow natural reproduction by inoculating mares with an immunocontraceptive called porcine zona pellucida. Research continues for the development and testing of an effective multi-year vaccine that potentially could lower herd recruitment rates to a more desirable level.

3.8.3 Current Management

Perhaps no other federal program receives a higher level of public interest and scrutiny than the wild horse program. The health, nutrition, and general well being of wild horse herds are closely monitored by multiple public organizations for a variety of purposes and reasons. These groups present unique opportunities for cooperative and collaborative partnerships as well as for controversy. Such groups in Nevada have provided monitoring assistance, publicity for the program via training demonstrations and wild horse and burro shows, development and maintenance of wild horse projects, orphan foal adoptions, volunteers to assist in compliance checks, and the offer of pasture for surplus or unadoptable animals.

Following passage of the Wild Free-Roaming Horse and Burro Act of 1971 (Pubic Law 92-195), 29 herd areas within what is now the planning area were identified as having wild horse populations. Some of these were combined for management purposes, resulting in 25 herd management areas, one of which was later dropped under provisions of the Desert Tortoise Amendment to the Caliente MFP. The remaining 24 herd management areas encompass approximately 5.4 million acres of BLM-administered lands in the planning area, or approximately 45 percent of the entire planning area (**Table 3.8-1**). The smallest of the herd management areas is 19,500 acres; the largest is nearly 800,000 acres. There are no wild horse ranges designated within the planning area. The current established appropriate management level in the planning area is 2,141 animals.

Table 3.8-1
Herd Management Areas Under the Jurisdiction of the Ely Field Office

Herd Management Areas	Size (acres)	Appropriate Management Level Range
Antelope	389,900	324
Applewhite	30,300	1
Blue Nose Peak	84,600	1
Buck and Bald	799,500	423
Butte	427,800	95
Cherry Creek	35,000	0-0
Clover Creek	33,100	1-14
Clover Mountains	168,000	1-16
Deer Lodge Canyon	105,300	30-50
Delamar Mountains	183,600	51-85
Diamond Hills South	19,500	22
Dry Lake	487,800	94
Highland Peak	136,100	20-33
Jakes Wash	153,700	1-21
Little Mountain	53,000	9-15
Meadow Valley Mountains	94,500	0
Miller Flat	89,400	9-15
Monte Cristo	369,800	236
Moriah	53,300	1-29
Rattlesnake	71,400	1
Sand Springs East	476,100	257
Seaman	358,800	159
White River	116,300	90
Wilson Creek	624,500	160
Totals	**5,361,300**	**1,986-2,141**

The BLM State Director (Nevada) has approved standards and guidelines for wild horses and burros developed by both the Mojave/Southern Great Basin Resource Advisory Council and the Northeastern Great Basin Resource Advisory Council (see Appendix B). The advisory groups intend that these standards and guidelines would result in a balance of multiple use and sustainable development. Standards for rangeland health only can be reached and maintained by managing animal numbers so that appropriate

management levels are not exceeded in each herd management area. Controlling wild horse numbers by gathers and other controls is essential. The Resource Advisory Councils realize that achieving proper functioning rangelands may be a long-term process on degraded rangelands.

The Ely Field Office has established appropriate management levels for these herd management areas through a series of actions over the past 15 years. In the most recent of these actions, the Ely Field Office issued an Environmental Assessment (NV-04-03-036) and Finding of No Significant Impact in November 2003 for Establishment of Appropriate Management Levels for Twelve Wild Horse Herd Management Areas. **Table 3.8-2** summarizes the evaluation of habitat suitability for each of the herd management areas in the planning area and the recommendations for future management. In several cases, management changes are proposed to better allow for management of wild horse populations. These changes are discussed in greater detail in Section 2.5.8.

Maintenance of wild horse numbers is completed through gather operations. Typically the timing of gather operations tends to be sporadic. Some herd management areas are gathered every other year due to drought, while others are gathered every 5 or 6 years due to funding. The determination of an excess population of wild horses occurs primarily based on visual counts or helicopter census (inventory). Coupled with vegetation monitoring, the establishment of the appropriate management level and inventory data would trigger the request for a gather. Due to the majority of foals being born during the spring, gather operations don't occur from March to June.

The maintenance of wild horses within appropriate management levels strives to achieve a thriving natural ecological balance while maintaining a multiple use relationship, as well as achieving rangeland health standards. During wild horse maintenance or gathers, data are collected regarding herd health and characteristics. These data include genetic blood tests, collection of phenotypic characteristics, body condition, age, recruitment rates, and other herd-specific information. During field monitoring, public notification, or gather operations, sick and lame horses are euthanized for humane purposes.

Table 3.8-2
Current Conditions of Herd Management Areas in the Planning Area

Herd Management Area	Evaluation of Habitat Suitability					
	Forage	Water	Space	Cover	Reproductive Viability	Comments/ Recommendation
Antelope	Adequate	Adequate	Adequate	Adequate	Adequate	Adjust boundaries.
Applewhite	Inadequate with excessive damage to riparian vegetation.	Adequate	Adequate	1	Allotment fencing prevents interaction with other herds and limits genetic viability of the herd.	Remove herd; drop HMA status.
Blue Nose Peak	Forage unsuitable for yearlong grazing.	Inadequate	1	1	No established herd present; HMA receives incidental use.	Drop HMA status.
Buck and Bald	Adequate	Adequate	Adequate	Adequate	Adequate	Combine with Butte and a portion of Cherry Creek.
Butte	Adequate	Adequate	Adequate	Adequate	Adequate	Combine with Buck and Bald and Cherry Creek.
Cherry Creek	Adequate	Adequate	Adequate	Adequate	No established herd present.	Combine a portion with Buck and Bald and Butte.
Clover Creek	Marginal	Adequate	1	1	Inadequate habitat resources to sustain a genetically viable population of 50 breeding animals.	Remove herd; drop HMA status.
Clover Mountains	Inadequate	Adequate	Marginal	1	Inadequate habitat resources to sustain a genetically viable population of 50 breeding animals.	Remove herd; drop HMA status.
Deer Lodge Canyon	1	1	1	Poor winter habitat; horses move to Wilson Creek HMA and other areas to winter.	1	Combine with Wilson Creek.

Table 3.8-2 (Continued)

Herd Management Area	Evaluation of Habitat Suitability					
	Forage	Water	Space	Cover	Reproductive Viability	Comments/ Recommendation
Delamar Mountains	Adequate; heavy to severe use is occurring near water sources and riparian areas.	Adequate	Adequate	Adequate	Marginal; cannot sustain adequate herd size.	Remove herd; drop HMA status.
Diamond Hills South	Adequate	Adequate	Adequate	Adequate	Adequate	Retain; this is part of a metapopulation with Elko and Battle Mountain districts.
Dry Lake	Adequate	Adequate	Adequate	Adequate	Adequate	Combine with a portion of Rattlesnake and Highland Peak.
Highland Peak	1	Water available, primarily in northern part of HMA.	1	Inadequate winter habitat; horses in the northern portion of HMA winter in the Dry Lake HMA.	1	Combine with Dry Lake and a portion of Rattlesnake.
Jakes Wash	Inadequate	Inadequate	Inadequate summer range	Inadequate winter cover.		Remove herd; drop HMA status.
Little Mountain	1	Inadequate	Inadequate	Inadequate summer habitat; horses move between this HMA and Miller Flat.	1	Remove herd; drop HMA status.
Meadow Valley Mountains	1	Inadequate	Inadequate	Marginal	1	Wild horse use conflicts with desert tortoise habitat, remove herd; drop HMA status.
Miller Flat	Inadequate	Inadequate	Inadequate	Inadequate; poor winter habitat; horses move to Little Mountain HMA in winter.	1	Remove herd; drop HMA status.

Table 3.8-2 (Continued)

Herd Management Area	Evaluation of Habitat Suitability					
	Forage	Water	Space	Cover	Reproductive Viability	Comments/ Recommendation
Monte Cristo	Adequate	Adequate	Adequate	Adequate	Adequate	Combine with Sand Springs East.
Moriah	Adequate	Inadequate	Inadequate	Lacks suitable yearlong habitat; horses move outside the HMA.	[1]	Remove herd; drop HMA status.
Rattlesnake	[1]	[1]	[1]	Inadequate summer habitat; horses move to Dry Lake HMA for summer habitat.	[1]	Combine a portion with Dry Lake and Highland Peak.
Sand Springs East	Adequate	Adequate	Adequate	Adequate	Adequate	Combine with Monte Cristo.
Seaman	[1]	Marginal, very little water on public lands.	Adequate	No summer habitat; cover inadequate.	[1]	Remove herd; drop HMA status.
White River	[1]	Marginal; very little water on public lands.	Adequate	Adequate	[1]	Remove herd; drop HMA status.
Wilson Creek	Adequate	Adequate	Adequate	Adequate	Adequate	Combine with Deer Lodge Canyon.

[1] An "Inadequate" rating in one or more of the five essential habitat suitability components was considered to render the Herd Management Area unsuitable. In several such cases, full evaluation of other components was either not conducted or not considered essential to the management decision.

3.9 Cultural Resources

3.9.1 Existing Conditions

The planning area encompasses a diverse array of climatic, geological, geomorphological, biological, and hydrological settings. The dynamic nature of these settings undoubtedly influenced past land uses and patterns as evidenced by the varied locations of cultural resources found in the planning area. Landscapes and their associated landforms also influenced past cultural land use in the planning area. Near-flat and gently sloping surfaces such as alluvial fans, fan piedmonts, fan skirts, alluvial flats, and playas, as well as ridge tops, passes, and stream terraces, contain most cultural resources. These types of landforms convey potential ease of travel, possible water sources, likely prehistoric camping locations, and historic ranch, field, and mining locations (Peterson 1981). Mountain slopes contain the fewest cultural resources, with isolates, quarries, and mining-related endeavors being the primary resource types in these locations.

Approximately 12,114 cultural resource sites have been identified within the planning area covering a timespan of over 10,000 years. The sites range from small temporary campsites, hunting stations, rock art sites, artifact scatters, quarries, rockshelters, and food collecting sites, to historic mining camps, staging stations, trails, and structures. These prehistoric and historic sites represent continuous use of the area and include several substantial finds. **Table 3.9-1** shows the relative frequency of sites by watershed and gross time period. **Map 3.9-1** shows the distribution of recorded prehistoric and historic sites in the planning area.

Approximately 3.8 percent of the planning area has been surveyed at the Class III inventory level. For the planning area as a whole, the ratio of prehistoric to historic sites is approximately 7:1 (approximately 43.4 percent of the sites are prehistoric and 8.5 percent are historic sites). Watershed-specific ratios of prehistoric to historic sites range from a high of approximately 16:1 (Long-Ruby Valleys) to a low of approximately 2:1 (Hamlin-Snake Valleys), indicating that prehistoric sites are more common than historic sites throughout the planning area. More detailed information on methodology, site density, and site distribution are documented in the Gnomon, Inc. Technical Report (Gnomon 2004).

Chronologically, occupational periods within the Great Basin are defined by a series of adaptive strategies that express regional trends over the larger area. These strategies are further refined within the context of regional phases, each of which are represented by different assemblages and settlement patterns within the archaeological record. Adaptive strategies are broadly framed within a Pre-archaic (11000 Years Before Present to 8000 Years Before Present) to Late Archaic (1500 Years Before Present to Historic contact) continuum.

Prehistoric Overview

Pre-archaic sites usually are associated with pluvial lake, shoreline features, riparian areas, marshes, or along old river terraces. Sites usually lack buried components, middens, house features, plant processing

Table 3.9-1
Cultural Resources by Hydrologic Subbasin in the Planning Area

Hydrologic Subbasin Name[1]	Prehistoric	Historic	Multi-component	Isolated Artifact	Isolated Historic	Isolated Prehistoric	No Record[2]	Unknown	No Geographic Information System Link to Database[3]	Total All Sites	Percent All Sites
Lower Virgin	157	19	9	1	0	43	3	3	7	242	2.0
White River	674	141	63	0	47	160	194	200	130	1,609	13.3
Muddy	180	3	8	0	2	50	3	3	4	253	2.1
Meadow Valley Wash	710	99	27	0	9	106	16	167	11	1,145	9.5
Hamlin-Snake Valleys	140	69	7	1	11	39	48	368	23	706	5.8
Southern Great Salt Lake Desert	11	1	0	0	0	0	3	3	1	19	0.2
Escalante Desert	92	9	9	0	0	14	1	10	0	135	1.1
South Fork Humboldt	84	16	6	0	4	3	13	78	9	213	1.8
Diamond-Monitor Valleys	0	0	1	0	0	0	0	0	3	4	0.0
Little Smoky-Newark Valleys	446	169	87	0	17	105	165	383	25	1,397	11.5
Long-Ruby Valleys	1,135	69	79	0	18	161	173	441	80	2,156	17.8
Spring-Steptoe Valleys	760	326	141	0	76	338	163	208	76	2,088	17.2
Dry Lake Valley	330	43	14	0	33	250	4	0	8	682	5.6
Hot Creek-Railroad Valleys	359	32	8	0	21	289	33	117	130	989	8.2
Sand Spring-Tikaboo Valleys	184	34	20	0	8	116	10	98	6	476	3.9
Total All Sites by Type	5,262	1,030	479	2	246	1,674	829	2,079	513		
Total All Sites										**12,114**	

[1] Based on 4th level hydrologic unit subdivisions.
[2] No Record" indicates that no record for that site number exists at the archives.
[3] No Geographic Information System link to Database" indicates that the site is present on a map, but has not been entered into the site database.

Source: BLM Site Data; Harry Reid Center; Southern Nevada Archive; Nevada State Museum; Northern Nevada Archive.

equipment, storage facilities, or other indications of intensive occupation. Diagnostic tools include a variety of stemmed projectile points (Great Basin Stemmed series) as well as fluted Clovis and unfluted lanceloate types (Beck and Jones 1988). The Early Archaic period (7000 to 4000 Years Before Present) is marked by Large Side-notched projectile points in the north, large concave-based Triple-T and Humboldt Series at Gatecliff, and by Pinto Series points in the South Fork shelters (Thomas 1981, 1983). Due to the generally warmer and drier conditions during the Early Archaic period, populations in the Great Basin seem to shift from lakeshore environments to a wider variety of locales including those near perennial streams, springs, caves, and rock shelters. The Middle Archaic (4000 Years Before Present to 1500 Years Before Present) is marked by an increase in the diversity of habitats in which sites are found (Grayson 1993). Hallmarks of this period include Gatecliff Series projectile points at Gatecliff Shelter, although in the north central and northeastern Great Basin, the Humboldt, Pinto, and even Elko Series projectile points are present. Groundstone tools also become a noticeable part of the tool assemblage. During the Late Archaic period the bow and arrow replaced the spear and atlatl, with accompanying smaller and lighter Rose Spring and Eastgate projectile points during the first part of the Late Archaic, while pottery appeared around 1000 Years Before Present. Late Archaic populations began to use much more elaborate plant processing equipment, a possible reflection of new subsistence strategies that involved exploiting a more diverse resource base and different ecological zones (Frison 1991).

Between 1500 Years Before Present and 800 Years Before Present, much of the eastern Great Basin and northern Colorado Plateau supported people whose lifeways differed from those of the people who were there before and after. The "Fremont" people manufactured well-made, thin-walled black-on-grey carbon painted pottery and frequently lived in sizable villages (Grayson 1993). Although the Fremont were a diverse group, they are defined by their similarities. Artifacts found throughout the Fremont region include sandals made with deer leg hides using the dew claws as heels, basketry with a "one rod and bundle" weaving technique, and pottery with unique patterns and tempers. Though a distinct culture, they share the development of corn agriculture and expansion of organized sedentary villages with contemporary farming cultures, such as the Ancestral Puebloan, who lived throughout the southwest in the 11th and 14th centuries. No artifacts dating after 650 Years Before Present have been determined to be Fremont; the culture seems to disappear from the archaeological record.

Little is known of the actual connections between prehistoric cultures and the languages and cultures of historic peoples. There is some evidence to indicate that the Numic-speaking people (Shoshone, Paiute, Ute) did not spread into the region (Great Basin) until after about 1000 Years Before Present and that they absorbed or replaced earlier occupants. The record of Great Basin prehistory is known to extend back 10,000 years or more involving variants of a lifeway termed the Western Archaic, which in its earliest stages was characteristic of the entire West from the Columbia Plateau to the Southwest and from the western Plains to California. Within this common ancient tradition somewhat different yet related regional traditions developed over thousands of years in response to environmental and demographic conditions. In the Great Basin the ancient way of life was maintained with relatively fewer changes into historic times. Though there was considerable local variation of settlement and subsistence patterns and many influences from surrounding regions, the prehistoric Great Basin has presented a basic cultural unity through time (Spencer and Jennings 1977; Aikens 1978; d'Azevedo 1986).

Historic Overview

The vast interior of the Great Basin remained unknown until the early 1820s when the first parties of trappers, explorers, and immigrants attempted to traverse the region in search of furs and a direct overland route to the Pacific Coast. Early explorers included; Jedediah Smith, Peter Skene Ogden, Kit Carson, and John C. Fremont. After 1845, an increasing number of immigrants began to follow the Humboldt or Overland Trail, across the central Great Basin to California rather than taking either the Oregon or Old Spanish Trails. The first non-Indian settlement was located at Mormon Station (Genoa) in 1849. Most of Nevada became part of the Utah Territory in 1850, became its own territory in 1861, and finally gained statehood in 1863. The discovery of gold at the Comstock Lode in 1859 brought thousands of people to the area, each dreaming of the riches that gold and silver could bring them. The Comstock Lode began to decline in the 1880s and the state population decreased. Discoveries of silver at Tonopah, gold at Goldfield and copper at Ely led to new mining booms which lasted through World War I. In 1931, gambling was legalized and Nevada experienced a new boom which grows with each new decade.

Ethnographic Overview

The planning area was occupied by the Western Shoshone, which includes the Goshute Shoshone, and the Southern Paiute during the aboriginal period. The Western Shoshone were the main occupants of the planning area, and occupied all three counties. The Western Shoshone traditional lands "extended from the arid reaches of Death Valley inhabited by the Panimint Shoshone, through the mountainous highlands of central Nevada into northwestern Utah, where it encompassed the area of the Gosuite [or Goshute] of Tooele and Skull valleys and Deep Creek and the "Weber Ute" (d'Azevedo 1986). The Western Shoshone interacted extensively with the Southern Paiute along the southern Western Shoshone territorial boundary. The traditional lands of the Goshute Shoshone extended from Utah to eastern Nevada in White Pine County. Goshute Shoshone settlements and subsistence activities extended westerly to at least Egan Canyon in White Pine County. In southern Nevada, Southern Paiute territorial boundaries met those of the Western Shoshone in southern Lincoln County.

Aboriginal groups in the Great Basin, including the Western Shoshone, also were designated according to the dominant food resources or salient environmental features of their respective areas. In the planning area, the Kusiutta (Goshute Shoshone), meaning "desert people or dust something" lived from the Deep Creek area east into Utah; the Pasiatekkaneen, meaning "redtop grass eaters," occupied the Diamond and Pine valley areas; the Yuainankuhteen, meaning "south or warm side" lived west of Duckwater in Little Smoky Valley; the Pa'anaihteen, or "people from up above," occupied Steptoe Valley; the Taintenkateen, meaning "hole" or "cave", was applied to the people in Cave Valley; and the Mahakuhaduka, named after the "eaters of Mentzelia seeds" also lived west of Duckwater in Reese River Valley (Steward 1938; Woods 2003).

Pre-contact Western Shoshone, of which the Goshute Shoshone are a part, and Southern Paiute are described as uniform cultures with only minor local variations, based entirely on hunting and gathering. The Western Shoshone hunted and gathered in family areas based on yearly cyclical migration patterns. The bands lived in widely scattered winter villages consisting of a few families, coming together for communal

activities (Steward 1938). Beginning around 1827, contact with trappers and explorers resulted in the transformation of these bands from hunter/gatherers to sedentary groups living on government reserves or the outskirts of towns established within their ancestral lands (Woods 2003). With the expansion of mining and ranching interest in the 1880s and continuing displacement of the Indians from their traditional subsistence pursuits, many of the Indians formed small settlements on the outskirts of mining camps, railroad towns, and farming communities. Several reservations were established in the early 1900s. While some Indians moved to reservations located some distance from their traditional lands, most remained where they were until reservations (Indian trust lands) were created around their native settlements (Clemmer 1972, 1978). Small groups of Shoshone attached themselves to ranches and towns, subsisting on a meager standard of living, and maintaining a kind of symbiotic relationship with whites. This pattern remains to some extent to the present day, where most Shoshone have wage jobs in local communities or raise cattle in or around their traditional lands.

3.9.2 Trends

In Nevada, on the lands administered by the Ely Field Office, vandalism, theft, visitor impacts, and natural deterioration are diminishing the cultural and scientific values of cultural resources. This degradation is occurring at an increasingly rapid rate as the population increases and more people recreate on public lands. Despite numerous federal laws, destruction of cultural resources continues, in part, due to a lack of understanding by the public of the true value of the resources and a lack of regular monitoring of many significant locations. There is such a vast area of public land administered by the Ely Field Office, that patrols by law enforcement are not effective in protecting these sites. Educating and informing the public as well as enlisting their help is one way to preserve cultural resources. Helping people to understand that the value of cultural resources is far greater than their material worth is the first step. Learning the importance of leaving these artifacts, no matter how small, in their original setting for both study and the future enjoyment of others is another major goal.

3.9.3 Current Management

Cultural Resources

The protection of and consideration of impacts on cultural resources is governed by numerous federal and state mandates, which include, but are not limited to, Section 106 of the National Historic Preservation Act of 1966, as amended, the Archaeological and Historic Preservation Act of 1974, Federal Land Policy and Management Act, and the Nevada State Protocol Agreement (Protocol). In accordance with these mandates, impacts to cultural resources are mitigated by first identifying sites that may be affected by land management decisions through field inventory and then by project redesign (i.e., avoidance) or various data recovery techniques. Data recovery may include surface collection, partial or complete excavation, surface mapping, artifact and feature analysis, architectural documentation, archival research, or some combination thereof.

The BLM's cultural resources management program is a comprehensive system for identifying, protecting, planning the appropriate use of, and managing cultural resources on public lands. The program is

composed of two important components: protection and utilization. The protection component is concerned with safeguarding and maintaining cultural resources for the public. Included are proactive management activities such as inventory, physical protection, stabilization, preservation, and interpretation of cultural resources along with public education. An example of a proactive activity is the "Nevada Heritage Site Steward Program," which allows the public, through volunteer efforts, the opportunity to learn more about the value of preserving cultural resources and assist the Ely Field Office in protecting, monitoring, and documenting the resources. The chief objective of the Site Steward Program is to report to the land managers the destruction, vandalism, or other degradation of cultural resources through a regularly scheduled routine of site visits. The protection component also is concerned with support of other activities so that the management and development of public lands can proceed in accordance with legal and other mandatory requirements. The utilization component is concerned with scientific research and collection management.

The following are a few of the significant cultural resources currently being managed under the BLM cultural resources management program:

- The White River Narrows Archaeological District. The White River Narrows Archaeological District is composed of approximately 4,000 acres and contains at least 15 petroglyph sites, which offer opportunities for display, and scientific and public understanding of local aboriginal lifestyle through graphic images. A Cultural Resources Management Plan was developed for this site to provide long-term management direction for the protection, enhancement, and utilization of cultural resources within the White River Narrows Archaeological District location.

- The Sunshine Locality National Register District. The Sunshine Locality National Register District is a preserve of more than 90 archaeological sites located within a 35,000-acre area representing an 11,000-year-old Early Archaic lake-and-marsh adapted culture known as the Western Pluvial Lakes Tradition. A long-term Cultural Resources Management Plan was developed for this site in 1987.

Pony Express Reenactment
Photo by Jake Rajala

- Pony Express National Historic Trail. The Pony Express started on April 3, 1860, and the last trip arrived in San Francisco on November 20, 1861. Thus, the Pony Express lasted 19 months, 2 weeks, and 3 days or 19.5 months. During the month of April 1860, the Pony Express carried important communications in 10 days. The actual averages of the Pony Express for the 19.5 months were April to October, 12 to 13 days, and November to March, 14 to 16 days.

- Baker Archaeological Site. The Baker Archaeological Site has been identified as a "Puebloid" or "Fremont" site and contains at least one Fremont pithouse and possible adobe-walled storage structures, as well as chipped stone, ceramics, and other portable artifact associations. A long-term Cultural Resources Management Plan was developed for this site in 1991.

Traditional Cultural Properties

Background. This plan differentiates among prehistoric cultural resources, historic cultural resources, and tribal heritage resources. Planning for historic and prehistoric cultural resources is discussed in other sections of this plan. This section deals with tribal heritage resources as defined under various authorities, including but not limited to the Federal Land Policy Management Act, the American Indian Religious Freedom Act, Executive Order 13007, the Native American Graves Protection and Repatriation Act, and the National Historic Preservation Act. Under these authorities, the BLM has the responsibility for managing tribal heritage resources, in part, by considering them in land use planning and environmental documentation, and mitigating, where possible, impacts to places or resources important to contemporary American Indians and federally recognized tribes.

Slight differences in definitions among the authorities not withstanding, these resources can be generally defined as places or resources associated with cultural practices or beliefs of a living community that are rooted in a tribal community's oral traditions or history, and are important in maintaining the continuing cultural identity of the community. In practice, this means identifying, evaluating, and managing: a) ethnohistoric sites, b) traditional use areas, c) sacred sites and ceremonial sites, and d) traditional cultural properties.

Since tribal heritage resources are defined culturally by the people and groups that value them, these resources can only be identified and managed in consultation with the people infusing them with cultural value. In the final analysis and decision making, BLM has the legal authority to determine how these resources will be managed and what, if any, mitigation will be used to avoid unnecessary or undue impacts to these resources.

Tribal Consultation. As defined in BLM Manual section 8120, Tribal Consultation is a process of 1) identifying and seeking input from appropriate tribal governing bodies, 2) considering their issues and concerns, and 3) documenting the manner in which the input affects the specific management decision(s) at issue. Federally recognized tribal governments with interests in the planning area include the Ely Shoshone, Duckwater Shoshone, Confederated Tribes of the Goshute Reservation Nevada and Utah, and the Moapa Band of Paiute Indians.

It is important to note that consultation is a good faith effort to identify tribal issues, seek tribal input, and consider the result. There is no requirement for the Ely Field Office to do more than this and no requirement for tribes to respond to Ely Field Office's consultation efforts. The legal requirements of NEPA and other authorities seek information on many areas of tribal knowledge (cultural, religious, or traditional) that are highly confidential and not readily revealed to outsiders. At the land use planning level, tribes are reluctant to

share information when they cannot see a direct threat to places and resources they value. These, and other factors, limit the available information on specific locations that could benefit from management attention. As a result, the Ely Field Office must base management on limited information, resulting in a more programmatic approach to prescribing management actions on the basis of sites and resource types.

Traditional Cultural Properties. The concept of traditional cultural property has created confusion when dealing with tribal heritage resources because it is commonly used to refer to all types of tribal heritage sites in all legal contexts. The term traditional cultural property was coined in National Register Bulletin 38 to refer to a property that may be eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that: a) are rooted in that community's history, and b) are important in maintaining the continuing cultural identity of the community (Parker and King 1989). Places that may be of traditional cultural importance include, but are not limited to: a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents; locations associated with the traditional beliefs of an American Indian group about its origins, cultural history, or the nature of the world; or locations where American Indian religious practitioners go, either in the past or the present, to perform ceremonial activities based on traditional cultural rules or practice (Parker and King 1989).

Bulletin 38 has been interpreted to mean that all tribal heritage sites are traditional cultural properties and by definition eligible for the National Register. However, the Bulletin does not assert that all traditional cultural properties are eligible and it describes a process by which they can be determined to be eligible. In fact, the 1992 amendment to the National Historic Preservation Act clarified policy so that "properties of traditional religious and cultural importance to an Indian tribe may be determined to be eligible for inclusion on the National Register." Although the term traditional cultural property is not found in the National Historic Preservation Act, or its implementing regulations, it has become important for determining eligibility for compliance with Section 106 of the National Historic Preservation Act.

There are regulatory limitations on the National Register eligibility (such as the requirement that a property be a definite location of human activity; with discernible exact boundaries; and be at least 50 years old) that limit its value in a general planning context. Because of this, the concept of traditional cultural properties will be used here only when tribes have specifically identified a resource as a traditional cultural property. This is not to say that the resources discussed here are not eligible for the National Register and thus not subject to Section 106 of the National Historic Preservation Act. They may well be eligible even if not identified as a traditional cultural property by a tribe and subject to Section 106 as a traditional cultural property.

Within the planning area, several locations that are of traditional religious and cultural interest to tribes have been identified through consultation. None of the locations were specifically identified as traditional cultural properties and none have been determined eligible for the National Register as traditional cultural properties through consultation with the State Historic Preservation Office. These same locations may meet other criteria as significant ethnohistoric sites, or they may deserve consideration under the American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, or Executive Order 13007. No traditional cultural properties have been nominated but the lack of nomination does not preclude such nominations being advanced in the future.

Identification of potential American Indian traditional cultural properties in the planning area was accomplished through the application of several research components including American Indian contacts, archival research, field reconnaissance, and oral history interviews. Western Shoshone, Goshute Shoshone, and Southern Paiute reservations, colonies, organizations, and individuals were contacted by mail and telephone. Meetings and interviews were held with representatives of the Ely Shoshone, Duckwater Shoshone, Yomba Shoshone, and Battle Mountain Shoshone, the Ibapah Goshute in Utah, the Paiute Tribe of Utah, Moapa Band of Paiute, and American Indian individuals residing in Eagle Valley and Caliente, Nevada.

Resources. A total of 164 geographic places were identified, 119 for Western Shoshone and Goshute Shoshone, and 45 for the Southern Paiute. Of these, 87 were from archival sources, 69 were from interviews with American Indians, and 8 were from both archival and interview sources. Of the 164 places identified, 11 are situated outside of the planning area, but were included for context (Woods 2003).

The 164 places (sites) identified from archival research, American Indian contacts, and oral history interviews are varied and many have multiple functions. These site functions include habitation, resource procurement, festival/gatherings, ceremonial/ritual, burial/mortuary, rock art, mythology/stories, historical events/battles, trails, and agricultural/planting (Woods 2003).

There have been no potential traditional cultural properties proposed for other ethnic groups in the planning area.

Western Shoshone/Goshute Site Descriptions.

Spring Valley: 24 sites (8 habitation sites, 7 habitation/procurement/festival sites, 1 habitation/festival site, 4 habitation/procurement sites, 1 habitation/historical event site, 1 battle site, 1 procurement/festival site, 1 procurement site). Antelope hunts, spring festivals, rabbit drives, and mud hen drives also took place in Spring Valley.

Antelope Valley: 9 sites (3 habitation/procurement sites, 3 habitation sites, 1 procurement site, 1 habitation/burial site, and 1 habitation/agricultural site). Seeds were procured in and around the valley and pine nuts from the foothills and slopes of the Goshute Range. Communal antelope drives took place in the northern foothills of the Kern Mountains. Communal rabbit drives took place west of Ibapah in Deep Creek Valley.

Snake Valley and Snake Range: 17 sites (2 habitation sites, 4 habitation/procurement sites, 1 habitation/procurement/festival site, 1 procurement/festival/rock art site, 1 procurement/festival site, 1 ceremonial site, 1 burial site, 1 rock art site, 3 battle sites). Deer and sheep hunting occurred in the Snake Range, pine nut gathering took place in the foothills of the Snake Range, antelope and rabbit drives took place in Snake Valley, and seed collecting took place at various locations through out the valley. Some crops were grown in Snake Valley.

Steptoe Valley: 13 sites (5 habitation/procurement/festival sites, 2 festival/ceremonial sites, 1 burial/ceremonial site, 1 ceremonial site, 3 mythology sites, 1 battle site). Pine nuts were gathered on both sides of the valley in the foothills and slopes of the Egan and Schell Creek ranges. Rabbit drives were held in various places in the valley. Antelope drives were held at various locations in and near the valley. Deer were hunted individually and communally. Some crops were grown in Steptoe Valley.

Cave Valley: 2 sites (1 habitation site, 1 mythological site). Pine nuts were gathered in the Ely Mountains, on Mount Grafton, and on Quartz Mountain. Pine nuts also were gathered as far south as Willow Creek, northwest of Pioche. The Cave Valley Shoshone conducted their own local rabbit drives, antelope drives, and festivals.

Egan Range: 3 sites (1 habitation/ceremonial site, 1 ceremonial/historical event or battle site, and 1 ceremonial site).

Little Smoky Valley (Snowball): 6 sites (1 mythological site, 5 habitation sites). Little Smoky Valley people gathered pine nuts in the Antelope Range (near Hicks Station). Mentzelia and Chenopodium seeds were gathered at various locations in the valley. People in the northern part of the valley went south to Hot Creek Valley for rabbit and antelope drives. They also participated in antelope and sometimes deer drives near Snowball. Deer and other game also were hunted individually.

Pancake Range: 7 sites (1 procurement site, 4 ceremonial sites, 1 burial site, and 1 mythological site).

Railroad Valley: 23 sites (4 habitation sites, 1 habitation/festival site, 4 habitation/procurement sites, 3 habitation/procurement/burial sites, 4 procurement sites, 2 ceremonial sites, 1 ceremonial/burial site, 3 burial sites, and 1 mythology site). Much of the subsistence and festival activity in central and northern Railroad Valley was centered around a fertile area with ample water from mountain runoff and flowing streams. People came from surrounding areas to gather sunflower and redtop grass seeds. Rabbit drives were held about 15 miles south of the fertile area in the valley flat and near Blue Eagle Spring. People from northern Railroad Valley (Hamilton area) went to the Duckwater area in the fall for rabbit drives and associated festivals. Pine nuts were gathered in the White Pine Mountains or northeast of Currant Creek, possibly near White Pine Peak. The Pancake Mountains west and south of the Duckwater area were known as a good place for pine nut gathering. Western Shoshone hunted in Railroad Valley between the Pancake and Quinn Canyon ranges. In the spring, antelope drives were held in a low pass in the northern end of Railroad Valley. The Duckwater area was the locale for the main festivals in Railroad Valley. Participants came from the Hamilton, Currant Creek, Warm Spring, and sometimes Nyala and Hot Creek areas.

White River Valley: 7 sites (2 burial site, 1 habitation/procurement site, 1 procurement/festival/ ceremonial site, 1 festival/ceremonial site, 1 mythological site, 1 battle site).

Jakes Valley: 1 site (1 habitation/procurement/festival site).

Butte Valley: 1 site (1 procurement site).

Huntington Valley: 2 sites (1 procurement site and 1 habitation/battle site).

Clover Valley: 1 site (1 procurement site).

Ruby Valley: 2 sites (1 habitation/historical event site and 1 habitation/trail site).

Diamond Valley: 1 site (1 habitation/procurement site).

Lake Valley: 1 site (1 habitation/procurement site).

Sand Springs Valley: 1 site (habitation/battle site).

Southern Paiute Site Descriptions.

The Southern Paiute practiced horticulture to a greater extent than their Shoshone neighbors to the north. Mesquite, screw beans, and other wild seeds were gathered locally and in nearby localities. Pahrump and Ash Meadows were the northwestern limit of aboriginal horticulture. Corn, squash, beans, and sunflowers were grown on plots of land that were reportedly individually owned. Large game hunting occurred in the Spring Mountains and the Shoshone Mountains (deer), and the mountains between the Amargosa River and the Pahrump Valley, and in the Funeral Mountains (mountain sheep). There were few antelope and rabbit drives. Pine nuts, other seeds, and large game were gathered in the surrounding mountains, particularly the Spring Mountains. Unlike the Western Shoshone, pine nut tracts were individually owned, generally by the men and inherited by their sons. Annual fall festivals were held at "major population centers" and attended by Southern Paiute from other areas (Woods 2003).

Panaca area: 8 sites (1 habitation site, 2 procurement sites, 2 rock art sites, 1 battle site, 1 agricultural site, and 1 mythological site).

Indian Peaks area: 1 site (1 habitation site).

Spring Valley (Lincoln County): 1 site (1 habitation site).

Eagle Valley: 3 sites (1 habitation site, 1 habitation/rock art site, 1 rock art site).

Pioche area: 3 sites (1 habitation/ceremonial site, 2 habitation/procurement sites).

Panaca area: 4 sites (1 habitation/procurement site, 1 mythological site, 1 ceremonial site, 1 ceremonial/trail site).

Caliente area: 11 sites (2 habitation sites, 1 habitation/festival site, 1 habitation/burial site, 1 festival site, 2 procurement sites, 1 burial site, 1 rock art/procurement site, 1 rock art/mythological site, and 1 ceremonial/rock art site).

Pahranagat area: 4 sites (2 battle sites, 1 habitation/procurement site, and 1 trail site).

Hiko area: 3 sites (1 habitation site, 1 rock art site, 1 procurement/rock art site).

Crystal Springs area: 3 sites (1 habitation site, 1 rock art site, 1 mythological site).

Ash Springs area: 2 sites (1 habitation/ceremonial site and 1 battle site).

Alamo area: 1 site (1 habitation/procurement/festival site).

Sharp area: 1 site (1 habitation/procurement/festival area).

Delamar Valley: 1 site (1 habitation/procurement/burial/battle site).

No extensive search was made to identify traditional communities other than American Indian; however, no Traditional Cultural Properties have been identified from other communities.

3.10 Paleontology

3.10.1 Existing Conditions

Paleontological resources on public lands are recognized as constituting a fragile and nonrenewable scientific record of the history of life on earth, and so represent an important and critical component of America's natural heritage. Once damaged, destroyed, or improperly collected, their scientific and educational value may be greatly reduced or lost forever. In addition to their scientific, educational, and recreational values, paleontological resources can be used to inform land managers about interrelationships between the biological and geological components of ecological systems over long periods of time.

A variety of paleontological resources exist in the planning area, including plant and animal fossils occurring in Cambrian, Mississippian, Devonian, Permian, Triassic, Eocence, Miocene, and Pliocene rocks. There are several areas that have been identified as paleontologically sensitive:

Ruin Wash and Klondyke Gap. Ruin Wash is one of the few places in the world where soft-bodied animal Lower Cambrian fossils are preserved. In addition, specimens from both Ruin Wash and Klondyke Gap are scientifically important because of their completeness and excellent preservation.

Andie's Mine Trilobites. Andie's Mine contains scientifically important paleontological value. The trilobites at this location are part of the Pioche Shale Formation. This shale formation contains several different orders of trilobites.

Snake Creek Indian Burial Cave. Snake Creek is a unique paleontological deposit. The cave is the first natural trap excavated in the Great Basin and one of the few localities describing a valley-bottom community. The recovery of extinct camel and horse, in addition to radiometric dates, indicates at least some of the deposits to be of late Pleistocene age.

The Elderberry Canyon Local Fauna. The Elderberry Canyon Local Fauna is the first Eocene mammalian fauna reported from the Great Basin and occurs in carbonate rocks occurring in the Sheep Pass Formation near Ely. The Elderberry Canyon Local Fauna includes over 40 taxa of vertebrates, more than 30 of which are mammals.

3.10.2 Trends

Vertebrate fossils such as dinosaurs, mammals, fishes, and reptiles, and uncommon invertebrate fossils are collected by trained researchers under BLM permit. Collected vertebrate fossils and uncommon invertebrate fossils remain the property of all citizens of the U.S. and are placed in museums or other public institutions after they are studied.

Common invertebrate fossils such as plants, mollusks, and trilobites are collected for personal use in reasonable quantities, but may not be bartered or sold. Currently, there is no registration system established for invertebrate fossil collecting. In the planning area, the lack of regular site monitoring and public education

about fossil collecting has led to illegal commercial collecting of trilobites and individuals collecting far more than is considered "reasonable quantities" of trilobites for personal use, both of which impact paleontological resources (see Section 2.5.10).

The demand for use of both vertebrate and invertebrate fossils has increased over the years and is expected to increase in the future. Casual use and collection of invertebrate fossils by "rockhounds" and fossil collectors has contributed to the loss of the resource and its research potential and interpretation.

3.10.3 Current Management

Paleontological resources are managed on public lands because they are nonrenewable resources of value to scientists, educators, hobbyists, commercial collectors, and other members of the public. Without protection, the resources may be intentionally or unintentionally damaged or destroyed, causing valuable information to be lost. Currently, trained researchers collect and study vertebrate fossils and uncommon invertebrate fossils under BLM permit. These fossils are then placed in a museum or other public institution. No permit is necessary for the collecting of common invertebrate fossils.

The BLM paleontological resource protection program includes: identifying and evaluating paleontological resources so they may be adequately addressed in planning and environmental analysis documents; maintaining and conducting an effective and continuing protection program; increasing the awareness of federal land managers and the public regarding the significance of paleontological resources and management requirements; encouraging public participation in resource management; avoiding or mitigating impacts to valuable paleontological resources; avoiding publicizing the exact locations of scientifically significant paleontological resources; and, managing and issuing collection permits when appropriate (BLM 1998b).

3.11 Visual Resources

3.11.1 Existing Conditions

Important visual resources are visually sensitive use areas where the maintenance of the surrounding visual environment affects the people's enjoyment of using an area, or are unique or unusual landscapes having natural scenic value. Landscapes in which viewers may travel, recreate, or reside, or where existing views may potentially be affected by the actions defined in the alternatives are included in the definition of visually sensitive areas.

The planning area currently varies from a predominantly undisturbed natural setting with occasional dirt and asphalt roads to the visually dominant, disturbed area of the existing Robinson Mine.

Clear skies with broad, open landscapes characterize the regional landscape setting of the planning area. The area is characteristic of the mid- to high-elevation areas of the western U.S., with rolling hills and broad valleys. The vegetation has a contrasting pattern of pinyon-juniper forests intermixed with sagebrush and grasses. This type of landscape allows for long viewing distances. Consequently, maintenance of visual resources is a concern from nearby and distant viewing locations, including views from federal lands with high visual resource values, federally designated wilderness, recreation areas, major transportation routes, and population centers.

3.11.2 Trends

Sensitivity of the public to visual resources within the planning area has increased over time. An increase in population growth within and adjacent to the planning area has lead to concerns over preserving the viewsheds around communities. A desire to preserve viewsheds along historic trails also has been expressed. Additionally, scenery is a draw to tourism and backcountry recreation, which has led to increased concerns over preserving visual resources (see Section 2.5.11).

3.11.3 Current Management

Visual resources currently are managed following existing visual resource management manuals and guidance. Areas within the planning area without existing visual resource management classes are managed using interim visual resource management objectives where a project is proposed. Ely Field Office managers could use discretion in applying standards to various land use proposals and grant exceptions where warranted by the public interest or valid development rights.

The Ely Field Office is responsible for ensuring that the scenic values of public lands in the planning area are considered before allowing surface-disturbing uses that may have negative visual impacts. Visual design considerations are being incorporated into the permit requirements, as applicable, for all surface-disturbing projects. This is accomplished through the use of the visual resource management system, which involves inventorying scenic values and establishing management objectives for those values. Once management objectives are established, proposed surface-disturbing activities are evaluated

to determine if they conform with the management objectives. Different levels of scenic values require different levels of management. Management of an area with high scenic values may focus on preserving the existing character of the landscape, while management of an area with little scenic value may allow major modifications to the landscape.

Visual resource management classes were developed for BLM-administered lands in the Schell and Caliente resource areas through an inventory process (**Map 2.5.11-1**). The inventory process consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. The area's visual resources then were assigned to management classes with established objectives. Visual resource management in the Egan resource area is performed on a case-by-case basis.

The visual resource management system provides a way to identify and evaluate scenic values to determine the appropriate levels of management during land use planning. The visual resource management system recognizes the classes identified below. Each management class portrays the relative value of the visual resources and serves as a tool that describes the visual management objectives.

Class I Objective: To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention. Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape such as designated scenic areas.

Class II Objective: To retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer.

Class III Objective: To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract the attention but should not dominate the view of the casual observer.

Class IV Objective: To provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high and may dominate the view and be the major focus of viewer attention.

Another key component of establishing visual resource management classes is evaluating visual sensitivity. Visual sensitivity evaluates the amount of use an area receives and the viewers' expressed attitudes toward what is seen. These data are used to delineate areas as having high, moderate, or low concerns for changes in scenic quality and for prevention of visible change in the landscape. Areas identified as sensitive include known travel routes, areas of human habitation, areas of traditional use, and special areas.

Once visual resource classes and objectives are established, the analysis stage is used to determine whether the potential visual impacts from proposed surface-disturbing activities would meet the management objectives established for the area. A visual contrast rating process is used for this analysis, which involves comparing the project features with the major existing landscape features using the basic design elements of form, line, color, and texture.

3.12 Lands and Realty

3.12.1 Existing Conditions

Approximately 97 percent of the planning area is under federal ownership with about 82 percent being administered by the BLM Ely Field Office. The BLM administers approximately 4.51 million acres of public land within White Pine County, 1.34 million acres of public land in Nye County, and approximately 5.62 million acres of public land in Lincoln County. Additional land within the planning area is administered by other agencies including the U.S. Forest Service, Department of Defense, U.S. Fish and Wildlife Service, Bureau of Indian Affairs, National Park Service, and various state agencies. Blocks of private land tend to be concentrated within the valleys and around communities within the planning area. Land ownership within the planning area is presented on **Map 3.12-1**.

Airport Leases

There currently are two existing airport leases within the planning area. The details of these airport leases and the associated acreages are provided on **Table 3.12-1**.

Recreation and Public Purposes

Table 3.12-2 provides the public lands leased or disposed of in the planning area under the Recreation and Public Purpose Act.

Disposals

The Egan RMP (BLM 1986b), the Schell Management Framework Plan (MFP) (BLM 1981a), the Caliente MFP (BLM 1981b), and the Desert Tortoise Amendment to the Caliente MFP (BLM 2000a) identified a total of 88,354 acres of public land remaining for disposal (37,297 acres from the Egan RMP; 35,558 acres from the Schell MFP; 12,073 acres from the Caliente MFP; and 3,426 acres from the Desert Tortoise Amendment to the Caliente MFP. **Table 3.12-3** provides the locations of the remaining lands available for disposal.

Acquisitions

Acquisitions of non-federal lands within the planning area have been limited to three easements for a cattleguard, a fence, and a spring development with enclosure.

Withdrawals

The planning area contains five existing withdrawals and two pending withdrawals subsequent to the existing land use plans. These withdrawals are presented in **Table 3.12-4** and include the administering agency, acreage, and purpose.

Table 3.12-1
Existing Airport Leases

Purpose	Acreage
Alamo Airport located west of Alamo	633
The Long Now Foundation landing strip located in Spring Valley east of Ely	120
Total Acreage	**753**

Table 3.12-2
Summary of Existing Recreation and Public Purpose Act Patents and Leases from 1981 to Present

Purpose	Acreage
Existing Leases	
Charcoal Ovens State Park	600
Existing Patents	
Lincoln County Fairgrounds	60
Lincoln County Solid Waste Disposal Site	80
Lund School Lease	40
Nevada Department of Transportation, Panaca Maintenance Station	17
Nevada Department of Wildlife, Key Pittman Wildlife Management Area Expansion	5
Nevada Division of State Land, Horse and Cattle Honor Camp	15
Nevada Division of State Land, Nevada State Prison	1,059
Pioche School	10
University of Nevada, Reno, Great Basin College	60
White Pine County Commissioners, Baker Cemetery	3
White Pine County School District	40
White Pine County Shooting Range	580
Total Acreage	**2,569**

Table 3.12-3
Remaining Lands Identified for Disposal in Previous Land Use Plans Subject to the Federal Lands Transaction Facilitation Act (Baca Bill)

Legal Description		Acres
T.16 N., R.63 E., Section	1, Lots 5-20, S½SE¼, S½NE¼	240
	9, Lots 9, 10, 15,	108.34
	12, E½,	320
	13, E½SE¼, NW¼SW¼, SW¼NW¼,	160
	16, Lots 1-5,	175.60
	23, SE¼, E½SW¼,	240
	24, W½SW¼, E½NE¼,	160
	25, W½,	320
	26, All	640
	27, E½SE¼NE¼, E½SE¼	100
	34, E½,	320
	35, S½NW¼, NW¼NW¼, NE¼,	280
	36, W½SE¼, SW¼, NW¼, SW¼NE¼,	440
T.17 N., R.63 E., Section	15, SE¼SE¼, NE¼NW¼, NW¼NE¼,	120
	16, SE¼NE¼,	40
	21, SE¼,	160
	22, E½E½,	160
	34, Lots 1-4, W½E½SW¼NW¼, W½SW¼NW¼, N½NW¼NW¼, E½NW¼, NE¼NW¼,	245.28
T.15N., R.64 E., Section	6 E½W½,	152.74
T.17N., R.64 E., Section	5 SE¼,	160
	7 E½SW¼.	80
	8 Lots 1-8, NW¼SW¼, SE¼SW¼.	416.26
T.20N., R.64E., Section	28 All,	640
	29 All,	640
	32 SE¼, E½NE¼,	240
	33 All,	640
T.21N., R.64E., Section	5 All,	641.2
	6 All,	635.79
T.22N., R.64E., Section	29 All,	640
	30 All,	632.9
	31 All,	634.4
	32 All,	640
T.1N., R. 67E., Section	9 W½SW¼SW¼,	20
T.14N., R.71E., Section	30 Lots 3, 5, 6, SE¼NW¼SE¼NW¼, N½NW¼SE¼NW¼,	24.58
T.4N., R.69E., Section	3 SW¼, (within)	14.9
	10 S½NE¼, (within)	9.5
T.2S., R.67E., Section	14 NW¼SE¼, NE¼NE¼SW¼,	70
	23 NE¼NE¼,	40
	24 N½NW¼SW¼,	20
	TOTAL ACRES	**11,221.49**

Table 3.12-4
Existing[1], Pending, and Proposed Withdrawals Within the Planning Area

Administering Agency	Description	Purpose	Acreage
Existing Withdrawals			
BLM	Sacramento Pass Recreation Area	Withdrawn from surface entry and mining, but not from leasing under the mineral leasing laws.	438
BLM	Pony Springs Fire Station	Withdrawn from all forms of appropriation under the public land laws, including the mining laws, but not from leasing under the mineral leasing laws.	11
BLM	Gap Mountain Recreation Site	Withdrawn from settlement, sale, location, or entry under the general land laws including the mining laws, but not from leasing under the mineral leasing laws.	105
U.S. Fish and Wildlife Service	Desert National Wildlife Refuge	Withdrawn from all forms of appropriation under the public land laws, including the mining laws, but not from leasing under the mineral leasing laws.	3,270
National Park Service	Baker Administration Site	Withdrawn from all forms of appropriation under the public land laws, including the mining laws, but not from leasing under the mineral leasing laws.	80
Department of Energy	Caliente to Yucca Mountain Rail Line Corridor	Withdrawn from surface entry and the mining laws.	123,101
Total			**127,005**
Pending Withdrawals			
BLM	Ash Springs Recreation Area	Withdraw from all forms of appropriation under the public land laws, including the mining laws, but not from leasing under the mineral leasing laws.	73
Total			**73**
Proposed Withdrawals			
BLM	Entrance area from Baker to Great Basin National Park		4,541
BLM	Murry Springs Watershed Protection		2,450
BLM	BLM (Caliente) Administrative Site		3
Total			**6,994**

[1] This table contains withdrawals completed from 1982 to 2005 within the planning area.

A portion of the planning area is located under a military operations area. This military operations area is used by the Department of Defense to train and maintain the readiness of its combat forces. The military operations area begins 100 feet above ground level and extends to altitudes greater than 15,000 feet above ground level. The lands located beneath the military operations area are subject to the ongoing military operations overhead including, but not limited to, low-level military overflights, supersonic overflights, the deployment of defensive countermeasures (chaff and flares), and simulated tactical air operations. These operations may occur at all hours of the day and night throughout the year. The lands beneath the military operations area are more likely to be affected by aircraft mishaps associated with the vital and realistic training carried out in the airspace above.

Rights-of-Way

There are 13,141 rights-of-way in the planning area. The majority of these rights-of-way grants have been issued for powerlines and roads. Other rights-of-way in the planning area include fiber optic lines, state highway material sites, U.S. highways, interstate highways, water pipelines, irrigation ditches, and military uses.

There are ten major utility corridors in the planning area:

- The Moapa corridor;
- The Falcon to Gonder corridor;
- The Southwest Intertie Project corridor;
- Six corridors established by the Lincoln County Conservation, Recreation, and Development Act; and
- A corridor 1,000 feet wide, 500 feet on eater side of a centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 30, running easterly to the Arizona state line (see **Map 3.12-2**).

The Moapa corridor is a 0.5-mile-wide corridor connecting a designated corridor on the Moapa Reservation and running northeast to the Nevada-Utah state line. The Falcon to Gonder corridor is a 165- to 185-mile-long 345-kilovolt electric transmission line connecting the Falcon substation north of Dunphy, Nevada, with the Gonder substation north of Ely, Nevada. Although no specific width had been established in previous land use planning efforts, the existing right-of-way currently is 160 feet wide. Approximately 38.9 miles of this corridor are within the planning area. The Southwest Intertie Project corridor is a 0.5-mile-wide corridor that begins in the planning area at the White Pine and Elko County line on U.S. Highway 93 and follows U.S. 93 south to the Lincoln-Clark County line. The Ely to Utah state line portion of the Southwest Intertie Project corridor begins at the Robison Summit substation and continues east in an existing corridor to a new substation near Delta, Utah. The 0.5-mile-wide Lincoln County Conservation, Recreation, and Development Act corridors extend throughout Lincoln County, and are made up of one Southern Nevada Water Authority corridor totaling approximately 300 miles, and five Lincoln County Water District corridors totaling approximately 170 miles. The Southern Nevada Water Authority corridor lies adjacent to the Southwest Intertie Project corridor for approximately 80 miles, extending northerly from the Lincoln-Clark County line.

Communication Sites

The Ely Field Office is responsible for permitting communication sites located on BLM-administered public lands in the planning area. Communication sites typically consist of systems used for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, as well as other means of communication. Facilities found on communication sites usually include a building, a tower, and other

related authorized incidental improvements. Communication sites permitted in the planning area consist of two-way mobile radio sites, microwave towers, television translators, cellular telephone towers, wireless internet sites, and military aircraft tracking systems.

There are 39 communication sites in the planning area. These sites are listed in **Table 3.12-5** and shown on **Map 3.12-3**.

Table 3.12-5
Communication Sites in the Planning Area

Land Use Plan	Site Name
Schell MFP	Worthington Peak
	Seaman Range
	Golden Gate
	Mount Irish
	Connors Pass
	Domingo
	Kern Mountain
	Spring Valley
	Sacramento Pass
	Stateline
	Mount Wilson33
Egan RMP	Cherry Creek
	Duck Creek
	Squaw Peak
	Kimberly Peak
	Saxton Peak
	Currant
	Duckwater
	Big Bald Mountain (Pending)
	Cherry Creek (Fortymile Knoll) (Pending)
Caliente MFP	Highland Peak
	Caliente
	Chokecherry
	Ella Mountain
	Black Mountain
	Delamar Mountain
	Leith Peak
	Mormon Mesa
	Kane Springs
	Alamo East
	Red Flag West #1
	Pahranagat Valley Television District East
	Gap Peak
	Alamo West
	Pahranagat Valley Television District West
	East Remote
	West Remote
	Burnt Springs (Pending)
	Tempaiute (Pending)

Unauthorized Occupancy, Use, and Development

Unauthorized occupancy, use, and development have not been a high-priority issue in the planning area. Unauthorized occupancy typically consists of encroachments of buildings, yards, or fencelines, which have been in place for a number of years. These encroachments generally are discovered during survey projects. The majority of trespasses have been agricultural. Additional unauthorized uses include residential/occupancy, and developments including fencelines, buildings, roads, and water wells. Resolution of unauthorized use is on a case-by-case basis and usually includes the issuance of temporary land use permits, lease or right-of-way issuance, disposal of the encroached land through sale, or the removal of the unauthorized use.

Land Use Authorizations

Land use permits are used to authorize uses of public lands that do not exceed 3 years and involve little or no land improvement, construction, or investment. This land use authorization does not convey ownership of the land and may be renewed or revoked at the discretion of the Field Manager. Land use authorizations include film permits, advertising displays, commercial or non-commercial croplands, apiaries, livestock holding or feeding areas not related to grazing permits and leases, harvesting of native or introduced species, temporary or permanent facilities for commercial purposes (does not include mining claims), residential occupancy, ski resorts, construction equipment storage sites, assembly yards, oil rig stacking sites, mining claim occupancy if the residential structures are not incidental to the mining operation, and water pipelines and well pumps related to irrigation and non-irrigation facilities. Land use authorizations may be either permits, which are less than 3 years, or leases, which can be for longer than 3 years and can involve a substantial investment in the land. Currently, there is one land use lease for occupancy and one land use lease for agricultural.

3.12.2 Trends

Changes in ownership and administration of BLM public lands are largely dictated by external public and agency demands in the form of applications for rights-of-way for a variety of infrastructure uses by private interests, land disposals for public uses, and congressional and executive branch acts that authorize federal land sales and withdrawals. In turn, these external demands are driven by regional and national economic development initiatives. While not comprehensive, the following factors are major influences on existing and future administration of public lands in the planning area:

- Expansion of Las Vegas and Mesquite. The increases in the population of Las Vegas and Mesquite have resulted in increased demand for water and energy supplies, as well as increased use of public lands within driving distance of these urban and residential centers. To meet future water requirements, it is anticipated that Las Vegas utilities would seek underground water supplies on public lands. New water pipelines and electrical transmission lines, requiring new rights-of-way, would be needed to pump and convey water to the city. There would likely be an expanded demand for developed and dispersed recreation opportunities to meet the demands of a larger population. These demands may be met through additional land disposals, and improvements in campgrounds and other public faculties.

- Energy, telecommunications, and transportation infrastructure expansions. The planning area is crossed by large interstate natural gas pipelines, electrical transmission lines, and fiber optic telecommunication lines (see discussion of utility corridors). As demand for energy increases on the west coast of the U.S., it is likely that more pipeline and electrical generation transmission projects would be proposed to meet future demands. These facilities would likely require rights-of-way for generation sites, and new rights of way for linear project components. It also is likely that state highway and county road improvements would be made to improve access between rural communities and the Las Vegas metropolitan area. An example is a proposed new highway segment between Caliente in Lincoln County and Mesquite in Clark County.

- Minerals and oil and gas development. As discussed in Section 3.18, Geology and Mineral Resources, the planning area has historically been an important source of minerals and energy resources. While the current levels of mineral and oil and gas activity are relatively low, constraints on world supplies of minerals and energy may make the known and potential new reserves economically viable for development in the near future. New or renewed mineral development would create new needs for roads, and electrical power.

- Renewable Energy. See Section 3.13.2.

3.12.3 Current Management

While the overall direction for management of public lands is contained in existing land use plans and the statutory requirements of the Federal Land Policy and Management Act of 1976, there are several federal legislative acts and executive orders that may be implemented to change land ownership and status within the planning area. The different types of land transfers and federal administrative actions are discussed below.

- Airport Patents. As part of the Airport and Airway Improvement Act of 1982, the BLM can convey lands under their jurisdiction to public agencies for use as airports and airways.

- Act of June 14, 1926, commonly known as the Recreation and Public Purposes Act. The Recreation and Public Purposes Act (Title 43 Code of Federal Regulations Subpart 2912 and 2740) provides for the lease or conveyance, respectively, of public land to states or their political subdivisions, and to nonprofit corporations and associations, for recreational and public purposes. Public purpose is defined as providing facilities or services for the benefit of the public in connection with, but not limited to, public health, safety, or welfare.

  The use of public lands or facilities under the Recreation and Public Purpose Act for habitation, cultivation, trade, or manufacturing is permissible only when necessary, integral, and an essential part of the public purpose.

- Disposals. Public land in the planning area may be disposed of under a variety of authorities. Disposals administered by the Ely Field Office include Recreation and Public Purpose Act disposals, Desert Land Entry disposals, disposals under the Carey Act, Airport Conveyance disposals, Indian Allotment disposals, and sales under the Federal Land Policy and Management Act.

- Airport Leases. Airport leases are authorized as part of the Act of May 24, 1928. There are currently two existing airport leases within the planning area. The details of these leases and the associated acreages are provided in **Table 3.12-1**.

- Withdrawals. Withdrawals are formal actions that accomplish one or more of the following actions:

  - Transfers total or partial jurisdiction of federal land between federal agencies.
  - Segregates federal land to some or all of the public land laws and mineral laws.
  - Dedicates land for a specific public purpose.

  Withdrawals consist of three major categories: 1) Congressional Withdrawals, 2) Administrative Withdrawals, and 3) Federal Energy Regulatory Commission Withdrawals.

  1. Congressional Withdrawals. These are legislative withdrawals designated by Congress in the form of public laws.

  2. Administrative Withdrawals. These are withdrawals made by the President, Secretary of the Interior, or other authorized officers of the executive branch of the federal government.

  3. Federal Energy Regulatory Commission Withdrawals. These are withdrawals for power projects established under the authority of Section 24 of the Federal Power Act of 1920. These withdrawals are automatically created upon filing an application for power development until otherwise directed by the Federal Energy Regulatory Commission or by Congress.

- Rights-of-way. A right-of-way grant is an authorization to use a specific piece of public land for specific facilities for a defined period of time. The majority of rights-of-way granted by the Ely Field Office are authorized under one of the following: 1) Title V of the Federal Land Policy and Management Act (43 U.S. Code 1761-1771); 2) the Mineral Leasing Act (Section 28 of the Mineral Leasing Act of 1920, as amended, 43 U.S. Code 185); and 3) other laws/authorities not repealed by the Federal Land Policy and Management Act. Under the Federal Land Policy and Management Act, the Ely Field Office can issue rights-of-way grants for electrical power generation, transmission and distribution systems, communication systems, highways, railroads, pipelines (other than oil and gas pipelines), and other facilities or systems, which are in the public interest. Additionally, rights-of-way grants can be issued for renewable energy projects such as wind energy developments, biomass utilization, and solar energy projects. Detailed discussions on renewable energy in the planning area are presented in Section 3.13. Under the Mineral Leasing Act, the Ely Field Office can issue rights-of-way grants for oil and natural gas gathering, distribution pipelines and related facilities, and oil and natural gas transmission pipelines and related facilities.

- Acquisitions. In managing the 261 million acres of public lands under its jurisdiction, the BLM provides for acquisition, use, disposal, and adjustment of land resources; determines the boundaries of federal land; and, maintains historic records for these ownership transactions.

  Acquisition, through exchange, purchase, and donation is an important component of the Ely Field Office's land management strategy. The Ely Field Office acquires land and easements in land, when it is in the public interest and consistent with approved land use plans. The BLM's land acquisition program is designed to:

  - Improve management of natural resources through consolidation of federal, state, and private lands.
  - Increase recreational opportunities and preserve open space.
  - Secure key property necessary to protect endangered species and promote biological diversity.
  - Preserve archaeological and historical resources.
  - Implement specific acquisitions authorized by Acts of Congress.

  – Exchange

    Public lands may be exchanged by the Ely Field Office for lands owned by corporations, individuals, states or local governments. Exchanges are only pursued with willing landowners. The lands to be exchanged must be of equal value and located within the same state. Through exchanges, non-federal parties can acquire lands with commercial, industrial, residential, or agricultural development or economic potential. In turn, the federal government acquires lands offering public recreation, open space, wildlife, and resource values.

  – Purchase

    The purchase of lands or interests in lands, such as easements and water rights, can be accomplished within a few months if funding is available, and if there are no title defects, hazardous materials, or other mitigating local issues.

  – Easements for Conservation, Access Roads, Trails, and Improvements

    Easements allow the government to control certain rights on private property that usually involve access or development. The lands remain in private ownership with limited rights owned by the government.

  – Donation

    These lands are generally accepted as a gift to the U.S. if the lands are contiguous to and "block-up" existing public lands and the need for public ownership is identified in land use plans.

- Military Operations Areas. Three military operations areas have been established over portions of the planning area by the Department of Defense (see **Map 3.12-4**). These areas are utilized by Nellis Air Force Base, Hill Air Force Base, and Fallon Naval Air Station for low-altitude training activities.

3.13 Renewable Energy

3.13.1 Existing Conditions

As a directive under the National Energy Policy report (May 2001), the BLM is required to assess the potential for renewable energy on public lands and to identify any limitations to access these resources. By incorporating this information during the land use planning process, an accelerated process for future renewable energy applications would be provided and the amount of environmental review needed for individual applications would potentially be reduced by addressing environmental issues in the land use plans. Additionally, the Nevada State renewable portfolio law (Nevada Senate Bill 372) requires utilities to buy no less than 15 percent of their power from renewable energy sources by 2013.

The BLM and the Department of Energy National Renewable Energy Laboratory have established a partnership to assess renewable energy resources on public lands in the western U.S. Through this assessment, BLM planning units were evaluated for renewable resource development potential and reported in assessing the potential for renewable energy on public lands (BLM 2003a). The renewable resources evaluated in the planning area include biomass utilization, solar, and wind energy.

Wind Energy

Wind energy is the conversion of wind currents into electrical or mechanical power through the use of turbines. Wind energy is considered the world's fastest growing energy source (BLM 2003b). A major benefit of wind energy is that wind is a free, renewable resource.

The Department of the Interior, Department of Defense, and Department of Homeland Security currently are developing an agreement, which would put in place a process for reviews of future wind energy projects. The review process would encourage project proponents to coordinate early in the planning stages to ensure the Department of Defense and Department of Homeland Security issues (i.e., long-range radar, air operations, training) are addressed prior to the approval of future projects.

Currently, wind energy monitoring is taking place but developments are not present in the planning area. However, development of wind energy projects would be conducted in accordance with the BLM Wind Energy Development Programmatic EIS (see Section 1.3.3.6).

Solar Energy

Solar energy is the conversion of sunlight into electrical power through the use of specialized solar panels. This technology uses solar light to provide heat, light, hot water, and electricity for homes, businesses, and industry. There are a variety of solar energy technologies including photovoltaic (solar cell) systems, concentrating solar systems, passive solar heating and daylighting, solar hot water, and solar process heat and space cooling.

Currently, solar energy power is being used for project-specific locations such as communication sites and spring boxes in the planning area. There have not been applications submitted for proposed projects in the planning area.

Biomass Utilization

Biomass utilization is the use of woody by-products from activities such as ecological restoration and fuels reduction. These by-products can be utilized through harvest, sale, trade, wood product production, and bio-energy (BLM 2003c). Bio-energy utilization is the use of the woody material generated through restoration or treatment activities to generate power in specialized power plants. As restoration and fuels reduction projects continue, the biomass material generated represents a long-term source of renewable energy.

Biomass technology is currently being used in the planning area for heating one of the White Pine County schools. Retrofitting other schools in White Pine County is being considered.

3.13.2 Trends

From 2000 to the end of 2002, wind energy capacity in the U.S. has risen from 53 megawatts to 4,660 megawatts. No existing wind energy developments are present in the planning area. However, since 2000, four anemometer permits have been authorized and eight permits for anemometer testing are currently pending. There are seven project sites identified with anemometers in the planning area. As the BLM reduces limitations to renewable resource development and utility companies strive to be in compliance with the Nevada renewable portfolio law, it is anticipated that applications for renewable energy projects would increase.

Concentrating solar power technologies currently offer the lowest-cost solar electricity for large-scale power generation (10-megawatt-electric and above). Current technologies cost around $3 per watt or 12¢ per kilowatt-hour of solar power. New innovative hybrid systems that combine large concentrating solar power plants with conventional natural gas combined cycle or coal plants can reduce costs to $1.5 per watt and drive the cost of solar power to below 8¢ per kilowatt-hour. Advancements in the technology and the use of low-cost thermal storage would allow future concentrating solar power plants to operate for more hours during the day and shift solar power generation to evening hours. Future advances are expected to allow solar power to be generated for 4¢ to 5¢ per kilowatt-hour in the next few decades.

Researchers are developing lower cost solar concentrators, high-efficiency engine/generators, and high-performance receivers. The goal is to further develop the technology to increase acceptance of the systems and help the systems penetrate growing domestic and international energy markets.

The southwestern U.S. can benefit from the use of these systems. Because the Southwest gets up to twice as much sunlight as the rest of the country, many southwestern states (California, Nevada, Arizona, and New Mexico) are exploring the use of concentrating solar power, especially for use in public utilities.

The Department of Energy analysts predict the opening of specialized niche markets in this country for the solar power industry between 2005 and 2010. The Department of Energy estimates that by 2005, there would be as much as 500 megawatts of concentrating solar power capacity installed worldwide. By 2020, more than 20 gigawatts of concentrating solar power systems could be installed throughout the world.

3.13.3 Current Management

Currently, applications for renewable energy testing, specifically anemometer sites, are handled on a case-by-case basis by the BLM-administered lands and realty program. Although no proposals for development of renewable resources have been received to date, management of these projects would be performed on a case-by-case basis using an interdisciplinary approach. Additionally, in anticipation of increasing renewable energy development in the western U.S., the BLM is in the process of preparing a Programmatic EIS to evaluate issues associated with wind energy development on western public lands, excluding Alaska (BLM 2003b).

3.14 Travel Management and Off-highway Vehicle Use

3.14.1 Roads

Existing Conditions

The majority of access in the planning area is accomplished informally. However, reasonable access is made for permitted uses such as mining claims, mining uses, mineral leases, grazing, recreation, rights-of-way, and other specific uses.

The Ely Field Office maintains 2,264 miles of roads in the planning area per year. Within the planning area, the counties maintain a total of 2,313 miles of roads per year. The Ely Field Office and counties cooperatively maintain an additional 77 miles of roads.

Trends

One of the most important trends observed for travel management in the planning area has been an increase in informal travel route proliferation. This increase mainly is due to recreation use, and can be correlated to increases in population and off-highway vehicle use. In Nevada, there has been a 184 percent increase in off-highway vehicle use between 1998 and 2003.

Current Management

Road system management by the Ely Field Office in the planning area is variable. Priorities for road maintenance are determined on a case-by-case basis and are dependent on a variety of factors including budget, emergency situations, access, weather, and whether or not the road leads to facilities. Roads in the planning area are maintained according to the following maintenance levels described in the BLM Facility Inventory Maintenance Management System:

- Level 1 – Roads where minimal maintenance is required. These roads are no longer needed and, therefore, closed to traffic. The objective is to remove these roads from the transportation system. Maintenance consists of maintaining drainage and runoff patterns only. Grading, brushing, or slide removal is not performed unless drainage is affected, causing erosion.

- Level 2 – Roads that are open for limited administrative traffic only. These roads are typically passable by high-clearance vehicles. Maintenance consists of maintaining drainage structures. Grading is only conducted to correct drainage issues and brushing is conducted to allow administrative access. Slides may be left in place if they do not adversely affect drainage.

- Level 3 – Roads where management objectives require the road to be opened seasonally or year-round for commercial, recreation, or high-volume administrative access. These roads are natural or aggregate-surfaced and have a defined cross-section with drainage structures. Maintenance consists of

maintaining drainage structures, performing grading, and brushing. Slides affecting drainage have a high priority for removal.

- Level 4 – Roads where management objectives required the road to be open year-round and to connect major features, such as recreation sites, local road systems, or administrative sites, to county, state, or federal roads. The entire roadway is maintained, and a preventative maintenance program may be established as needed. Problems are repaired as discovered. These roads may be closed or have limited access due to snow conditions.

- Level 5 – Roads where management objectives require the road to be open all year. These roads are the highest traffic volume roads in the transportation system. The entire roadway is maintained and a preventative maintenance program is established. Problems are repaired as discovered. These roads may be closed or have limited access due to snow conditions.

New roads may be constructed by the Ely Field Office or by a permittee in connection with a project occurring on public land such as a mineral lease or right-of-way. Over the past 20 years, approximately 520 authorized roads, totaling 650 miles, have been constructed in the planning area.

3.14.2 Off-highway Vehicles

Existing Conditions

Off-highway vehicle use in the planning area typically is associated with recreation, hunting and fishing, and livestock and range management. Off-highway vehicle access to public land varies across the planning area. Public land in the planning area is currently designated as open for vehicle use, limited to designated roads, or closed to use. In an open area, all types of vehicle use are permitted and are not restricted. In a limited area, vehicle use is restricted to certain times, to certain areas, to designated routes, to existing routes, or to specified vehicle uses. In a closed area, motorized vehicle use is restricted at all times.

Trends

Off-highway vehicle use has rapidly increased in the planning area. Off-highway vehicle use is not only limited to recreational use, but also has become a preferred mode of transportation for other activities such as hunting, fishing, camping, ranching, mining, and wood cutting. Based on this trend, off-highway vehicle use is increasing across the entire planning area. A large amount of critical desert tortoise habitat and dust abatement regulations in Clark County have limited opportunities for off-highway vehicle use in the Las Vegas District, which has displaced off-highway vehicle users to the planning area. Another off-highway vehicle trend in the planning area has been an increase of intensive off-highway vehicle use around communities.

Off-highway vehicle race events occur in the planning area as well. These events currently are limited to courses for which a NEPA analysis has been completed. Recreation locations with high off-highway vehicle use in the planning area include Duck Creek Basin, Chief Mountain, and other destination locations with developed facilities.

Current Management

Off-highway vehicle activities in the planning area are managed under the National Management Strategy for Motorized Off-highway Vehicle Use on Public Lands (BLM 2001a). This guidance is an effort to manage off-highway vehicle activities in compliance with applicable executive orders (11644 [1972] and 11989 [1978]) and regulations (Title 43 Code of Federal Regulations Subpart 8340). Off-highway vehicle race events in the planning area are managed under Special Recreation Permits. Special Recreation Permits are discussed in Section 3.15, Recreation.

3.15 Recreation

3.15.1 Existing Conditions

Cross Country Skiing
Photo by Jake Rajala

During 2004, there were an estimated 271,000 visitor days to public land in the planning area. Recreational activities in the planning area typically consist of casual and dispersed uses including off-highway vehicle use, hunting, fishing, camping, cross-country skiing, horseback riding, caving, geocaching, rock climbing, mountain biking, and cultural tourism (BLM 2003d). Currently, there are no fee-use areas in the planning area. There are currently 24 outfitter and guide permits issued within the planning area.

The Ely Field Office developed a list of significant cave resources in the planning area in 1994 and designated those as significant caves. No new nominations were received during the planning process.

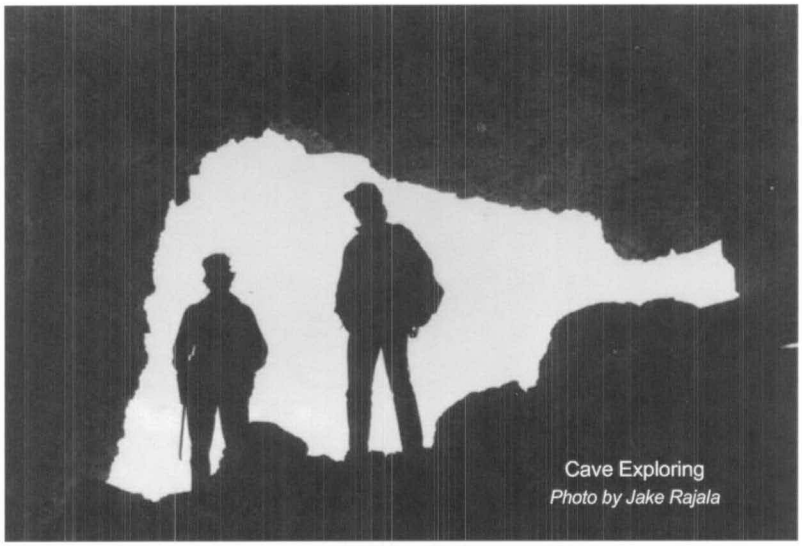
3.15.2 Trends

The number of recreation visits to the planning area has been increasing. These increases in recreation can be attributed to population growth within the planning area and nearby Clark County and a reduction in the availability of primitive recreational experiences similar to those found in the planning area. Another trend that has been observed is an increase of extreme activities. Activities such as rock climbing, bouldering, mountain biking, and caving have increased in popularity throughout the western U.S, and are increasing in the planning area as well. Off-highway vehicle use, which also is a major recreational activity, has continued to increase in the planning area with the proliferation of off-highway vehicles in eastern Nevada, western Utah, and regionally; the increase in population in Clark County where several organized off-highway vehicles clubs are located; and the reduction in areas in the Mojave Desert where this type of recreation is allowed due to other resource management priorities, such as protection of the desert tortoise.

3.15.3 Current Management

Recreation in the planning area is managed through the designation of special recreation management areas and extensive recreation management areas. A special recreation management area is an area where more intensive recreation management is needed, where a commitment has been made by the Ely Field Office to provide specific recreation activity and experience opportunities, and where recreation is a principal management objective. An extensive recreation management area includes all BLM-administered lands outside the special recreation management areas, and may include developed and primitive

recreation sites with minimal facilities. The Loneliest Highway Special Recreation Management Area is located along U.S. Highway 50 in the planning area. This special recreation management area contains some of the most popular destinations in the planning area including Illipah Reservoir, Cold Creek Reservoir, Garnet Hill Rockhounding Area, and the Pony Express Trail. The management objectives of the special recreation management area are to provide recreational opportunities to the public that would otherwise not be available, reduce conflict among users, minimize damage to resources, and reduce visitor health and safety issues. The remainder of the planning area is broken into three extensive recreation management areas: the Schell Extensive Recreation Management Area (4.24 million acres), Egan Extensive Recreation Management Area (3.82 million acres), and Caliente Extensive Recreation Management Area (3.5 million acres). Recreational use within these extensive recreation management areas typically include hunting, fishing, camping, sightseeing, wildlife viewing, as well as numerous other recreational opportunities. Management actions within extensive recreation management areas primarily are limited to providing basic information and access to the public. Visitors to extensive recreation management areas are expected to rely on their own skill, knowledge, and equipment when participating in recreational activities.


Cave Exploring
Photo by Jake Rajala

The role of the Ely Field Office is to provide a wide spectrum of recreational opportunities, while maintaining the character of the land through minimizing development. The majority of recreation sites in the planning area are used as both specific destinations and as staging areas for dispersed recreation. Recreation sites in the planning area are classified as developed, primitive, or dispersed. Developed recreation sites are sites that provide facilities such as picnic tables, pit toilets, and informational signs and are easily accessible. Primitive recreation sites are indicated on maps but do not have developed facilities. Dispersed recreation sites usually have informal fire rings, and camp areas. Dispersed recreation sites do not have any developed facilities. These sites are not indicated on maps and usually are used as an access point for other forms of recreation such as hunting or fishing. Access to dispersed recreation sites can vary from easy to difficult. There are eleven developed and five primitive recreation sites in the planning area. The eleven developed recreation sites are presented in **Table 3.15-1**. The locations of existing recreation sites in the planning area are shown on **Map 3.15-1**.

Table 3.15-1
Developed Recreation Sites in the Planning Area

Recreation Site Name
Meadow Valley
Baker Site
Sacramento Pass
Illipah Reservoir
Cleve Creek
Garnet Hill
Goshute Creek
Ash Springs
Egan Crest Trail
Ward North Trailhead
Ely Elk Viewing Area

The Ely Field Office manages competitive recreational events, recreation-related commercial enterprises, and other organized events in the planning area through the use of Special Recreation Permits. Special Recreation Permits provide a framework to analyze proposed recreation-related activities, control the number of users and limit resource conflict, and provide a tool to monitor and mitigate impacts to resources from organized event activities. Special Recreation Permits are required for five types of uses: commercial use, competitive use, vending, special area use, and organized group activity and event use. In issuing Special Use Permits to recreational users of public lands, the Ely Field Office authorizes permittees use of the lands and related waters for permitted purposes. Special Use Permits are managed in a manner consistent with management objectives determined for the area. The majority of Special Use Permits issued in the planning area are typically for outfitting and guiding activities and for off-highway vehicle events. Existing truck event routes are shown on **Map 3.15-2**.

3.16 Livestock Grazing

Prior to 1934, grazing of public lands outside forest perimeters was managed by the General Land Office. Comprehensive management of these lands was initiated in 1934 when Congress passed the Taylor Grazing Act. The Grazing Service was established and charged with implementation of the Act. Specific tasks included establishment of a permit system, organization of grazing districts, fee assessment, and consultation with local advisory boards. The Ely Grazing District (No. 4) was established November 3, 1936. In 1946, the Grazing Service was combined with the General Land Office to create the BLM.

In the late 1960s and early 1970s, a shift in public attitude regarding the use of public land emerged. Congress passed the NEPA in 1969, directing land managers to address the environmental consequences of activities on federal lands. As a result of the NEPA and the Natural Resources Defense Council v. BLM decision in 1973, EISs were prepared for every resource area administered by the BLM. The purpose of these EISs was to address the status of grazing and to develop a solution to meet long term goals of grazing on public land.

In 1976, Congress passed the Federal Land Policy Management Act. This act requires that public domain lands be managed for multiple use. It also reaffirmed BLM's authority to reduce livestock numbers if necessary. Perhaps most importantly, it provided for the preparation of Allotment Management Plans in consultation, coordination, and cooperation with permittees for each grazing permit. The Public Rangeland Improvement Act, passed by Congress in 1978, established a grazing fee formula that sets and adjusts annual fees for grazing on public domain land.

In 1986, a national management approach was initiated with the goal of monitoring the long term and short term effects of grazing. The objective of monitoring was to provide a long term database that would allow for the identification of specific problem areas, and the definition of management actions necessary to correct those problems. The method implemented was an "allotment evaluation" process with a 3- to 5-year data compilation interval. In 1984, a Nevada Range Studies Task Group developed and released the Nevada Rangeland Monitoring Handbook to serve as a technical guide in the monitoring process.

In August of 1995, new regulations were enacted that changed methods and administrative procedures used by the BLM in its management of public lands. Commonly referred to as Range Reform '94, these regulations directed the establishment of Rangeland Health standards and guidelines to "achieve properly functioning ecological systems for both upland and riparian areas." Rangeland Health standards and guidelines for the Mojave-Southern Great Basin and Northeastern Great Basin regions were adopted and approved by the Secretary of the Interior on February 12, 1997.

<u>The Adjudication Period (Early to Mid 1960s)</u>

The "adjudication" of BLM grazing permits occurred over a period of approximately 15 years, from the mid 1950s through the late 1960s. The planning area had largely completed this process by the mid 1960s.

Adjudication consisted of establishing the extent of historical grazing on allotments and included a review of the following factors:

1. Priority Use. The planning area had a "priority period" of 1929-1934, the 5-year period immediately preceding enactment of the Taylor Grazing Act. All priority period use claims were subject to validation and constituted a primary permit preference limitation.

2. Base Property Production. All BLM Field Offices imposed a minimum base property requirement, predicated either on land or water. Assets such as privately owned base property, hay fields, hay stacks, pastures, water rights, and water flows were measured, and production was calculated. If the existing grazing allocation exceeded the maximum allowable base property production ratio, the grazing permit was subject to reduction.

3. Public Land Carrying Capacity. During the adjudication period, a one-point-in-time carrying capacity survey was conducted of all grazing allotments. After meeting the first two tests, if the existing grazing allocations exceeded the surveyed carrying capacity, the grazing permit was subject to reduction.

The collective effect of applying these three limiting factors determined the amount of "adjudicated grazing privileges." Adjudicated permits also were referred to as "Base Property Qualifications" that were subject to change and refinement as further site specific information became available.

The Post Adjudication Period (Mid-1960s to 1980)

There is no clear point in time when the "Adjudication Period" ended, but for the purposes of this RMP, the period between 1965 and 1979 is defined as the "Post Adjudication Period." This coincides with the completion of adjudication in the planning area in 1965 and the beginning of the "Evaluation Period" in 1980.

The post-adjudication period saw the formal implementation of "grazing management" by the BLM. Grazing management systems were developed and incorporated into allotment management plans. As allotment management plans were implemented, a second round of grazing permit adjustments generally occurred. This management phase was well underway by the mid-1960s in the planning area. It progressed at an accelerated rate until the mid-1970s when the Natural Resources Defense Council lawsuit required a shift in management toward the development of EISs.

Most animal unit month reductions during this period were based on results of BLM Soil-Vegetation Inventory Method surveys reported in the earliest grazing EISs. BLM began a program based on utilization and vegetation trend monitoring. Resultant data are used to evaluate whether or not grazing practices have been successful at meeting objectives established in resource management plans, rangeland program summaries, and allotment management plans.

The Evaluation Period (1980 to Present)

In 1986, the BLM Washington office issued Instructional Memorandum 86-706. This memorandum instructed that monitoring evaluations be conducted of all "I" and "M" management category allotments[1]. Allotment evaluations have been completed on 102 allotments since 1990. Each allotment evaluation has resulted in either grazing agreements, issuance of grazing decisions, or documentation to the allotment file concerning grazing management. In 1989, the Nevada State BLM Office issued Instructional Memorandum 268. This memorandum focused on compliance with Washington Office Instructional Memorandum 86-706 and other existing laws and regulations pertinent to this change in policy. Instructional Memorandum NV 89-268 (Revised) specifies how each Field Office shall conduct the evaluation process. Since these directives were issued, there has been a new prioritization of goals. Priorities changed to include allotments containing wild horse herd management areas. This allows for the resolution of resource conflicts between wild horses and livestock, and to the establishment of appropriate management levels for wild horses. Currently assessments and evaluations are conducted at the watershed and allotment scale to determine if the standards and fundamentals for rangeland health are being achieved.

As monitoring results became available, allotment evaluations were completed. This process used to determine if existing multiple uses for allotments are meeting or making progress towards meeting land use plan objectives, allotment specific objectives, Rangeland Program Summary objectives, and land use plan decisions, in addition to the standards and policies for grazing administration. Each allotment evaluation concluded with specific management recommendations. Management changes were implemented in the following years, either through agreement or decision. The most frequent management actions occurring as a result of these evaluations include reduction in preference and other changes in grazing management such as implementation of a grazing system, or change in season of use.

3.16.1 Existing Conditions

All livestock grazing allotments within the planning area are classified as perennial allotments. Term permits authorize grazing use based on perennial vegetation. Livestock grazing allotments within the northern portion of the planning area are within the Great Basin ecological system. Livestock grazing allotments within the southern portion of the planning area, primarily the southern portion of Lincoln County, are within the Mojave Desert ecological system.

The Mojave Desert is made up of ecological systems of limited distribution and size that support unique sensitive/endemic species or communities, and of ecological systems that have low resiliency to environmental stress or disturbance.

Grazing preference is attached to base property owned or controlled by a permittee or lessee. Base property within the planning area includes both land and water. The majority of base properties within the planning area are land base properties. Land base or water base were designated as per the Special Rule

[1]BLM initiated a selective management process to prioritize expenditures of limited range management funds. Allotments were grouped into categories according to their resource potential, current management status, and complexity of resource issues. Allotments classified as "I" were to be managed to Improve current condition; allotments classified as "M" were to be managed to Maintain satisfactory conditions; allotments classified as "C" were to be managed Custodially while protecting existing resource values.

affecting the planning area. The Special Rule for classification of base properties, in Nevada Grazing District No. 4, was approved February 21, 1945. This Special Rule states in pertinent part: "A proper factual showing of its necessity having been made by the regional grazier and it having been found that local conditions in Nevada Grazing District No. 4 make necessary the application of a special rule for the classification of base properties in order to better achieve an administration consistent with the purposes of the act, either land or water only, or a combination of land and water, may be classified as base property for a single livestock operation in that district. In instances in which a combination of land and water is so recognized, the following further classification will be made: Class 1. Land dependent by use and full-time prior water. Class 2. Land dependent by location and full-time water." Land base properties within the planning area range from less than one hundred to several thousand acres. Water base property is privately owned water that is suitable and available for consumption by livestock.

In contrast, the Caliente portion of the planning area is subject to procedures applicable to Nevada Grazing District No. 5 rather than the Ely Special Rule. Thus, grazing allotments in the old Caliente Resource Area can be either land or water based but not both.

Livestock grazing is actively administered on 240 grazing allotments within the planning area (see **Table 2.4-15** and **Table 2.4-16**). The following describes administration of these allotments.

- There are 234 allotments that are administered by the Ely Field Office and Caliente Field Station combined.

- There are 5 allotments that are administered by other field offices in Nevada. They are Corta, Goshute Mountain, McDermitt Creek, Red Bluff, and White Pine Seeding.

- One allotment (Terry Allotment) is administered by the St. George Field Office.

- There are 6 allotments adjudicated as trail allotments that are included in the 234 allotments.

- Eight allotments were transferred to the BLM from the U.S Forest Service through the White Pine County Conservation, Recreation, and Development Act of 2006 and are included in the 234 allotments. Three of these allotments are actively managed by the BLM. They are the Murphy Wash, Shingle Creek and Strawberry Creek Allotments. The BLM administers livestock grazing on the previous U.S. Forest Service portions of these allotments. Portions of the Murphy Wash and Shingle Creek allotments also are located on and administered by the Great Basin National Park. The Strawberry Creek Allotment includes that portion of the allotment previously administered by the U.S Forest Service and does not include the portion administered by the Great Basin National Park. The Strawberry Creek Allotment administered by U.S Forest Service has been combined with the Sacramento Pass Allotment. Five additional allotments (Lexington, Big Wash, Snake Creek, Soap Creek and Chokecherry) were closed by the U.S. Forest Service. Portions of the Lexington, Big Wash, Snake Creek and Soap Creek allotments are located within and administered by the Great Basin National Park. Availability of the portions of these allotments administered by the BLM will be determined.

The following allotments are unavailable to livestock grazing or no longer exist:

- The Beacon, Sand Hollow, and Rox-Tule allotments are completely unavailable to livestock grazing as a result of the 2000 Caliente MFP amendment for management of desert tortoise habitat.

- Portions of six allotments were made partially unavailable to livestock grazing as a result of the 2000 Caliente MFP Amendment for Management of Desert Tortoise Habitat. They are the Breedlove, Delamar, Gourd Springs, Mormon Peak, Grapevine, and Lower Lake East allotments.

- Three allotments no longer exist as a result of the Mesquite Land Sale in 2006 (Flattop Mesa, Jackrabbit, and Pulcipher Wash).

- One allotment (Fort Ruby) was made unavailable to livestock grazing due to the White Pine County Conservation, Recreation, and Development Act in 2006.

- The Private/Utah Allotment above Beaver Dam State Park is unavailable to livestock grazing.

Other allotments changed as a result of the White Pine County Conservation, Recreation, and Development Act of 2006 are listed below.

- Indian Jake Allotment – 1,725 acres transferred to U.S Forest Service. Total acres changed from 48,893 acres to 47,168 acres.

- Tom Plain Allotment – 4,164 acres transferred to U.S. Forest Service. Total acres changed from 81,203 acres to 77,039 acres.

- Dark Peak Allotment – 1,870 acres transferred to tribal lands. Total acres changed from 21,347 acres to 19,477 acres.

There currently are 142 livestock permittees that hold term permits authorizing livestock grazing on the public lands within the planning area (73 permittees with the Ely Field Office and 69 permittees with the Caliente Field Station). Livestock grazing is administered on 132 allotments by the Ely Field Office and on 102 allotments by the Caliente Field Station. There are currently 129 cattle operators and 10 sheep operators in the planning area. All livestock grazing is authorized under Section 3 permits of the "Taylor Grazing Act."

Total active use for the planning area is 545,267 animal unit months. Total suspended use is approximately 190,000 animal unit months. The majority of the livestock grazing authorized is for cattle grazing of which the total number of active animal unit months is approximately 400,000. Total active use is approximately 137,000 animal unit months for sheep and 427 animal unit months for domestic horses. Authorized grazing use including both cattle and sheep for the period 1998 to 2006 ranged from 160,025 animal unit months to 271,354 animal unit months. Essential grazing allotment information is maintained in the BLM Rangeland Administration System Database. Relevant information for the allotments in the planning area is presented

in **Tables 2.4-15** and **2.4-16**. Over recent years, particularly since 1996, actual use has been reduced due to the impacts of drought. Actual use also fluctuates based on economic conditions. On most allotments in recent years, the Ely Field Office has approved permittee applications, or has required permittees, to use less forage than the active use authorized by their term permits. In limited situations in those years when forage for livestock remains following use of the forage authorized by the term grazing permit, the Ely Field Office has authorized use on a temporary and nonrenewable basis. Temporary nonrenewable is authorized provided it is consistent with multiple use objectives and multiple uses of the allotment.

The majority of the public land cattle operations within the planning area run between 100 to 500 head of livestock. Some of the larger operations run up to 1,000 head. The typical sheep operation ranges in size up to approximately 4,000 sheep.

Grazing allotments within the planning area range in size from approximately 300 acres to 1,000,000 acres with the average of approximately 269,723 acres in size. The larger cattle and sheep operators graze on several allotments while many of the smaller operations include only one allotment. Some of the larger livestock grazing operations include 10 to 15 allotments. Actual animal unit months for the larger operators ranges from approximately 14,000 to 30,000 animal unit months annually. Currently there are 9 operators that graze a total of 87 allotments with a total cumulative active use of 204,225 (38 percent) of the total active animal unit months (535,487) for the planning area.

Allotment grazing periods of use within the planning area vary and include both seasonal or yearlong. Seasons include fall/winter/spring period and spring/summer/fall period. Grazing systems may include rest-rotation, deferred rotation, and deferred rest-rotation. A few allotments also graze under the principles of Holistic Resource Management. Allotments that are grazed seasonally include herding of cattle and sheep between public land allotments, base property, other leased or private pasture and U.S. Forest Service-administered lands.

Most of the allotments categorized as yearlong grazing are associated with the larger year-round operators that graze on several allotments. In these cases, individual allotments typically are grazed seasonally and livestock are moved between pastures, allotments, base property or other pasture based on the season or period of use developed for the grazing system. Allotments have specific periods of use and livestock are moved from one allotment to another based on the periods of use. The majority of the sheep operations include grazing use on several allotments.

Yearlong grazing use does occur on single allotments. Allotments are divided into separate use pastures. Livestock are moved between use areas, base property, or other private pasture based on seasonal use. Livestock are moved or rotated from one use area or pasture of the allotment to another. Areas of grazing use also may be deferred or rested from one year to the next depending on the grazing schedule for the allotment. Livestock distribution is controlled by various methods including water locations, herding, and fencing.

Some allotments are grazed in common by two or more livestock permittees. Livestock are either mixed together in the same use area or graze in separate use areas of the allotment. Authorized grazing use is in accordance with established use periods or seasons of use for the allotment.

3.16.2 Trends

Over recent years, particularly since 1996, stocking levels have been reduced due primarily to the impacts of drought. Active use also has fluctuated based on economic conditions. Total active use is 535,357 animal unit months. Authorized grazing use including both cattle and sheep for the period 1998 to 2006 ranged from 160,025 animal unit months to 271,354 animal unit months. Total licensed grazing use for the 10-year period from 1992 to 2006 is shown in **Table 3.16-1**.

Table 3.16-1
Licensed Grazing Use in the Planning Area from 1992 to 2006

Year	Licensed Animal Unit Months
1992	194,823
1993	168,620
1994	165,649
1995	153,513
1996	122,204[1]
1997	173,152
1998	271,354[2]
1999	256,895
2000	258,496
2001	262,332
2002	206,707[1]
2003	173,662
2004	160,025
2005	195,846
2006	196,198

[1] Severe drought in 1996 and similar conditions since 2002 caused a decline in licensed use.
[2] In 1998, the Caliente Field Office was transferred from the jurisdiction of the Las Vegas Field Office to the Ely Field Office accounting for the additional 98,000 animal unit months.

3.16.3 Current Management

Allotment evaluations and watershed analyses are being conducted to determine if the standards and fundamentals for rangeland health are being achieved, primarily with grazing term permit renewal. A determination also is made to determine if current livestock management is maintaining or progressing toward the achievement of standards for rangeland health and if current livestock management is a significant factor in failing to achieve the standards. Following completion of the allotment evaluation and determination process, all grazing term permits currently are, and will continue to be, fully processed using information from the land health standard evaluation, as needed, to complete watershed analysis (see Appendix A for a description of the watershed analysis process).

Ely Field Office rangeland specialists and other qualified personnel, including U.S. Fish and Wildlife Service biologists, make regular site visits to Mojave Desert allotments that are actively grazed by livestock to ensure compliance with the terms and conditions of the Record of Decision for the Caliente MFP

Amendment and the stipulations of the grazing license. Any items in noncompliance are rectified by the Ely Field Office and reported to the U.S. Fish and Wildlife Service.

Rangeland Health Standards assessments would continue at the watershed and allotment scale to determine if the standards and fundamentals for rangeland health are being achieved. Implementation of the policies for grazing administration would be in accordance with the BLM Manual Section 4180, its accompanying Rangeland Health Standards Handbook H-4180-1 and Title 43 Code of Federal Regulations Subpart 4180. Allotment specific objectives may have to be developed, amended or quantified and terms and conditions of permits changed or revised to reflect the standards and policies. Watershed analyses and the allotment evaluations associated with these would continue to be completed based on Ely Field Office priorities. During the supervision and/or monitoring of an allotment, if it is determined that the existing terms and conditions of a grazing permit are not in conformance with the approved standards and policies and that current livestock grazing is determined to be a significant factor in the nonattainment of a standard, grazing management practices or the current levels of the grazing use would be changed or existing terms and conditions of the permit/lease would be modified. These changes or modifications would be in accordance with established procedures to ensure that the grazing management practices or the levels of the grazing use are in conformance with the policies.

Range improvement projects include construction and maintenance of various improvement projects in cooperation with grazing permittees and other agencies. Range improvement projects generally fall into one of two categories: 1) structural projects, such as fences, gates, cattleguards, pipelines, and water developments; and 2) restoration activities that include rangeland seedings following fire, brush control, insect infestations, or other disturbances.

Range projects or improvements constructed for livestock grazing management and related purposes are shown in **Table 3.16-2**. While only a portion of these improvements have been completed with the specific objective of benefiting livestock, most of them contribute to the effective management of livestock on the allotments involved.

Table 3.16-2
Summary of Range Improvement Projects in the Planning Area from 1958 to 2004

Range Improvement (Units)	Benefiting Livestock	Benefiting Watersheds	Benefiting Wildlife	Benefiting Other[1]	Total[2]
Seeding (acres)	16,564	17,765	1,170	206,598	242,097
Chainings (acres)	4,981	3,300	8,452	10,694	27,427
Burned or sprayed (acres)	960	0	0	3,560	4,520
Furrow or trench (acres)	0	627	0	0	627
Plowed (acres)	0	1,000	0	0	1,000
Fire rehabilitation (acres)	0	1,360	0	35,730	37,090
Fences (miles)	1,532	259	41	1,640	3,438
Corrals (number)	85	0	0	37	122
Cattleguards (number)	245	50	1	163	448
Wells (number)	91	5	1	195	292
Spring development (number)	80	8	1	65	154
Reservoirs (number)	91	4	0	106	201
Pipelines (miles)	320	60	0	163	541
Water hauls, troughs (number)	106	0	6	0	100
Guzzlers (number)	0	0	80	0	80

[1] Benefiting Other refers to range improvement projects listed in the Ely Field Office database that have not been identified as being conducted specifically for one of the three other resource categories shown here.
[2] Some improvement projects may benefit multiple categories, therefore, totals may not match the sum of the columns.

3.17 Forest/Woodland and Other Plant Products

3.17.1 Existing Conditions

Vegetation resources in the planning area provide for a diversity of social, cultural, and economic uses. The utilization of vegetation as livestock forage is discussed in Section 3.16, Livestock Grazing. In addition, these resources are used as forest and woodland products (e.g., fuelwood, Christmas trees), traditional harvesting (e.g., food, basket material, medicinal and ceremonial purposes), and plant collecting (e.g., landscaping, cultivation). These uses predominantly involve plants characteristic of the Great Basin woodland (e.g., pinyon pine) and the Mojave Desert (e.g., Joshua tree, cactus), both of which are extensive in the planning area. The vast majority of these activities occur close to communities and along roads.

Woodland volumes vary considerably depending on species composition and density. The determination of successional stages in and production from woodlands was based on the descriptions for the Forestland Ecological Site Descriptions 28BY060NV and 029XY083NV, which are the most prevalent woodland sites in the planning area. The major successional stages and associated ranges of percent canopy cover within this ecological site include:

- Sapling – 5 to 10 percent canopy cover;
- Immature – 10 to 20 percent canopy cover;
- Mature – 20 to 40 percent canopy cover; and
- Over mature – over 40 percent canopy cover.

The pinyon and juniper woodlands cover approximately 3.6 million acres in the planning area (see **Map 3.5-7** Pinyon Juniper Vegetation on BLM-administered Land in the Planning Area), and consist of the following categories and estimated acreages:

- Immature woodlands – 36,000 acres (approximately 1 percent of total acreage);
- Mature woodlands – 324,000 acres (approximately 9 percent of total acreage);
- Over mature woodlands – 2.9 million acres (approximately 80 percent of total acreage); and
- Pinyon-juniper woodland with invasive and noxious weeds dominant in the understory – 362,000 acres (approximately 10 percent of total acreage).

The woodland community is prevalent on side slopes with shallow, rocky soils. Pinyon pine and junipers historically have been used to make charcoal for mineral processing and provide for fuel and construction of early pit houses (Ronco 2003). Current uses include both personal and commercial harvest of fuelwood, poles and posts (primarily for fence building), Christmas trees, wildings or live transplants, and pinyon pine nuts.

Utah juniper and singleleaf pinyon contribute 50 to 70 percent and 30 to 50 percent of tree canopy composition, respectively. However, these percentages may vary based on differences in soil conditions, aspect, and precipitation levels within the planning area. Estimates of woodland production were based on potential production estimates provided in the ecological site descriptions as listed above. Pinyon-juniper

fuelwood sales in the planning area for 2004 included 1,581 cords. Assuming a rough average of 3 to 6 cords per acre, there are approximately 11 to 22 million cords of fuelwood in standing trees in the planning area. Road access and slope limit the availability of these trees for fuelwood.

Forest/woodland product sales in the planning area for 2003 also included 3,091 post and poles and 1,026 Christmas trees (predominantly pinyon pine trees) for individual and commercial use. Assuming an average of 15 to 30 posts and poles per acre, there are approximately 54 to 108 million posts and poles in standing trees in the planning area. Assuming an average of 15 Christmas trees per acre (based on pinyon pine trees comprising 30 percent of the woodlands), there are approximately 15 million Christmas trees in the planning area.

Various parts of the pinyon pine have been used for food and medicine and continue to have spiritual significance to some groups. Pinyon pine nut crops are variable by year and geographic location. Harvesting occurs in the fall, and plentiful crops occur every 3 to 7 years. Pinyon pine nut harvest was and still is the center of many tribal ceremonies, and tribal elders still participate in the collecting activities.

Sales in the planning area for 2003 included 41,500 pounds of pinyon pine nuts for commercial use.

The Mojave Desert vegetation, located in the southern portion of the planning area, is used in horticulture for xeric landscaping (e.g., cacti, yuccas, and creosotebush), and some species may be collected to place into cultivation (e.g., ephedra). According to Nevada State Law (NRS 527.060), a permit must be obtained for the collection of cacti and yucca within the state.

Various riparian species (e.g., willows) also are used by American Indians for basketry and other purposes.

3.17.2 Trends

As described in the Great Basin Restoration Initiative and Section 3.5, Vegetation, the pinyon-juniper woodland in the planning area and elsewhere in the Great Basin is increasing in density of trees and extent of coverage. Tree species, especially singleleaf pinyon and juniper, are spreading and becoming established in areas today that are below their historic elevational limits and now occupy approximately 1.3 million acres of sagebrush habitat (Rowland et al. 2003). Therefore, the availability of pinyon and juniper trees for fuelwood and other products currently is increasing. However, the trend toward more frequent and severe wildland fires may counter some of this increase.

The trends in usage of forest/woodland products and other plant material remain static. Public demand for vegetation products includes interest in natural ingredients for products ranging from cosmetics to medicines. Demand for fuelwood is not considered to be high, and the demand by commercial fuelwood cutters is low.

3.17.3 Current Management

Current uses are managed as described in **Table 3.17-1**. Personal use is distinguished from commercial use based on annual amount sold per individual, or whether the product is for resale or not. Permits for commercial pinyon pine nut harvesting are sold by auction to the highest bidder. All desert vegetation collections are available, but limited, in the planning area to areas designated for salvage due to planned ground disturbances.

Table 3.17-1
Summary of Current Management of Forest/Woodland and Other Plant Products

Product Type	Type of Use	Species	Live	Dead	Availability	Comments
Fuelwood	Personal use	Pinyon, juniper	X	X	Throughout the planning area except in designated wilderness, wilderness study areas, and other restricted areas.	2 cord minimum 10 cord maximum
		Mountain mahogany	X		Only in designated areas.	
		Mountain mahogany		X	Throughout the planning area except in designated wilderness, wilderness study areas, and other restricted areas.	
	Commercial use	Pinyon, juniper	X	X	Throughout the planning area except in designated wilderness, wilderness study areas, and other restricted areas.	6 cord minimum
Posts and Poles	Personal and commercial use	Pinyon, juniper	X	X	Throughout the planning area except in designated wilderness, wilderness study areas, and other restricted areas.	
Christmas Trees	Personal use	Pinyon, juniper	X	NA	Throughout the planning area except in designated wilderness, wilderness study areas, and other restricted areas.	15 trees maximum per purchase
	Commercial use	Pinyon, juniper	X	NA	Throughout the planning area except in designated wilderness, wilderness study areas, and other restricted areas.	
Pinyon Pine Nuts	Personal use	Pinyon	NA	NA	Throughout the planning area.	No permit needed, 25 pound maximum
	Commercial use	Pinyon	NA	NA	Only in designated areas.	Sold by auction
Collection of Desert Plants	Personal use	Joshua tree, cactus, and succulents	X	X	Only in designated areas.	Salvage only
Collection of Native Plants	Personal use	All non-succulent plants, seeds, or parts and willows	X	X	Throughout the planning area except in designated wilderness, wilderness study areas, and other restricted areas.	

NA = not applicable.

3.18 Geology and Mineral Extraction

3.18.1 Existing Conditions

Physiography and Topography

The planning area is located in the Basin and Range physiographic province and is within a sub-province called the Great Basin (Eaton 1979). The Basin and Range province is characterized by generally north-south trending mountain ranges and valleys and encompasses portions of a number of states including Arizona, California, Idaho, Nevada, New Mexico, Oregon, Utah, and Texas. In the planning area, the mountains and valleys follow the Basin and Range north-south pattern with ranges being about 5 to 15 miles wide and 20 to 100 miles long.

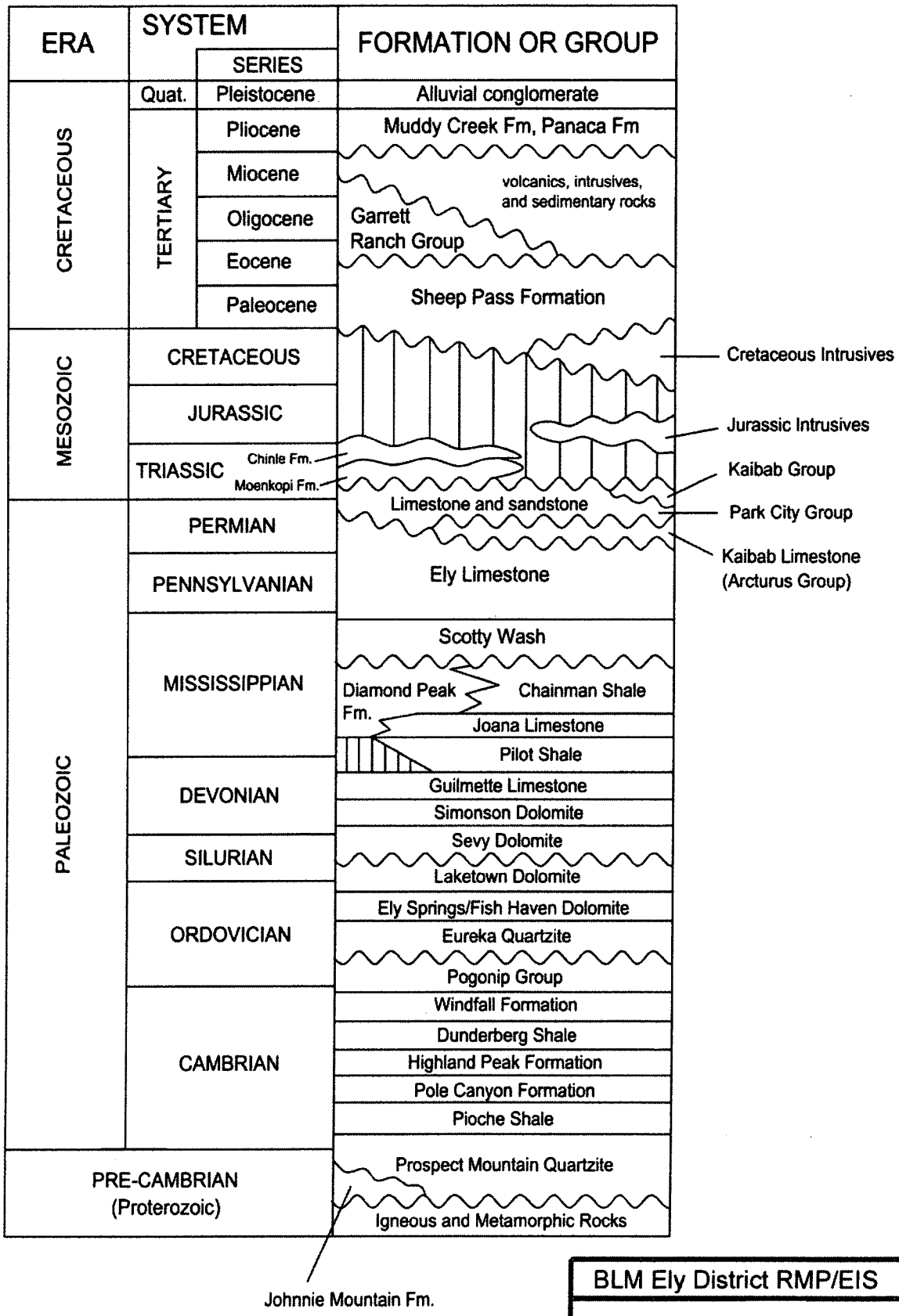
In the planning area, elevations range from less than 2,000 feet in the valleys of southern Lincoln County to 10,993 feet at Mount Grafton. Some higher elevation peaks (e.g., Wheeler Peak) are located on lands administered by the Humboldt National Forest and surrounded by public lands of the planning area. Generally, the valley floors in the northern part of the planning area are higher than in the southern areas with elevations ranging from 6,000 to 7,000 feet. Elevations in the mountain ranges are generally from 7,500 to 10,000 feet. The highest mountain ranges are in the northern part of the planning area, with the Snake Range (location of Wheeler Peak) being the highest and the Schell Creek Range containing several peaks above 11,000 feet.

The mountain ranges in the planning area generally consist of volcanic and sedimentary rocks (Stewart and Carlson 1978). Erosion has created rugged terrain in the mountains and some areas show evidence of glaciation in the past (Price et al. 1999). The valleys contain material (valley fill) eroded from the mountains. The valley fill can be thousands of feet thick and the deposits consist of poorly sorted alluvial fan deposits adjacent to the mountain ranges to fine-grained playa (dry lake) deposits and sand dunes in the valley floors.

Most of the area is internally drained and surface runoff is confined to the basins. A few drainages in the southern part of the planning area in Lincoln County drain into the Virgin River. Those drainages are, from west to east, Coyote Spring Valley, Meadow Valley Wash, and Toquop Wash. The White River Valley, which is located on the eastern edge of Nye County and extends into White Pine County, drains into the Coyote Spring drainage. The Virgin River drains into the Colorado River at Lake Mead, south of the planning area southern boundary.

Stratigraphy and Geologic History

The geologic units in the planning area range from Precambrian in age (more than 570 million years old) to Recent. **Figure 3.18-1** is a generalized stratigraphic nomenclature chart of the planning area. **Table 3.18-1** provides a summary of the associated regional geologic history. The chart and the map have been compiled from several sources and the geology was simplified to show the general geology of the area. The Precambrian rocks consist of intrusive igneous rocks, metamorphic rocks, quartzites, and phyllites.



BLM Ely District RMP/EIS

Figure 3.18-1

Stratigraphic Nomenclature Chart

Sources: Modified from Peterson and Grow (1995).

Table 3.18-1
Summary of the Geologic History of the Planning Area

Geologic Era	Geologic Period	Millions of Years Before Present	Major Geologic Events
Cenozoic	Quaternary	1.6-present	Crustal extension continues resulting in Basin and Range earthquakes, mountain building, volcanism, and geothermal activity. Glaciers formed in the higher mountains more than 10,000 years before present. Glacial action results in the rugged topography of the higher mountains.
	Tertiary	65-1.6	Crustal extension begins 20 million years before present. The extension results in Basin and Range normal faulting, mass gravity sliding, and igneous activity. Many ore deposits emplaced during this period.
Mesozoic	Cretaceous	144-65	Cretaceous period ending with extinction of the dinosaurs and many other species. Granitic igneous intrusions were widespread causing the formation of metallic ores such as the copper-gold-silver-lead-zinc ores of the Robinson Mining District. Thrusting from Sevier Orogeny causes folding and faulting and movement of large sheets of rock from west to east.
	Jurassic	208-144	Intrusion of igneous rock in the vicinity of the present-day Snake Range. Sedimentary rocks not deposited or were later eroded.
	Triassic	245-208	Moenkopi and Chinle formations deposited in continental and shallow marine conditions.
Paleozoic	Permian	286-245	During most of Paleozoic time, shallow marine conditions persisted resulting in the deposition of thousands of feet of limestone, shale, and lesser amounts of quartzite. Organic-rich Mississippian Chainman Shale is a possible source rock for petroleum generation. Antler Orogeny occurs from Devonian to Mississippian, influencing deposition of sediments in east-central Nevada.
	Pennsylvanian	320-286	
	Mississippian	360-320	
	Devonian	408-360	
	Silurian	438-408	
	Ordovician	505-438	
	Cambrian	570-505	
Precambrian		1,450-570	Igneous and metamorphic rocks formed in ancient crust. Eventually, a stable continental margin is formed resulting in deposition of the Johnnie Mountain Formation and younger Precambrian portion of the Prospect Mountain Quartzite. The stable continental margin persisted throughout most of Paleozoic time.

Sources: Hose et al. 1976; Peterson and Grow 1995; Price et al. 1999; Rowley and Dixon 2001; Tschanz and Pampeyan 1970.

The entire section of sedimentary rock from Cambrian through Permian (Paleozoic Age) is over 35,000 feet thick and consists primarily of limestone, dolomite, shale, and sandstone. The Paleozoic section also includes metamorphic rocks derived from tectonic events or altered by emplacement of igneous rocks (Tschanz and Pampeyan 1970). The Paleozoic-aged shales may be source rocks for the oil fields in the Railroad Valley that are just outside of the planning area and also are the possible source of the numerous shows of oil and gas found in wells drilled in the planning area (Peterson and Grow 1995).

Sedimentary rocks of the Mesozoic-age consist primarily of sandstone and shale, are about 10,000 feet thick, and belong to the Moenkopi and Chinle formations. The Mesozoic rocks are found primarily in southeast Lincoln County. There also are intrusive igneous rocks from the Jurassic and Cretaceous consisting of granite-like rocks including monzonite, quartz monzonite, and granodiorite. Important Cretaceous-age intrusive rocks include quartz monzonite that is associated with the mineralization at the Robinson, Bald Mountain, and Mount Hamilton Mining districts. Jurassic-age intrusive igneous rocks are found in the Snake Range (Tschanz and Pampeyan 1970; Hose et al. 1976).

Tertiary-age strata consists of sedimentary and volcanic rocks. The sedimentary formations, as described below, are not continuous over the area but are defined in local areas. Equivalents may be present from basin to basin, but are not identified as distinct formations. The Tertiary-age sedimentary deposits are part of the valley fill sediments that range in age from lower Tertiary to Recent. The thickness of the valley fill varies from basin to basin, but can be thousands of feet thick. The oldest sedimentary unit is the Sheep Pass Formation that is slightly more than 3,000 feet thick and is composed of lake-derived limestone, sandstone, and siltstone (Hose et al. 1976). The type section for the Sheep Pass Formation is located on the crest of the Egan Range. The lower part of the formation is a conglomerate that is composed of fragments from older Paleozoic formations. Invertebrate and vertebrate fossils in the formation indicate that it is Eocene in age, but Peterson and Grow (1995) also indicate that it may be Paleocene. Other later Tertiary-age sedimentary deposits include the Pliocene-age Muddy Creek and Panaca formations that are found in the southern part of the planning area. These units were deposited in lakes and consist of sand, silt, clay, and limestones (Tschanz and Pampeyan 1970). Other younger Tertiary sedimentary deposits present in the planning area were dated on the basis of the presence of vertebrate fossils, but they have no specific formation names (Hose et al. 1976).

Many of the Tertiary rocks are composed of volcanic-derived materials called ignimbrites that are formed from ash flow-type volcanic eruptions. The Tertiary volcanic rocks range in age from late Eocene to Pliocene, but the thickness is undetermined. Some measured sections are over 2,000 feet thick (Cook 1965). However, there is a general trend that the Tertiary volcanic rocks are thicker in the south (possibly from 5,000 to 10,000 feet thick) and thinner to the north (Tschanz and Pampeyan 1970; Hose et al. 1976). In some areas, the Tertiary sediments and volcanics are interbedded, and some of the sedimentary deposits are primarily composed of volcanic materials. Tertiary intrusive rocks also are present, but are not well exposed on the surface and the outcrops are scattered on various mountain ranges throughout the planning area. The intrusives include granite, granodiorite, monzonites, quartz monzonites, and diorites. Rhyolite, dacite, quartz latite, and other shallow intrusive rocks may have been the source for volcanic ash flows.

Late Tertiary, Quaternary, and Recent sedimentary deposits consist of unconsolidated materials and include lake deposits, playas, dunes, alluvium, and alluvial fans. These deposits may be thousands of feet thick in the valleys, but much of the originally deposited material may have already been eroded (Tschanz and Pampeyan 1970). The lake deposits, playas, and dunes generally are composed of fine-grained materials, and the alluvium and alluvial fans contain coarse-grained materials.

Structural Geology

The geologic structure of the Great Basin was created by interactions between the North American and Pacific tectonic plates (Rowley and Dixon 2001). The geologic structure of the planning area is complex, because successive episodes of faulting have obscured earlier faulting. There are four major types of fault styles in the planning area: low angle reverse, ecoulement, strike-slip, and normal faults (Tschanz and Pampeyan 1970; Hose et al. 1976). The low angle reverse (or thrust) faults are associated with an episode of mountain building (the Sevier Orogeny) that occurred in the mid to late Mesozoic and possibly into the early Cenozoic (Price et al. 1999). The Sevier Orogeny was characterized by compressional movement that caused strata to be uplifted and moved laterally over other strata, often for tens of miles. The resultant thrust faults caused older rocks to be moved over younger rocks. Major thrust faults have been defined by oil and gas exploration in northeastern Nevada (Moulton 1984).

The second type of fault or dislocation, the ecoulement, is caused by the sliding of large blocks due to uplift and tilting. It is believed that large ecoulements (gravity slides or detachments) occurred during the mid to late Tertiary in response to uplift caused by the upward movement of magmas coupled with extension of the crust (Francis and Walker 2001). Possible examples of gravity sliding have been found in the Mormon Mountains, the Bristol Range, the Pintwater Range, and the southern Egan Range (Tschanz and Pampeyan 1970). The western side of the Grant Range also may be bounded by a large detachment fault (Montgomery 1997; Francis and Walker 2001).

The third type of faulting, strike-slip faults, are caused when pieces of the crust move past each other laterally. There are two major strike-slip faults in southwestern Lincoln County, cutting across the grain of the mountain ranges in a generally southwest to northeast direction (Tschanz and Pampeyan 1970). These faults are thought to have occurred in the late Tertiary and are believed to be analogous to major active strike-slip faults like the San Andreas in California where movement is in response to major plates of the earth sliding past one another. The Ely-Black Rock Fault, a major northwest-southeast strike-slip fault, cuts across White Pine County along a line from Baker to Ely and to the western edge of the county (Thorman and Kentner 1979). The Ely-Black Rock Fault is thought to be related to crustal adjustments caused by the Sevier Orogeny.

The fourth type of fault style, the one that caused the present-day physiography (basin and range) is normal faulting. Most of the mountain ranges are bounded on at least one side by a major high-angle normal fault. The mountains represent the uplifted blocks and the valleys are downthrown blocks. The amount of displacement on the faults can range from 1,000 to 15,000 feet or more (Bortz and Murray 1979; Hose et al. 1976). The present-day structure began to evolve about 20 million years ago as movement of the Pacific plate began to cause crustal extension that resulted in the dominant normal faulting (Rowley and

Dixon 2001). Most of the normal faulting in eastern Nevada is believed to have occurred in the late Tertiary, but many faults were active into the Quaternary (Howard et al. 1978). It is believed that many of these high-angle faults flatten at depth and intersect a zone of detachment that may be related to earlier thrust faulting (Eaton 1979). Erosion of the mountain blocks resulted in the deposition of thousands of feet of valley fill on the downthrown blocks.

Geologic Hazards

The two major types of geologic hazards that have the potential to affect the planning area are earthquakes and landslides. Because of the nature of the geology in the area, the potential for each of the above-named hazards to affect the area is low. Each of the hazards is discussed below.

Earthquakes. Earthquakes occur when movement occurs on faults and energy is released into the surrounding rocks. The severity of an earthquake is dependent on a variety of factors including the amount of movement that has occurred on the fault, the composition of the surrounding rock, and distance from the source of the earthquake. In order to assess the potential severity of earthquakes in any given area of the country, the U. S. Geological Survey has developed seismic hazard maps that try to predict the amount of ground motion that could occur from a severe earthquake (U.S. Geological Survey 2002). Based on the ground motion map, the planning area is not expected to experience strong ground motions that would cause substantial damage to buildings or other structures. However, in the south-central portion of Lincoln County is an area that might expect stronger ground motions than the rest of the planning area. Data compiled by the Nevada Bureau of Mines and Geology (1999) shows a large number of small seismic events in that portion of Lincoln County.

Landslides. Landslides are relatively rare in the Basin and Range province (Radbruch-Hall et al. 1982). The most common large-scale movement of earth material occurs as debris flows that occur as a result of torrential rains. Landslides in the area commonly occur where volcanic sediments are capped by more resistant rocks and erosion of underlying softer material creates unstable situations. Landslides also can occur where fractured carbonate and crystalline rocks form steep slopes and the fracture planes coupled with erosion cause instability. In addition, slope instability can result from anthropogenic causes such as construction and mining.

3.18.2 Mineral Resources

The planning area manages the mineral resources on 11.5 million acres of federal land. Most of this acreage includes surface and mineral ownership. Within legal constraints, all publicly owned minerals are available for exploration, development, and production, while subject to existing regulations, standard terms and conditions, and stipulations. Federally owned minerals in the public domain are classified into three categories: leasable minerals, locatable minerals, and mineral materials as discussed below. The classifications are based on acts passed by the U.S. Congress.

Leasable minerals are those minerals that are leased to individuals for their exploration and development. The leasable minerals have been subdivided into two classes, fluid and solid. Fluid minerals include oil and gas; geothermal resources and associated by-products; and oil shale, native asphalt, oil impregnated sands

and any other material in which oil is recoverable only by special treatment after the deposit is mined or quarried. Solid leasable minerals are specific minerals such as coal and phosphates. All minerals on acquired lands are considered to be leasable minerals. Leasable minerals are associated with the following laws: Mineral Leasing Act of 1920, as amended and supplemented, Mineral Leasing Act for Acquired Lands of 1947, as amended, and the Geothermal Steam Act of 1970, as amended.

Locatable minerals are those that have been described as "valuable mineral deposits." These include precious and base metal ores such as gold, silver, copper, or lead, and certain industrial minerals such as gypsum, chemical grade limestone, and chemical grade silica sand. Uncommon varieties of mineral materials such as pozzolan, decorative stone, pumice, rock, and cinders also are regulated as locatable minerals. These minerals are regulated under the General Mining Law of 1872, as amended, and Surface Use and Occupancy Act of July 23, 1955.

Mineral materials are common mineral materials that include sand, gravel, rock, and common clay. Mineral materials are sold through contract and are regulated under the Mineral Material Act of July 23, 1947, as amended, and the Surface Use and Occupancy Act of July 23, 1955.

The Mining and Mineral Policy Act of 1970 declares that it is the continuing policy of the federal government to foster and encourage private enterprise in the development of domestic mineral resources. Section 102 of the Federal Land Policy and Management Act directs that the public land be managed in a manner which recognizes the nation's need for domestic sources of minerals and other commodities from the public lands, while managing these lands in a manner that would protect scientific, scenic, historic, archaeological, ecological, environmental, and atmospheric and hydrological values. The BLM's mineral policy states that, "Public lands shall remain open and available for mineral exploration and development unless withdrawal from other administrative actions is clearly justified in the National interest."

Leasable Minerals

Oil and Natural Gas. Although commercial hydrocarbons have not been discovered in the planning area, oil is produced from fields just outside of the planning area in the Railroad Valley in northeast Nye County and also in areas north and northwest of the planning area in Eureka and Elko counties. Although the northern part of Railroad Valley extends into the planning area, no commercial oil production has been established in the planning area portion of the valley. The fields in Eureka County are located in the Pine Valley (Nevada Division of Minerals 2002), and another field is located in central Elko County. These fields are not as prolific as the Railroad Valley fields.

Oil was discovered in Railroad Valley in 1954 at Eagle Springs. Almost 41 million barrels of oil were produced from oil fields in the Railroad Valley from 1954 through 2001, with Grant Canyon being the largest producer (Nevada Division of Minerals 2002). The fields are characterized by complex traps, and crude oil is the primary hydrocarbon commodity. A total of nine producing fields have been discovered in the Railroad Valley, some of which have had prolific production wells such as at Grant Canyon. Most of the 21 million barrels of oil produced at Grant Canyon came from just 2 wells (Montgomery 1997). For a period of time, the wells at Grant Canyon had some of the highest daily producing rates for onshore oil wells in the contiguous

U.S. Hydrocarbon reservoirs in Railroad Valley include the Garrett Ranch, Sheep Pass, and Guilmette formations as well as an unspecified Devonian-aged zone at Ghost Ranch. The Garrett Ranch Formation is an uncommon type of petroleum reservoir composed of ignimbrites (volcanic rock) (Bortz and Murray 1979). The carbonate rocks of the Sheep Pass Formation also produce at two fields in the Railroad Valley, but the Sheep Pass Formation may be of lesser importance as a reservoir than as a possible hydrocarbon source rock. All the named hydrocarbon reservoirs and potential source rocks are present in the planning area.

Exploration for oil and gas has been conducted in the planning area since 1920 when the Illipah Syndicate drilled a well in the Barrel Springs area of the White Pine Range in White Pine County. The well was drilled in Section 11, Township 17 North, Range 58 East and reached a total depth of 929 feet with gas and oil shows (evidence of oil and gas) (Garside et al. 1988). The Illipah Syndicate drilled three more wells in the 1920s in the Barrel Springs area with numerous oil and gas shows, but with no commercial results.

About 181 wells have been drilled in the planning area since the 1920s (Snow 2003). Since 1950, slightly more than 170 wells have been drilled in the planning area, and 90 percent of them were abandoned with no production. Many wells had abundant evidence of the presence of hydrocarbons, but not in commercially producible quantities. About 9 percent were indicated to be productive, but no fields were established, and it is likely the wells proved uneconomic over a short period of time (Garside et al. 1988). A small percentage of wells were converted to disposal wells or water wells. Drilling activity in the 1950s was sparse with only one well drilled in some years, and in other years no drilling occurred. Since 1964, an average of about 4 wells per year have been drilled in the planning area, with most of the wells being drilled in White Pine County (Hess 2001). However, 50 wells have been drilled in the Nye County portion of the planning area, and most of those are in the Railroad Valley. Most of the drilling occurred on federal leases, and the overwhelming amount of leased minerals are owned by the federal government.

More than one-third of the wells in the planning area were drilled to depths of between 2,500 and 5,000 feet. A little more than 5 percent of the wells were drilled to more than 10,000 feet deep. The deepest well in the planning area, drilled in 1983, was the Commodore Resources Outlaw Federal #1 drilled to a total depth of 13,000 feet in White Pine County (Section 1, Township 10 North, Range 70 East). The well was drilled east of the Snake Range and had reported hydrocarbon shows, but tests on the oil were not conclusive of naturally occurring hydrocarbons (Poole and Claypoole 1984).

The U.S. Geological Survey (Peterson and Grow 1995) estimated the potential undiscovered technically recoverable hydrocarbon resources for the Eastern Basin and Range area, of which the planning area is part. Their estimates, when extrapolated to the planning area, indicate that the potential hydrocarbon resource in the planning area is nearly 98 million barrels of oil and almost 16 billion cubic feet of natural gas. These estimates are the mean values presented by Peterson and Grow (1995). Low-grade coal (lignite) is present in the planning area, but mineable deposits have not been found. Therefore, there is very low or no potential for coalbed natural gas resources in the planning area. Therefore, coalbed natural gas is not included in the natural gas resource estimate.

Based on the foregoing, much of the planning area has a high potential for hydrocarbons based on the following geologic characteristics:

- Presence of hydrocarbon source rocks
- Evidence of thermal maturation
- Presence of reservoir rocks with adequate porosity and permeability
- Potential for hydrocarbon traps to exist

There are places in the planning area where Precambrian-age metamorphic and volcanic rocks are the dominant surface rock types, but the presence of these rocks does not preclude the potential for the occurrence of deeper hydrocarbons in these areas. It is possible that hydrocarbon resources may have been buried by thrust faults or extrusive igneous rocks and that current exploration techniques, exclusive of random drilling, cannot define the location or depth of these hidden potential resources.

Geothermal Energy. Geothermal resources are an important source of energy in Nevada. In the western and central part of the state there are a number of geothermal power plants (Shevenell et al. 2000). In the year 2000, there were a reported 15 geothermal power plants with a total capacity of nearly 229 megawatts. Essentially, hot groundwater is tapped by drilling wells and is used to power turbines to generate electricity. Other applications of geothermal energy in Nevada involve using geothermal heat for uses from industrial to recreational activities ranging from vegetable dehydration to spas and pools.

The northwest part of Nevada has the highest occurrence of water temperatures greater than 75 degrees Centigrade (Garside 1994). The high temperatures are believed to be related to circulation of groundwater along faults in an area of higher heat flow. In the eastern and southern parts of the state, there are generally low to moderate temperature geothermal resources. The source of the heat is believed to originate from the circulation of groundwater in fractured carbonate aquifers. The area of low to moderate temperature geothermal resources includes the planning area. Although the planning area is within an area dominated by low to moderate geothermal temperatures, there are six hot wells (greater than 37 degrees Celsius) in the planning area; the hottest well is located in the northern Steptoe Valley with a recorded temperature of 151 degrees Celsius (Garside 1994; Shevenell et al. 2000). In addition, there are several hot springs, mainly located in White Pine and eastern Nye counties. There are numerous warm springs and wells (less than 37 degrees Celsius) scattered throughout the planning area. In Caliente and Ash Springs, warm springs are used for pools, spas, and space heating.

Areas of established geothermal production are categorized as known geothermal resource areas. There are no known geothermal resource areas in the planning area. Only one current geothermal lease is active in the planning area. The lease consists of 1,004 acres and is in the Cherry Creek area.

Solid Leasable Minerals. Solid leasable minerals include coal, oil shale, phosphate, and sodium minerals. Minerals that normally would be locatable but occurring on acquired lands also are leasable. There are no known economic deposits of these commodities in the planning area and there are no active leases for solid leasable minerals.

Locatable Minerals

The planning area contains numerous types of locatable mineral deposits. The following is a summary of the major locatable mineral deposits in the planning area.

- Copper has been the most important locatable mineral resource in the planning area. Since 1906, copper has been mined at the Robinson Mining District, just west of Ely, Nevada. The district has produced over 5 billion pounds of copper (Hose et al. 1976). The remaining reserve is estimated at 200 million tons of copper ore. Operation and production were renewed at the Robinson Mine in late 2004.

- Gold is an important commodity that was produced at the Robinson District, but also is found in many mining districts in the planning area. Gold presently is being mined at the Bald Mountain District in northwest White Pine County. Small scale placer mining of gold is occurring in the Osceola District. There is an estimated 30 billion tons of disseminated gold in the Bald Mountain-Alligator Ridge area (Ilchik 1996). Important gold deposits also have been mined in the Delamar District in Lincoln County (Tschanz and Pampeyan 1970). Minor amounts of gold were produced from deposits in the Nye County portion of the planning area (Kleinhampl and Ziony 1985).

- Lead and zinc have been mined in the planning area. Important mining districts include the Pioche, Jackrabbit, and Bristol in Lincoln County (Tschanz and Pampeyan 1970). Lead and zinc also are present in many mining districts in White Pine County (Hose et al. 1976)

- Silver has been an important commodity in the planning area as bonanza silver deposits are associated with lead, zinc, and gold deposits. Important silver deposits were mined in the Pioche, Bristol, Jackrabbit, Highland, and Groom districts in Lincoln County (Tschanz and Pampeyan 1970). Silver was produced as a by-product of copper production at the Robinson District. Substantial amounts of silver also were produced in the Hamilton, Cherry Creek, Ward, and Taylor districts in White Pine County as byproducts of gold mines (Hose et al. 1976).

- Tungsten has been mined at the Tempiute District in Lincoln County and in the Cherry Creek District in White Pine County (Tschanz and Pampeyan 1970; Hose et al. 1976).

- Pozzolana, a commodity derived from volcanic ash, has been mined in Lincoln County. Increased demand for pozzolana (used in making concrete) has resulted in proposals for new mining operations.

- Radioactive mineral deposits occur as uranium mineralization associated with other mineral deposits and as uranium mineralization in sedimentary and volcanic rocks. To date, none of these deposits have been put into production. The following types of uranium mineralization have been identified in the planning area (Garside 1973):

  - Uranium mineralization associated with volcanic tuffs and tuffaceous sedimentary rocks. This type of mineralization is common in the Panaca Formation of Lincoln County.

- Uranium and anomalous radioactivity associated with quartz veins and quartz fluorite veins.
- Uranium and anomalous radioactivity associated with secondary iron and manganese oxides within and adjacent to sulfide mineral deposits.
- Reports of anomalous radioactivity in mine dumps and mine workings.
- Uranium mineralization associated with the gold deposits of the Atlanta District in Lincoln County.

Mineral Materials. Sand and gravel are the most common types of mineral materials sold on public lands. These materials are found throughout the planning area, usually in alluvial fans along the edges of the valleys. Common varieties of limestone, slate, and quartzite rocks are quarried for building stone and landscape materials.

3.18.3 Trends

Leasable Minerals

Oil and Natural Gas. As of January 2005 there were 459 federal oil and gas leases covering approximately 1.0 million acres in the planning area (see **Map 3.18-1**). As federal oil and gas leases expire, those lands may be nominated for leasing again. The Ely Field Office conducts lease sales every quarter. For the 13 lease sales held from 2000 through 2004, a total of approximately 1.2 million acres were leased in competitive and non-competitive categories. An annual summary of the lease sales is shown in **Table 3.18-2** (ENSR 2004a). Total bonus bids received for the period, rental, and fees received were $2,283,121. Half of the bonus money bid for public domain minerals went to the State of Nevada. The remainder of the bonus money stayed with the federal treasury, where it was split between the conservation fund and the general fund on a 4:1 ratio, respectively.

Table 3.18-2
Lease Sale Summary 2000 – 2004
Planning Area

Year	Number of Leases[1]	Average Acreage Per Lease	Total Acreage Leased/Year	Average Bonus + Rental + Fees (dollars)	Total Bonus + Rental + Fees (dollars)
2000	33	3,079	95,199	4,688	154,714
2001	172	3,509	533,876	5,888	1,012,766
2002	29	3,766	109,226	6,214	180,199
2003	56	1,392	72,453	3,868	216,583
2004	119	2,673	287,969	6,092	718,859
Total	409		1,098,723		2,283,121
Average/Year			219,745		456,624

[1] Source: LR2000.

Based on recent historically high oil and gas prices, the lease inventory may increase over the next few years. However, acreage additions would be offset by leases that would expire if commercial hydrocarbons are not discovered. It cannot be predicted at this time how much acreage eventually would be held by production, which is entirely dependent on the discovery of commercial oil and gas fields. Revenues generated from lease rentals alone in the planning area could generate millions of dollars during the 2005 to 2025 period. If substantial oil and gas discoveries are made, making offered leases more attractive and bidding up of the bonuses, substantially more revenue could be generated.

It is anticipated that several hundred wells could be drilled during the planning period, especially if there are new field discoveries (see Section 4.18). As with the leasing activity, the number of wells drilled will be dependent on the commodity price.

Historically, oil discoveries in Nevada have been located in the valley floors adjacent to the mountains. For planning purposes, all of the valley areas are considered to have high development potential. New regional discoveries and a recent oil and gas resource assessment, however, indicate that a large amount of exploration could take place in mountains (U.S. Geological Survey 2005).

Drilling trends may fluctuate greatly, from no drilling occurring over 5 consecutive years to half of the wells being drilled in a 10-year period. Each new discovery would foster an increase in drilling activity that may last for 2 to 3 years. In addition, advances in technology that facilitate the discovery and production of hydrocarbons could affect the amount of exploratory drilling and subsequent developmental drilling that could occur.

Geothermal Energy. In spite of the existence of hot temperatures recorded in geothermal exploration wells, very limited exploration and development is expected to occur. Up to 30 geothermal gradient wells may be drilled resulting in one exploration well. If a geothermal resource is discovered that would support a power generation plant, a total of three geothermal wells could result with other infrastructure such as generating facilities, pipelines, power lines, and roads.

Solid Leasable Minerals. There are no known deposits of solid leasable minerals within the planning area. There are no leases of minerals on acquired lands that would be managed as solid leasables. The planning area does not expect to see much change in this status in the future.

Locatable Minerals

With the recent rise in metal prices, both the Robinson copper mine and the Bald Mountain gold mine continue to develop additional ore resources and expand operations. The highly productive Carlin-Cortez Trend may extend into White Pine County, suggesting the potential for future gold discoveries. Given the lower gold prices in the late 1990s, gold mining in the Carlin Trend focused on development of new reserves near existing mines and infrastructure. However, recent increases in the price of gold have encouraged exploration activities in addition to the expansion of existing mines (Jonathan and Meeuwig 2006). The Carlin Trend accounted for half of Nevada's total gold production in 2005.

For the Nevada gold industry to expand beyond the Carlin Trend and develop new deposits in White Pine and Lincoln counties would require sustained gold prices above $350 per ounce and preferably above $400 per ounce. Prices at those levels are needed because of the increased total operating costs and startup costs that would be incurred developing new mines in areas that do not have the infrastructure to support large-scale mining. Thus, the economics of the U.S. gold industry and the economics of the "new" Nevada gold industry that has resulted from the consolidation of mining companies favors development of new reserves in areas of existing mining, rather than exploration and development in new areas. The Nevada gold industry has proven reserves sufficient for at least another 15 years of mining in the Carlin Trend. There is, therefore, no short-term pressure on the Nevada gold industry to replace reserves through exploration in "unproven" areas. However, recent increases in the price of gold to values above $600 per ounce have resulted in renewed exploration interest in White Pine County. Many smaller gold deposits were discovered and mined between 1985 and 1995 when gold prices generally exceeded $300 per ounce. It is expected that gold exploration in White Pine County and in the planning area would continue to increase over the next 20 years if gold prices stay above $350 per ounce.

Copper is a commodity controlled by world supply and production costs in third-world countries. Copper prices were below $1.00 per pound in the late 1990s and began to recover during 2003 (Jonathan and Meeuwig 2006). Copper prices went to over $3.00 per pound in 2006, but dropped back to $2.50 per pound in early 2007. However, continued world-wide demand should keep copper prices strong and the price by spring 2007 had advanced over $3.00 per pound.

Other locatable mineral commodities in the planning area, such as lead, uranium, zinc, and tungsten, are not likely to be produced over the next 20 years unless commodity prices rise and encourage exploration and development of these minerals.

Mineral Materials. The demand for mineral materials has increased in the last decade. In Nevada, the main population growth over the past 10 years has been in the Las Vegas area. Sand and gravel are in increasing demand to meet the needs for new construction throughout Southern Nevada. There also is an increased demand for decorative rock and landscape material which has an even wider market throughout the western states. This trend for increased demand of these mineral materials is expected to continue.

3.18.4 Current Management

Leasable Minerals

Mineral operations for leasable minerals are conducted under Title 43 Code of Federal Regulations Subpart 3100 for oil and gas, Title 43 Code of Federal Regulations Subpart 3200 for geothermal resources, and Title 43 Code of Federal Regulations Subpart 3500 for solid leasable minerals. Oil, gas, and geothermal are referred to as fluid leasable minerals. These regulations provide for processing these types of mineral case files. The regulations are further defined for exploration versus development. The operator may conduct geophysical exploration under Title 43 Code of Federal Regulations Subpart 3150 for oil and gas, and Title 43 Code of Federal Regulations Subpart 3252 for geothermal exploration. The development and production of oil and gas is conducted under Title 43 Code of Federal Regulations Subpart 3160, and for

geothermal resources under Title 43 Code of Federal Regulations Subpart 3261. Solid leasable exploration is conducted under Title 43 Code of Federal Regulations Subparts 3505 and 3506. Leases for solids are issued under Title 43 Code of Federal Regulations Subparts 3507 and 3508, while operations are conducted under Title 43 Code of Federal Regulations Subpart 3517. These regulations provide for an interdisciplinary review of any proposed exploration, drilling, or production operation. These activities have additional resource protection through mitigation measures developed through the environmental reviews.

Management decisions would follow Interim Management Policy and guidelines for mineral leasing in wilderness study areas and instant study areas. Leases that have been grandfathered in wilderness study areas would conduct operations as outlined in the Interim Management Policy and guidelines. All wilderness study areas would be closed to leasing (non-discretionary). Should Congress release all or part of any of the wilderness study areas, the lands would return to multiple-use management and may be generally available for leasing.

Oil and Natural Gas. At present, the Egan Resource Area in White Pine County and the desert tortoise habitat area in southern Lincoln County are the only two management units in the planning area where oil and gas leases are being issued. The leasing is conducted in accordance with the Egan RMP, Oil and Gas Leasing Amendment and Record of Decision (BLM 1994a) and the Caliente MFP amendment for Desert Tortoise (BLM 2000a). Leasing in the Schell and Caliente Resource Areas has occurred in the past and valid leases are in effect, but issuance of leases was discontinued in those areas because of uncertainties regarding adequacy of the current MFPs to provide for oil and gas leasing. Application for permits to drill can be approved on leases outside of the Egan Resource Area, but no new leases can be issued.

In Nevada, the State of Nevada Division of Minerals has a Memorandum of Understanding with the BLM for the regulation of oil and gas activities. The Ely Field Office conducts the inspection of well sites on BLM-administered lands and may conduct the inspections on state and fee lands. BLM requires operators to file the BLM forms pursuant to conducting oil and gas exploration and production activities; the operator is required to submit the state form for all exploration and production. In addition, when drilling on federal lands, drilling permit applications must be submitted to both the Ely Field Office and Nevada Division of Minerals.

Geophysical operations, both on and off an oil and gas lease, are reviewed by the federal surface management agency, which can include the BLM, Bureau of Reclamation, or U.S. Forest Service, as appropriate. Prior to earth disturbing activities, the operator is required to file a notice of intent to conduct oil and gas geophysical exploration operations. Upon completion of operations, including any required reclamation, the operator is required to file a Notice of Completion. If the terms and conditions have been met, the operator is released from further action. Consent to release the bond or termination of liability is not granted until the terms and conditions have been met.

Permitting of oil and gas wells are governed by procedures set forth by the Onshore Oil and Gas Order No. 1, "Approval of Operations," issued under Title 43 Code of Federal Regulations Subpart 3164 (BLM 1983). Onshore Order No. 1 lists the following as pertinent points to be followed by the lessee or operator: 1) notice of staking; 2) filing of permit application, which includes a 12-point surface use plan of operations and a 9-point drilling plan; 3) approval of subsequent operations; 4) well abandonment/

conversion to water well; 5) operator/leasee responsibilities on lands with non-federal surface and federal oil and gas; 6) operations on Indian oil and gas leases (if applicable); 7) rights-of-way and special use authorizations (if applicable); and 8) reports and activities required after well completion. Oil and gas activities potentially impacting identified resource values and/or land uses will have constraints in the form of stipulations included as conditions of lease issuance to provide protection of those resource values and/or land uses. If other resources have been identified through the environmental review process associated with applications for permit to drill, appropriate mitigation measures and best management practices will be attached as conditions of approval for all permits. Best management practices have been consolidated in the Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, The Gold Book (BLM 2006).

Geophysical surveys, applications for permit to drill, and associated rights-of-way will be evaluated with an appropriate level of environmental review, which may include categorical exclusions, a Documentation of NEPA Adequacy, or site-specific NEPA analysis.

Geothermal Energy. For geothermal drilling in Nevada, as in oil and gas drilling, permit applications must be filed with both the Ely Field Office and Nevada Division of Minerals. In addition to drilling permits, geothermal operators must obtain a water well permit from the Nevada Division of Water Resources. A permit also must be obtained from the Nevada Division of Environmental Protection for the injection or surface disposal of geothermal fluids.

Geothermal exploration can include geophysical surveys, drilling temperature gradient wells, drilling holes used for explosive charges for seismic exploration, core drilling or any other drilling method (provided the well is not used for geothermal resource production), airborne exploration, off-road vehicular travel, road and trail construction, and rehabilitation. Exploration operations do not include the direct testing of geothermal resources or the production or utilization of geothermal resources. Production operations include production well drilling; direct testing of the geothermal resources; chemical sampling of the geothermal resource; road construction and improvement; production; maintenance of production facilities; waste disposal, construction camps; construction of electric transmission lines; and plant construction, development, and expansion. All the above-described activities are subject to impact analysis under NEPA. As in oil and gas operations, some activities (e.g., geophysical surveys) may not require a formal impact analysis. However, exploration wells and production developments may require impact assessment through an environmental assessment or EIS. Geothermal leases also can have attached stipulations that are used to protect other resources.

Locatable Minerals

Private individuals and corporations can acquire locatable minerals by staking mining claims. These mining claims are recorded in the local county courthouse and with the Nevada State Office of the BLM. Management of locatable minerals by the Ely Field Office consists mainly of managing surface disturbances associated with the mining of the minerals. Surface disturbances can consist of open pits, shafts and adits, leach pads, waste rock piles, tailings, and other disturbance of surface soils and vegetation to accommodate the infrastructure needed to support the mining.

Locatable mineral exploration and development are regulated under Title 43 Code of Federal Regulations Subpart 3809 (as amended) for public lands. These regulations provide for mineral activities on public lands while preventing unnecessary or undue degradation. The regulations also provide for reclamation of disturbed areas and coordination with state agencies. The amended 3809 regulations are effective at this time, and include substantial changes to the development of hard rock minerals. Under current regulations, activities under a notice are limited to an exploration operation less than 5 acres. A notice is not a federal action that requires compliance with NEPA, so no environmental documentation is prepared. The Ely Field Office does review notices to ensure that no unnecessary or undue degradation would occur. A financial guarantee is required to reclaim 100 percent of the disturbance for all notices.

All other mining operations, except casual use, are required to file a plan of operations regardless of the number of acres disturbed. A plan also is required for all exploration activities that disturb over 5 acres, bulk sampling which would remove 1,000 tons or more of presumed ore for testing, or for any surface-disturbing operations greater than casual use in certain Special Management Areas such as ACECs. The approval of plans of operation is a federal action that requires NEPA compliance. Mining claim use and occupancy under Title 43 Code of Federal Regulations Subpart 3715 also requires NEPA compliance. A bond is required for any surface disturbance related to mining to reclaim 100 percent of the disturbance.

Locatable mineral exploration and development for wilderness study areas are regulated under Title 43 Code of Federal Regulations Subpart 3802. Guidelines in the Wilderness Interim Management Plan would be followed for claims and operations within wilderness study areas and instant study areas. The Wilderness Interim Management Plan states that locatable mineral development and exploration activities within wilderness study areas can occur in accordance with the mining laws, but are currently limited to those actions that do not require reclamation. This policy restriction effectively closes wilderness study areas to mineral location. However, should the Wilderness Interim Management Plan be revised, or if Congress takes action to remove some areas from wilderness study area status, some of these areas eventually could become available for mineral location during the life of this RMP.

Mineral Materials. Mineral materials exploration and development is regulated under Title 43 Code of Federal Regulations Subpart 3600. The disposal of mineral materials is accomplished through competitive and noncompetitive sales contracts, free use permits, and sales in community pits and common use areas. Inspections of mineral materials operations are conducted in accordance with BLM policy. The goals of the mineral materials inspection program are: 1) an accurate accounting of materials removed; 2) proper compensation to the federal government; 3) protection of the environment, public health, and safety; and 4) identification and resolution of trespass.

All wilderness study areas would be closed to mineral materials disposal until Congress makes a decision regarding designation of these areas as wilderness. Areas not designated as wilderness could become available for mineral materials disposal during the life of the RMP.

3.19 Watershed Management

3.19.1 Existing Conditions

The planning area encompasses all or portions of 61 watershed management units. Broad basins, or valleys, and discrete mountain ranges, whose ridges form the boundaries between the watersheds, characterize the planning area watersheds (see **Map 3.19-1**). Watershed management units range from approximately 9,000 to approximately 767,000 acres in size. See **Table 3.19-1** for the acreage of watershed management units within the planning area.

Table 3.19-1
Hydrologic Watershed Management Units within the Planning Area[1]

Name	Number	Public Land Area (acres)	Name	Number	Public Land Area (acres)
Antelope Valley	119	199,300	Newark	121	483,000
Beaver Dam Wash	215	122,600	North Antelope	7	44,300
Big Sand Springs Valley	164	127,500	North Little Smoky Valley	143	56,000
Butte	9	420,100	North Spring Valley	120A	118,800
Cave Valley	181	223,400	Panaca Valley	210	201,500
Central Little Smoky Valley	122	131,100	Park Range	175	8,700
Clover Creek North	212N	82,600	Patterson Wash	187	257,300
Clover Creek South	212S	144,300	Railroad Valley	156	287,000
Coal Valley	188	293,100	Rose Valley	202	29,100
Coyote Springs	228	24,600	Ruby Valley	6	81,800
Deep Creek	118	87,100	Sand Hollow Wash	222	48,100
Delamar Valley	211	229,500	Sand Spring Valley	204	327,000
Dry Lake Valley	183	571,400	Smith Valley	131	34,100
Dry Valley	207	71,200	Snake Valley North	125	140,300
Duck Creek Basin	128	22,700	Snake Valley South	148	143,528
Duck Water	154	186,300	South Little Smoky Valley	176	25,400
Eagle Valley	206	13,600	South Spring Valley	120A	331,593
Egan Basin	123	42,500	South Steptoe	161	171,500
Emmigrant	220	15,900	Spring Valley	120B	389,353
Escalante Desert	208	66,800	Spring Valley Southeast	184E	91,400
Fox-gap Mountain	186	52,300	Spring Valley Southwest	184W	84,600
Garden Valley	185	210,700	Steptoe A	8A	45,100
Gleason Creek	136	40,900	Steptoe B	8B	260,500
Hamlin Valley	180	304,418	Steptoe C	8C	189,000
Huntington	4	94,055	Tikaboo Valley	213	245,100
Jakes Valley	129	192,700	Toquop Wash	230	185,200
Kane Spring Wash	217	158,800	Tule Desert	218	121,900
Lake Valley	182	339,500	White River Central	160B	645,300
Long Valley	117	402,900	White River North	160A	205,300
Meadow Valley Wash North	214A	229,600	White River South	160C	767,000
Meadow Valley Wash South	214B	322,900	**Total**		**11,478,613**

[1] Based on 5th level hydrologic unit subdivisions.

There are two main types of watersheds. One is the traditional Great Basin type of interior draining watershed that resembles an irregularly shaped bowl with the boundaries occurring at the highest portion (the rim) of the bowl. This type has a closed-drainage system that coalesces to a playa or old lake plain at the center. The other type is the externally draining watershed, which is traditional in shape but occurs in a desert climate. The network of stream channels begin as generally dry ephemeral stream channels high in the watershed and continue downslope joining other channels to form larger channels. These may join small perennial waters in some watersheds. These are desert areas where the precipitation infiltrates locally and mainly supports the on site vegetation. Most channels flow infrequently for brief periods of time during short intense precipitation events. Perennial waters exist only as outflow from springs or groups of springs. Subsurface water movement also occurs along many drainage courses (see **Tables 3.19-2**, **3.19-3**, and **3.19-4**).

3.19.2 Trends

Recently collected data indicates that the trend for general watershed function has been declining as indicated by increased woody species composition across many of the ecological sites in the landscapes, the increase in densities of roads and trails, and other indicators such as fire regime condition classifications. The Ely Field Office is incorporating policies and processes given in the Rangeland Health Standards H-4180-1 to do watershed analysis. Watershed analyses are being conducted to assess and evaluate whether or not land health standards (Resource Advisory Council rangeland health standards) are being achieved. These assessments and evaluations also incorporate those portions of allotment evaluations that pertain to these watersheds. This approach to watershed analyses can help facilitate multiple use management and productivity by achieving and maintaining Resource Advisory Council rangeland health standards.

3.19.3 Current Management

Since 1972 and the passage of the Clean Water Act, federal agencies have been working to prevent degradation of high quality waters and sensitive aquatic ecological systems and to restore degraded water resources. In 2000, federal agencies adopted a unified federal policy on watershed management as a framework for consistent and enhanced implementation of land management activities to meet their respective goals and mandates for watershed protection (U.S. Department of Agriculture et al. 2000). The adopted policy included standardization of the fifth-level classification of hydrologic units as the common unit for delineating, assessing, and classifying watersheds. Each agency is mandated to conduct and prioritize watershed analyses on a roughly 10-year cycle to guide the management of natural resources. Each watershed analysis is to determine existing and reference conditions in order to characterize the physical, biological, and chemical conditions and processes affecting water quality, aquatic resources, and overall watershed function.

Consistent with the unified federal policy for ensuring a watershed approach to resource management, Instruction Memorandum 2001-079 formally linked the watershed analysis process with the mandate to assess and evaluate rangeland health status (BLM 4180 Manual and 4180-1 rangeland health standards handbook, also Title 43 Code of Federal Regulations Subpart 4180). Implementation of this direction requires the assessment of resource conditions in relation to land health standards developed in concert

Table 3.19-2
Characteristics of Typical Large Watersheds in the Great Basin[1]

Watershed Characteristics						Reasonably Foreseeable Treatment		
Soils	Dominant Vegetation	Slopes	Dominant Vegetation State	Percent of Watershed	Estimated Percent Resilient Vegetation	Estimated Acres to be Maintained and Restored in 100,000-acre Watershed	Estimated Acres to be Maintained and Restored in 800,000-acre Watershed	Typical Treatment Applications (Tools) Restoration
On lake plain sediments or alluvial flats; precipitation 5 to 8 inches; elevation 5,500 to 6,000 feet.	Black greasewood, shadscale, sickle saltbush	0 to 2 percent	Shrubs are dominant.	16 percent	70 percent (shadscale, sickle saltbush) invasive annuals present in many areas	4,800	38,000	Herbicide, mechanical and seeding
On recent water-laid sediments; precipitation 8 to 10 inches; elevation 6,000 to 6,400 feet.	Basin and Wyoming big sagebrush, winterfat, shadscale communities	2 to 4 percent	Basin and Wyoming sagebrush at threshold: Approximately 30 percent shrubs and trees, 13 percent herbaceous (grass and forbs).	18 percent	25 percent in sagebrush communities, invasive annuals present in many areas	9,000	72,000	Herbicide, mechanical and seeding
On older water-laid sediments; precipitation 8 to 10 inches; elevation 6,000 to 6,400 feet.	Black sagebrush and Wyoming big sagebrush, winterfat	4 to 8 percent	Black sagebrush at threshold: Approximately 60 percent shrubs and trees, 30 percent herbaceous (grass and forbs).	22 percent	30 percent for black sagebrush; 25 percent for Wyoming sagebrush	11,000	88,000	Mechanical and seeding
On older water-laid sediments and low hills; precipitation 10 to 12 inches; elevation 6,400 to 7,000 feet.	black sagebrush and Wyoming big sagebrush	4 to 15 percent	Black sagebrush at threshold: Approximately 60 percent shrubs and trees, 30 percent herbaceous (grass and forbs).	20 percent	30 percent for black sagebrush, 25 percent for Wyoming sagebrush	10,000	80,000	Mechanical, herbicide, prescribed burn and seeding
	Pinyon and/or Utah juniper		Pinyon-juniper is in a mature (resilient) to over-mature state (not resilient).	2 percent	11 percent	1,000	8,000	Mechanical, herbicide, prescribed burn and seeding
On low mountain slopes; precipitation 12 to 14 inches;	Black sagebrush, mountain big sagebrush, low sagebrush	15 to 50 percent	Sagebrush is in the herbaceous state.	5 percent	40 percent	2,500	20,000	Mechanical, herbicide, and prescribed burn

Table 3.19-2 (Continued)

Watershed Characteristics						Reasonably Foreseeable Treatment		
Soils	**Dominant Vegetation**	**Slopes**	**Dominant Vegetation State**	**Percent of Watershed**	**Estimated Percent Resilient Vegetation**	**Estimated Acres to be Maintained and Restored in 100,000-acre Watershed**	**Estimated Acres to be Maintained and Restored in 800,000-acre Watershed**	**Typical Treatment Applications (Tools) Restoration**
elevation 7,000 to 8,200	Pinyon and/or Utah juniper		Pinyon-juniper is in a mature (resilient) to over-mature state (not resilient).	10 percent	11 percent	5,000	40,000	Mechanical, herbicide prescribed burn and seeding
On high mountain slopes; precipitation 14 to 16 inches; elevation 8,200 to 10,500	Big sage, low sagebrush, black sagebrush, curl leaf mountain Mahogany	30 to 75 percent	Sagebrush sites are in a herbaceous state.	5 percent	40 percent of the sagebrush	2,500	20,000	Prescribed burn and wildland fire use
	Mixed conifers, aspen stand (less than 1 percent)		Mixed conifer, are over mature.	2 percent	25 percent mixed conifer; 25 percent aspen stands	1,000	8,000	Prescribed burn, wildland fire use, and mechanical

[1] Typical large watersheds in the Great Basin range from 100,000 to 800,000 acres in size.

Table 3.19-3
Characteristics of Typical Small Watersheds in the Great Basin[1]

Watershed Characteristics						Reasonably Foreseeable Treatment		
Soils	**Dominant Vegetation**	**Slopes**	**Dominant Vegetation State**	**Percent of Watershed**	**Estimated Percent Resilient Vegetation**	**Estimated Acres Maintained and Restored 10,000**	**Estimated Acres Maintained and Restored 100,000**	**Typical Treatment Applications (Tools) Restoration**
On recent water-laid sediments; precipitation 8 to 10 inches, elevation 6,000 to 6,400 feet.	Basin and Wyoming big sagebrush, winterfat	2 to 4 percent	Basin and Wyoming big sagebrush at threshold: Approximately 30 percent shrubs and trees, 13 percent herbaceous (grass and forbs) invasive species.	4 percent	25 percent in sagebrush communities, invasive annuals present in many areas.	400	4,000	Herbicide, mechanical and seeding
On older water-laid sediments; precipitation 8 to 10 inches, elevation 6,000 to 6,400 feet.	Black sagebrush and Wyoming big sagebrush, winterfat	4 to 8 percent	Black sagebrush at threshold: Approximately 60 percent shrubs and trees, 30 percent herbaceous (grass and forbs).	17 percent	30 percent for black sagebrush, 25 percent for Wyoming sagebrush, invasive annuals present in many areas.	850	8,500	Herbicide, mechanical and seeding
On older water-laid sediments and low hills, precipitation 10 to 12 inches, elevation 6,400 to 7,000 feet.	Black sagebrush and Wyoming big sagebrush	4 to 15 percent	Black sagebrush at threshold: Approximately 60 percent shrubs and trees, 30 percent herbaceous (grass & forbs).	12 percent	30 percent for black sagebrush, 25 percent for Wyoming sagebrush.	600	6,000	Mechanical, herbicide, prescribed burn, and seeding
	Pinyon and/or Utah juniper		Pinyon-juniper is in a mature (resilient) to over-mature state (not resilient).	23 percent	11 percent	1,150	11,500	Mechanical, herbicide, prescribed burn, and seeding
On low mountain slopes, precipitation 12 to 14 inches, elevation 7,000 to 8,200 feet.	Black sagebrush, mountain big sagebrush, low sagebrush	15 to 50 percent	Sagebrush is in the herbaceous state.	30 percent	40 percent	1,500	15,000	Mechanical, herbicide, prescribed burn, and seeding
	Pinyon and/or Utah juniper		Pinyon-juniper is in a mature (resilient) to over-mature state (not resilient).	12 percent	11 percent	600	6,000	Mechanical, herbicide, prescribed burn, and seeding
On high mountain slopes, precipitation 14 to 16 inches, elevation 8,200 to 10,500 feet.	Mountain big sage, low sagebrush, black sagebrush, curl leaf mountain mahogany	30 to 75 percent	Sagebrush sites are in a herbaceous state.	1 percent	40 percent	50	500	Prescribed burn and wildland fire use
	Mixed conifers, aspen stands (less than 1 percent)		Mixed conifer is in the mature and over mature states.	1 percent	25 percent mixed conifer; 25 percent aspen stands.	50	500	Prescribed burn, wildland fire use, and mechanical

[1] Typical small watersheds in the Great Basin range from 10,000 to 100,000 acres in size.

Table 3.19-4
Characteristics of Typical Watersheds in the Mojave Desert[1]

Watershed Characteristics						Reasonably Foreseeable Treatment		
Soils	**Dominant Vegetation**	**Slopes**	**Dominant Vegetation State**	**Percent of Watershed**	**Estimated Percent Resilient Vegetation**	**Estimated Acres Maintained and Restored 45,000**	**Estimated Acres Maintained and Restored 330,000**	**Typical Treatment Applications (Tools) Maintenance and Restoration**
Fan remnant, precipitation 3 to 5 inches, elevation 1,750 to 2,500 feet.	Creosotebush,big galleta, white bursage	2 to 4 percent	Not known, data gap	15 percent	Not known, data gap	Maintenance of tortoise habitat, monitoring/inventory would identify acreage. Emergency rehabilitation on wild fire activity	Maintenance of tortoise habitat, monitoring/inventory would identify acreage. Emergency rehabilitation on wild fire activity	Maintenance and restoration through procedures identified in Biological Opinion and restoration plan for Desert tortoise
Water laid sediment, fan remnant, precipitation 3 to 5 inches, elevation 2,500 to 3,000 feet.	Blackbrush, big galleta, white bursage	4 to 8 percent	Not known, data gap	35 percent	Not known, data gap	Same	Same	Same
Water laid sediment, fan remnant, precipitation 5 to 7 inches, elevation 3,000 to 3,500 feet.	Blackbrush, Indian ricegrass, big galleta, white bursage	8 to 15 percent	Not known, data gap	15 percent	Not known, data gap	Same	Same	Same
Residual shallow soils on bedrock, precipitation 5 to 7 inches, elevation 3,500 to 4,200 feet.	Blackbrush, Indian ricegrass, big galleta	30 to 50 percent	Not known, data gap	35 percent	Not known, data gap	Same	Same	Same

[1] Typical watersheds in the Mojave Desert range from 45,000 to 330,000 acres in size.

with the local Resource Advisory Councils. Deviations from land health standards (see Chapter 2.0), also variously referred to as desired conditions, are identified, and factors are evaluated in the planning area according to a process generally described in Appendix A.

The watershed analysis approach allows the Ely Field Office to focus on flexible management techniques necessary to accommodate the functionality of the watershed. It allows for a shift from species and individual use-driven management to the natural systems that support watersheds in properly functioning conditions (see Glossary). Watershed analysis is to be applied to all 61 watershed management units in the planning area but can be used independently for small areas to facilitate implementation of restoration activities, without waiting for the full watershed analysis.

Watershed analyses are performed to determine if rangeland health standards are being met within a watershed. This involves an analysis of uses of vegetation by livestock, wildlife and wild horses as appropriate. It also involves analysis of other uses within the watershed. These include such things as: mineral exploration and/or development; off-highway vehicle use; and rights-of-way and corridor designations. If rangeland health standards are being met, the restoration strategy (a portion of the watershed analysis) would propose guidance of resource uses designed to maintain the healthy condition of the watershed. If standards are not being met, the restoration strategy would propose guidance of resource uses designed to improve the condition of the watershed.

To date, planning area implementation of the unified federal policy and 4180 Handbook direction has involved ongoing analysis of nine watersheds. Watershed analyses are in progress on the Antelope Valley, Clover Creek South, Gleason Creek, North Antelope, North Spring Valley, Smith Valley, South Steptoe, Spring Valley, and Steptoe A, with completion scheduled for 2008.

Ongoing watershed management in the planning area has substantial support from agricultural, conservation, cultural, environmental, and scientific interests through partnership with the Eastern Nevada Landscape Coalition. The Eastern Nevada Landscape Coalition is a non-profit, community-based organization formed in 2001 to facilitate the Ely Field Office's implementation of the Great Basin Restoration Initiative. It is dedicated to the restoration of diverse, dynamic, and resilient landscapes in the Great Basin.

3.20 Fire Management

3.20.1 Existing Conditions

Fire is an integral part of the ecological process of many plant communities in the Great Basin. Several of the vegetation types on the Great Basin portion of the planning area developed under a regime of intermittent fire and are adapted to the effects of fire in some way. Each vegetation type is characterized by a fire frequency, which varies in fire intensity by state. The herbaceous state of sagebrush-grassland communities is characterized by fine fuels carrying fires at a high frequency that burn rapidly with low intensity. In contrast to desert plant communities, the upper montane forest types receive higher amounts of precipitation and have cooler mean temperatures. The cooler and wetter conditions at the higher elevations foster plant growth, which in turn can provide higher resistance to fire for long periods, allowing fuels to accumulate. Conditions that promote burning at the higher elevations tend to occur in episodes such as drought cycles, with long intervals between them and higher relative fire intensity when they do occur.

Within each vegetation type, fire behavior varies with many factors including topography and site productivity. Highly productive sites, such as north slopes, generally have greater biomass and, therefore, can carry fires better than less productive sites characterized by less fuel. General fuel characteristics of broad vegetation zones of the planning area and their typical fire behavior are summarized in **Table 3.20-1**. Flashy fuels, such as cured out annual bromes and steep brushy mountain slopes, have the highest potential rates of spread. In contrast, where crested wheatgrass is dominant, fire hazards are lower, because it remains green later into the fire season. Historic fire return intervals for planning area vegetation types are summarized in **Table 3.20-2**.

Fire regimes in the Intermountain West have been altered greatly by the introduction of the nonnative annual bromes such as cheatgrass, historic livestock grazing, and nearly 100 years of fire suppression. Livestock grazing that decreases perennial grass cover and height also reduces the availability of fine fuels to carry fires when ignitions occur. Historic livestock grazing has combined with other factors, such as fire suppression, and succession to result in longer fire-free intervals and increased fuel accumulations. Fuel conditions across the Intermountain West have become a concern, especially to communities that adjoin undeveloped landscapes, commonly referred to as the wildland-urban interface. In these areas, high fuel loads can create hazards that combine with a high risk of ignition by humans and high values of homes, ranches, and other infrastructure. Although no structures were lost, the town of Pioche experienced a wildland fire in the wildland-urban interface in the spring of 2003.

3.20.2 Trends

The Ely Field Office cooperates extensively with other wildland firefighting agencies and units. Due to its central location in eastern Nevada, Ely is a major center for firefighting logistics and operations. Memoranda of Understanding between the Ely Field Office and surrounding public lands management agencies (e.g., Humboldt-Toiyabe National Forest, Elko Field Office) have been established and identify responsible parties for initial attack of fires on public lands. The Ely Field Office also has interagency fire

Table 3.20-1
General Fuel Characteristics of Broad Vegetation Types of the Planning Area

Vegetation	Current Fuel Descriptions	Typical (Current) Fire Behavior
Sagebrush dominated communities	Fuel volumes in all of the sagebrush communities vary substantially depending on site conditions and history.	Where grasses are present, fire spreads quickly. However, where fuel continuity is absent, winds are needed to spread. Burned areas generally are over 5,000 acres.
Salt desert shrub	Fuel loads generally are low.	Winds generally are needed to carry fire in sparsely vegetated areas. Natural barriers tend to inhibit fire sizes. Rapid spread generally requires wind.
Pinyon-juniper woodland	Sparse understory grasses due to high tree densities limit the ability to carry fire. Abundant woody fuel loads, including highly flammable resin and pitch, are widespread.	Fires are either single-tree low intensity events or wind-driven high intensity events covering thousands of acres.
Ponderosa pine/mixed conifer-upper montane forests	High accumulations of down and dead woody fuels combined with high vertical and horizontal fuel continuity.	Variable behavior from low intensity ground fires to stand-replacing crown fires.
Mountain meadows/ herbaceous grasslands	Native grass distribution keeps fuel loads low except where annual bromes have become dominant.	When annual grasses are "cured," the rate of spread typically is extremely high, and flame lengths can be unsafe for initial attack. Fires often burn on an annual basis.
Creosotebush-bursage	Fuel loads are predominantly influenced by the amount of red brome present which varies from year-to-year. This species is highly dependant on the amount of moisture received. In low moisture years, fuel loading is diminished while in high moisture years, the increased moisture can produce high amounts of fuel loading.	When the red brome cures, the rate of spread can be extremely high. Fires often burn on an annual basis.
Blackbrush	Typically fuel loading is low due to the limited understory of grass in the blackbrush. High moisture years can produce a greater understory which increases the fuel load.	In low moisture years, rates of spread can be low to moderate. In high moisture years, the rates of spread can be extremely high.

Table 3.20-2
Historic Fire Return Intervals of Vegetation Communities of the Planning Area

Vegetation Community	Historic Fire Return Interval (years)	Comments
Wyoming big sagebrush	90 to 140	Average approximately 90 years.
Basin big sagebrush	12 to 25	N/A
Mountain big sagebrush	40 to 80	Fastest recovery rate of the three subspecies of big sagebrush.
Black sagebrush	100 to 140	N/A
Salt desert shrub	1,000	Fire interval highly variable due to soils that range from wet to extremely droughty.
Pinyon-juniper woodland	100 to 500	Understory fires burned more frequently.
Mountain mahogany	100 to 500	Return intervals of 100 years for young stand, to 500 years for older closed stands.
Mixed conifer	Variable	Long intervals in bristlecone pine (300 + years), Engelmann spruce (150+ years), and limber pine (50 to 200 years). Shorter intervals in ponderosa pine (7 to 25 years) and white fir (6 to 20 years).
Aspen	20 to 40	Without fire, mixed conifers replace the aspen community.
Riparian/mountain meadows	Variable	Fire frequency is greater or equal to that of the adjoining forest type.
Creosotebush-bursage	unknown	It is thought that fires were an infrequent event. It appears that wildland fires was not historically a landscape dominating influence. However, with the increase in invasive species (e.g., red brome) fire interval have been dramatically shortened.

Source: www.landfire.gov.

agreements with the Nevada Division of Forestry, various municipalities, and local fire departments, which have primary responsibility related to private lands within the planning area boundary. Through additional agreements, the Ely Field Office also provides fire protection on tribal lands within the planning area boundary.

Wildland/Urban Interface – Pioche, Nevada
Photo by Dave Tilford

Between 1986 and 2005, approximately 932,737 acres burned in 3,263 wildland fires within the planning area. During the 2005 fire season, approximately 600,000 acres burned. This 19-year total represents 8 percent of the planning area and averages 49,091 acres and 171 wildland fires per year over all vegetation types combined. The majority of the 2005 fires occurred within Mojave Desert vegetation type. Wildland fires occurred in 7 of 18 vegetation communities during this period as shown in **Figure 3.20-1.** The 18 vegetation communities shown in **Figures 3.20-1** through **3.20-4** are based on a more refined land classification scheme than the vegetation classifications used elsewhere in this RMP/EIS. Greasewood and hopsage used in the fire analysis correspond to the salt desert shrub cover classes in **Table 3.5-2**.

As shown in **Figure 3.20-1,** the proportion of area burned in each of the broad vegetation types is roughly proportionate to their relative abundance in the planning area (**Table 3.5-2**). The exception is the grassland type where the high frequency of fire results in a disproportionately higher total number of fires and burned areas compared to its relative abundance on the overall landscape.

The predominance of acreage burned during this period were in the blackbrush community, followed by the pinyon-juniper woodland and bursage-creosote communities. The greatest frequency of fires during this period were in the pinyon-juniper woodland, followed by sagebrush and grassland communities. In contrast, all wildland fires in the greasewood, hopsage, playas, and barren communities amounted to less than 1 acre for all years combined.

Four large peaks (1987, 1996, 2001, and 2004) in the number of wildland fires in the planning area have occurred in the past 20 years from 1986 to 2005 (**Figure 3.20-3**). However, the greatest acreage burned in 1993, 1994, 1996, 1999, 2000, and 2005, when over 30,000 acres burned each year (**Figure 3.20-4**).

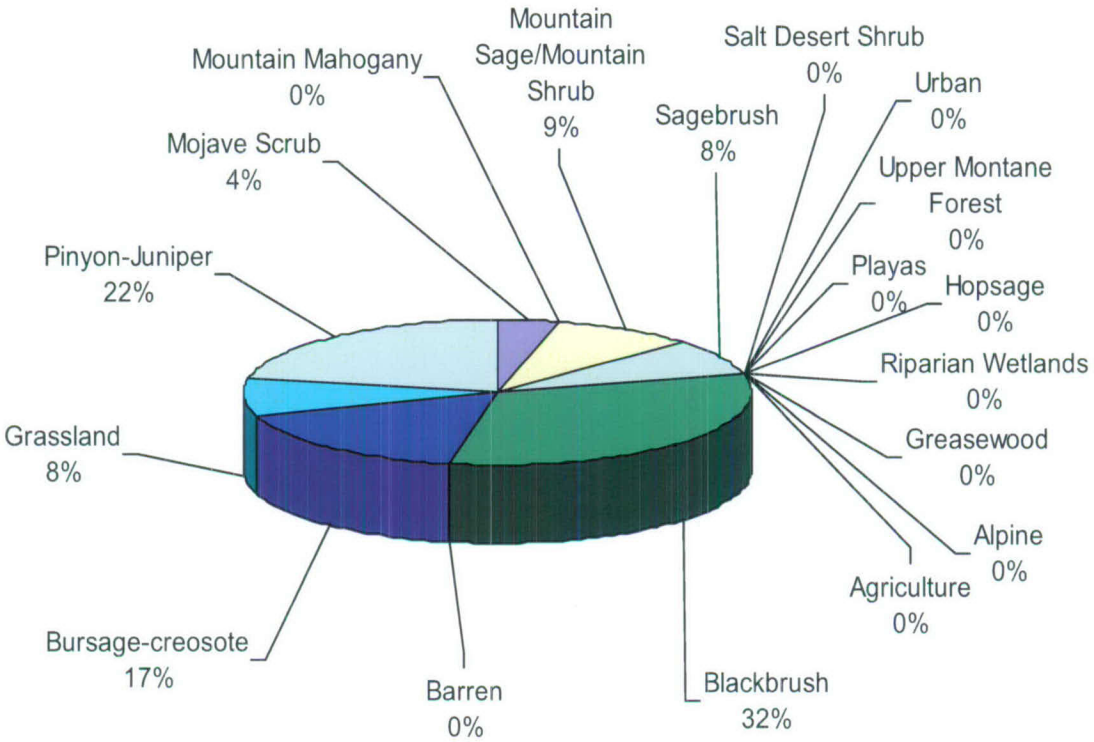


Figure 3.20-1. Proportion of Total Areas Burned in Wildland Fires by Vegetation Type (1986 to 2005)

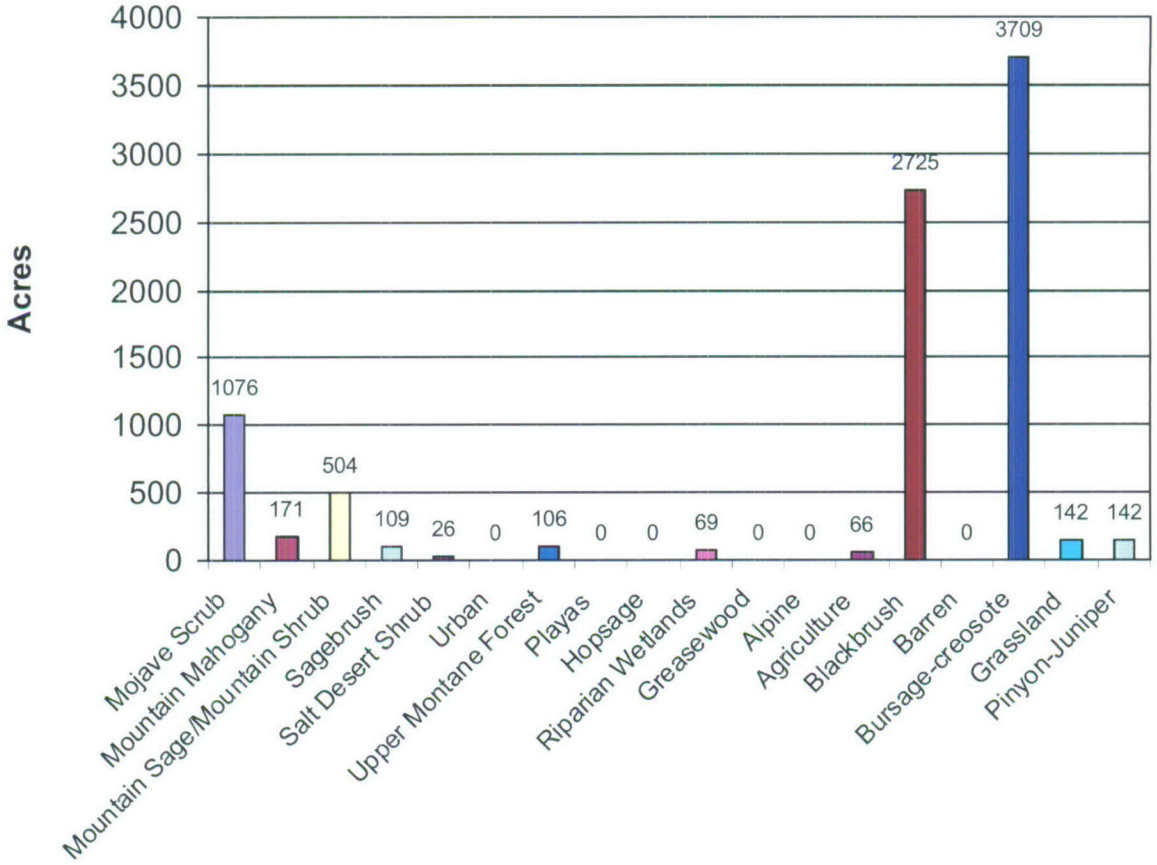


Figure 3.20-2. Mean Fire Size by Vegetation Type (1986 to 2005)

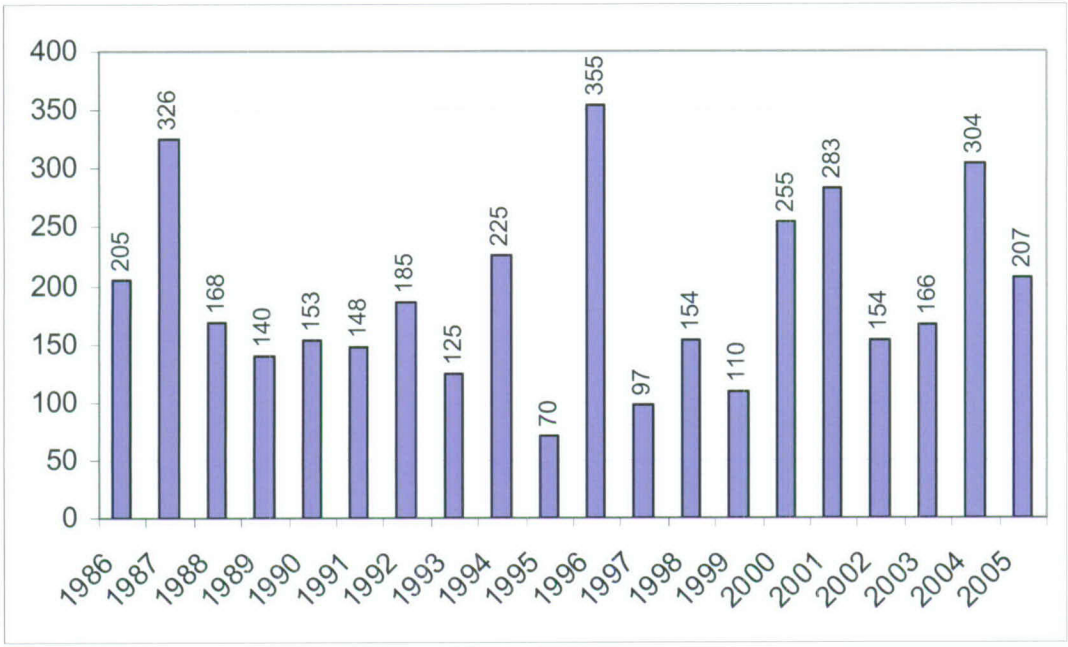


Figure 3.20-3. Number of Wildland Fires by Year (1986 to 2005)

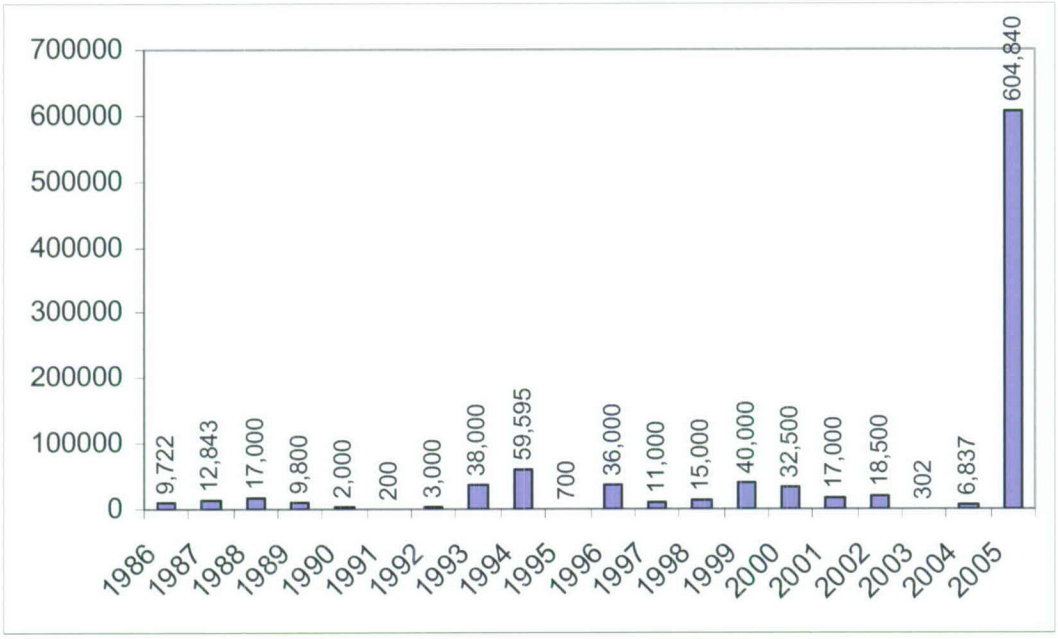


Figure 3.20-4. Total Acres Burned in Wildland Fires (1986 to 2005)

Where annual bromes are present, fire activity in the woodland and shrub communities facilitates the spread of these annual species, especially where perennial grass species are at low density or abundance. Hence, as wildland fires occur and increase, the trend is toward increasing areas infested with annual bromes.

It is generally accepted that wildland fires in the Intermountain West have been increasing in size, intensity, suppression costs, and human related losses. This trend largely has been attributed to long-term fire suppression and the resulting accumulation of woody fuels, combined with alterations of the natural fire regime resulting from vegetation changes such as reductions in fine fuels due to livestock grazing. As the population of Nevada and surrounding areas increases, greater numbers of recreationists increase the risk of human caused ignitions. As the local communities in the wildland-urban interface areas grow, the potential for fire-related losses in these areas correspondingly increases.

3.20.3 Current Management

The planning area currently manages planned and unplanned ignitions according to the 2004 Ely Fire Management Plan, which incorporates the Ely Managed Natural and Prescribed Fire Plan (BLM 2000b), which was developed with extensive public involvement. The Ely fire plan was prepared in response to the Federal Wildland Fire Management Policy and Program Review of 1995 and the threats posed by current fuel loading in the Intermountain West. Under current management, the short-term goal is to re-introduce fire with wildland fire use and prescribed fire. The long-term goal is for fire to be re-introduced to the planning area ecological systems and allowed to function as a natural process to the greatest extent possible.

Prescribed and wildland fire use must comply with applicable smoke management requirements as required by the Nevada Smoke Management Program, including obtaining annual permits, as well as daily evaluation of the fire conditions, to ensure applicable air quality regulations are not violated.

The planning area is classified into general fire management units based on current fuel types, distribution, and amounts (see **Map 3.20-1**). Wildland fire is managed in each unit based on general fire management goals. Some areas have constraints, such as fire size, to conserve wildlife habitat features (**Table 2.4-28** and **Map 3.20-1**) (BLM 2000b). Other areas can be managed for wildland fire use (approximately 3.2 million acres) and some are full suppression (726,000 acres in desert tortoise habitat). The majority of the areas are managed with appropriate management responses.

In 2001, the Ely Field Office identified two high priority wildland-urban interface areas in need of fuels reduction on approximately 32,000 acres. One of these was conducted in cooperation with the Humboldt-Toiyabe National Forest. Wildland-urban interface areas in the planning area are listed in **Table 3.20-3**. In December 2003, Congress passed the Healthy Forests Restoration Act. This new law includes provisions for reducing destructive wildland fires by allowing land managers to reduce hazardous fuels and restore wildland fire-damaged landscapes.

Table 3.20-3
Wildland-urban Interface Communities Within The Planning Area

Community	County	Community	County
Baker	White Pine	Alamo	Lincoln
Cherry Creek	White Pine	Ash Springs	Lincoln
Cold Creek	White Pine	Caliente	Lincoln
Duckwater	White Pine	Caselton Heights	Lincoln
Ely	White Pine	Eagle Valley	Lincoln
Lackawanna	White Pine	Hiko	Lincoln
Lund	White Pine	Mount Wilson Guest Ranch Community	Lincoln
McGill	White Pine	Panaca	Lincoln
Pleasant Valley	White Pine	Pioche	Lincoln
Preston	White Pine	Rachel	Lincoln
Ruth	White Pine	Ursine	Lincoln
Shoshone	White Pine		

Appropriate management response is applied to all wildland fire incidents occurring in the planning area. The Wildland Fire Management Policy (U.S. Department of the Interior et al. 2001), and more specifically, the Ely Fire Management Plan, which incorporates the Ely Managed Natural and Prescribed Fire Plan, provides for a full range of responses and for the opportunity for all wildland fires to be managed for resource benefits. Appropriate management responses are based on land management objectives, relative risk, complexity, and defensibility of fire management boundaries and are continually updated as conditions change.

When selecting an appropriate management response, firefighter and public safety is always the highest concern. Minimum impact suppression tactics are used on all planning area wildland fires in order to incur the least possible impact to the land while achieving fire management objectives. Minimum impact techniques might include using existing roads for fire breaks rather than building new lines or watching dying fires rather than disturbing them during "mop-up" operations. However, mechanized equipment also may be used on fire management actions and deemed as the minimum tool based on safety or values at risk.

Wildland fires are evaluated for emergency stabilization and rehabilitation to reduce the adverse effects of wildland fires on soils, vegetation, crucial wildlife habitat, property, water quality, and other resources.

Emergency stabilization refers to planned actions within 1 year of a wildland fire to:

- Stabilize and prevent unacceptable degradation to natural and cultural resources;
- Minimize threats to life or property resulting from the effects of fire; and
- Repair/replace/construct physical improvements necessary to prevent degradation of land and resources.
  - Priorities of emergency stabilization include:
    - Human life and safety; and
    - Property and unique or critical biological/cultural resources (based on an evaluation of relative values and stabilization costs).

Rehabilitation refers to actions taken within 3 years of the fire containment date to:

- Repair or improve lands unlikely to recover to a management approved condition; or
- Repair or replace minor facilities damaged by fire.
  - Priorities of rehabilitation include:
    - The repair or improvement of lands damaged directly by a wildland fire; and
    - The rehabilitation or establishment of healthy, stable ecological systems in the burned area (based on an evaluation of relative values and stabilization costs).

Restoration refers to the continuation of rehabilitation beyond the initial 3 years of rehabilitation funding or the repair or replacement of major facilities damaged by fire, including:

- Replacement of major infrastructure (visitor center, residences, administration offices, work centers) burned in the fire; and
- Watershed restoration.

Emergency stabilization and rehabilitation may involve such activities as:

- Grazing closures and horse gathers;
- Fence repair or replacement;
- Various forms of seeding including site preparation and planting;
- Implementation of various measure to control the introduction and spread of invasive and noxious weeds;
- Installation of erosion control structures; and
- Road repairs or closures.

3.21 Noxious and Invasive Weed Management

3.21.1 Existing Conditions

Invasive and noxious plant species are common impediments to management objectives within the Great Basin. Invasive species are alien (nonnative) species whose introduction into an environment where they did not evolve does or is likely to cause economic or environmental harm or harm to human health. Noxious species are those species designated by a federal, state, or county government as injurious to public health, agriculture, recreation, wildlife, or property. Noxious weeds designated by the State of Nevada and known to occur in the planning area are listed in **Table 3.21-1**. In their behavior and effects, noxious weeds also are invasive species but are treated separately in this RMP based on the applicable policies and regulations related to their management.

Table 3.21-1
Nevada Noxious Weeds Known to Occur in the Planning Area

Common Name	Scientific Name
Black henbane	*Hyoscyamus niger*
Canada thistle	*Cirsium arvense*
Dalmatian toadflax	*Linaria dalmatica*
Diffuse knapweed	*Centaurea diffusa*
Hoary cress (whitetop)	*Cardaria draba*
Leafy spurge	*Euphorbia esula*
Musk thistle	*Carduus nutans*
Poison hemlock	*Conium maculatum*
Puncture vine	*Tribulus terrestris*
Russian knapweed	*Acroptilon repens*
Tamarisk (salt cedar)	*Tamarix ramosissima*
Sahara mustard	*Brassica tournefortii*
Scotch thistle	*Onopordum acanthium*
Spotted knapweed	*Centaurea masculosa*
Squarrose knapweed	*Centaurea virgata Lam.* var. *squarrose*
Tall whitetop (perennial pepperweed)	*Lepidium latifolium*
Water hemlock	*Cicuta maculata*

Currently, 6.3 million acres, or approximately half of the planning area, have been inventoried at least once for noxious weeds. Over 168,000 acres of noxious weed infestations have been recorded. Noxious weeds in the planning area tend to be associated with frequently disturbed areas such as roads, campgrounds, airstrips, rodeo grounds, and heavily used areas around towns and communities. For example, notable infestations of Dalmatian toadflax and spotted knapweed are located around the community of Pioche. Disturbed riparian areas appear to be particularly susceptible. However, the overall distribution of noxious weeds in the planning area does not suggest that, with the exception of roads and riparian areas, some habitats are more susceptible than others.

The most abundant noxious weed species is Russian knapweed, which accounts for two-thirds of the known infestations in the planning area. Approximately 44 percent of noxious weeds inventoried along roads have been attributed to spotted knapweed. Of the noxious weed species presently known in the planning area, the highest concerns are posed by tall whitetop, tamarisk, dalmatian toadflax, and spotted knapweed, due to their abundance and ability to spread rapidly.

Sixteen species of invasive plants known to occur in the planning area are listed in **Table 3.21-2**. The annual bromes, specifically cheatgrass and red brome, are of particular concern because of their expanding distribution and adverse effects to native ecological systems. The invasive species filaree long ago became naturalized covering millions of acres in the Mojave Desert and has become culturally acceptable because it provides forage for livestock and wildlife. The remainder of the invasive species generally are restricted to disturbed areas.

Table 3.21-2
Invasive Species Known to Occur in the Planning Area

Common Name	Scientific Name
Cheatgrass	*Bromus tectorum*
Red brome	*Bromus rubens*
Tumble mustard	*Sysimbrium altissimum*
Kochia	*Kochia scoparia*
Russian thistle	*Salsola kali*
Halogeton	*Halogeton glomeratus*
Bull thistle	*Cirsium vulgare*
Annual foxtail	*Hordeum jubatum*
Wild licorice	*Glycyrrhiza lepidota*
Moth mullein	*Verbascum blattaria*
Common mullein	*Verbascum thapsus*
Common cocklebur	*Xanthium spinosum*
Filaree/cranesbill	*Erodium circutarium*
Elongated mustard	*Brassica elongate*
Horehound	*Marrubium vulgare*
Burr buttercup	*Ranunculatus testieclatus*

Cheatgrass and halogeton are the most prevalent invasive species in the planning area. They are most prolific in the lower elevations from the woodland and shrub communities to the hot desert. Cheatgrass and other annual bromes occur in the understory of one-third of the vegetation types within the planning area. The blackbrush, salt desert, Wyoming and black sagebrush shrub communities are most susceptible to cheatgrass expansion. Halogeton is a common invader into the salt desert, winterfat, and black sagebrush shrub communities.

3.21.2 Trends

Similar to other public lands in the west, the planning area has experienced an expansion of several species of noxious and invasive weeds. These plants compete for water and nutrients, ultimately displacing native

species. This displacement has altered fire regimes, diminished forage for animals, and decreased productivity of the land.

Roadside-based efforts to control these species may be slowing the spread locally. It is expected that noxious species would continue to expand in the planning area. For example, camelthorn and Malta starthistle presently are known to occur in neighboring Clark County but have not yet been recorded within the planning area.

Invasive weeds, especially cheatgrass and other annual bromes, are widespread in the planning area and throughout the Intermountain West. Ecological system changes have been attributed to the monocultural conditions brought on by the rapid establishment of cheatgrass (Billings 1994). Annual bromes are prolific seeders that mature earlier than native species and can form a continuous bed of highly flammable fine fuels at a time of year that fires did not historically burn. Cheatgrass presence in western ecological systems has affected both the timing and the frequency of wildland fires, which in turn have affected ecological system function.

South Desert Complex Fires of 2005

The extensive fires throughout the southern portion of the planning area in 2005 contributed substantially to the challenges of invasive species control. An abnormally wet winter and spring of 2005 promoted abundant growth of shrubs, grasses, and forbs including noxious weeds and invasive plants. High densities of invasive annual brome grasses (cheatgrass and red brome) that greened up during the late winter and early spring became highly flammable fine fuels by late spring of 2005. These fine fuels, present in the interspaces between shrubs, allow fire to spread through Mojave Desert vegetation. These grasses are fire-adapted and generally return at higher abundance following fire, fueling a positive-feedback loop known as the grass-fire cycle (Brooks et al. 2004, D'antonio and Vitousek 1992). In this cycle, grasses increase in abundance, which increases fire frequency, which increases abundance of grasses. This cycle hinders competition from native perennial grasses, forbs, and shrubs which are not adapted to the increased fire frequency. On-the-ground reconnaissance 2 months after the fire revealed a dense seed cover of red brome over portions of the Halfway Fire, north of the summit.

Sahara mustard, a highly invasive non-native winter annual forb native to North Africa, spread from the Sonoran Desert in the 1970s through the Mojave Desert and into the Colorado Plateau in the 1990s by being a roadside invader (Brooks and Lair 2005). This species already is abundant in Clark County and is being found in the southern portions of Lincoln County. It currently is located 1 mile southwest of the area burned by the Halfway Fire. Without treatment, it is expected that the disturbance and removal of vegetation associated with the fire would give this species even greater opportunity to spread quickly northward.

3.21.3 Current Management

Contemporary agency policy and management direction for preventing, detecting, and treating noxious and invasive species includes Executive Order 2399, Instruction Memorandum 99-076, and the BLM National Partners Against Weeds Action Plan (BLM 1996b).

At the local level, the Ely Field Office has been managing noxious and invasive weeds as described and evaluated in the programmatic environmental assessment (BLM 2000d), landscape herbicide application environmental assessments (BLM 2001d,e,f,g), and the Ely Field Office policies. The Ely Field Office uses the most current species lists developed by the Nevada Department of Agriculture.

Current management includes the following:

- Address those weed species designated as "noxious" by the Nevada Administrative Code in this program. In addition, treat species such as cheatgrass, halogeton, red brome, and Sahara mustard as "invasive" species.

- Implement the Partners Against Weeds program using the following goals: 1) prevention and detection; 2) education and awareness; 3) inventory; 4) planning; 5) coordination; and 6) monitoring, evaluation, research, and technology transfer.

- Implement the Ely Field Office Noxious Weeds Prevention Schedule, a list of best management practices that serves as a blueprint to minimize the spread of weeds within the planning area. It contains generally applicable best management practices as well as those that are specific to each division and program area.

- Coordinate with the Nevada Department of Agriculture, Tri-County Weed Program, National Resource Conservation Service, U.S. Forest Service, National Park Service, private landowners, and other appropriate land management agencies to implement effective control measures across jurisdictional boundaries.

- Ensure that the selection and application of herbicides for management of noxious and invasive species is consistent with policies resulting from the Record of Decision associated with the BLM's current NEPA analysis on Vegetation Treatments using Herbicides (BLM 2005c) and future NEPA analysis.

The BLM adheres to the concept of integrated weed management. This refers to the use of a wide range of available tools and techniques and their combinations to meet weed objectives in each site-specific situation. Vegetation treatments, including those for noxious weeds that are conducted on public lands, currently are implemented under the principles and methodology in the 1991 Record of Decision and Final EIS for Vegetation Treatment on BLM Lands in Thirteen Western States (BLM 1991). Site-specific documentation is prepared for each vegetation treatment plan in the planning area. The BLM recently published the Draft Programmatic EIS for Vegetation Treatments Using Herbicides as applicable to public lands in 17 western states (BLM 2005c). As this NEPA analysis is finalized and a Record of Decision is published, it *would* establish agency policy for the future.

Treatments of noxious weeds have focused on cooperative efforts with White Pine, Lincoln, and Nye counties and Nevada Department of Transportation along roads and abandoned rights-of-way. Treatments have been almost entirely chemical from truck-mounted sprayers. Treatment of tamarisk also has been

predominantly with herbicides in drainages such as Meadow Valley Wash. Effective treatment of infestations in disturbed riparian areas is frequently constrained by the need for corresponding treatment on adjoining private lands.

3.22 Special Designations

3.22.1 Existing Conditions

The following sections describe areas that have received special designations in the planning area. These special designation areas are presented in **Table 3.22-1** and on **Map 3.22-1**.

Table 3.22-1
Existing Special Designation Areas in the Planning Area[1,2,3]

ACECs		**Archaeological Districts**	
Beaver Dam Slope	36,800 acres	Panaca Summit	7,040 acres
Kane Springs	57,190 acres	Sunshine Locality National Register District	34,560 acres
Mormon Mesa	109,680 acres	White River Narrows	4,000 acres
Back Country Byway		**National Historic Trails**	
Mount Wilson Back Country Byway	65 miles	Pony Express	153 miles
Geologic Areas		California	15 miles
Cave Valley Cave	40 acres	**Designated Wilderness**	
Goshute Cave	120 acres	Becky Peak	18,199 acres
Leviathan Cave	1,000 acres	Big Rocks	12,997 acres
Whipple Cave	80 acres	Bristlecone	14,095 acres
Rockhounding Areas		Clover Mountains	85,748 acres
Garnet Fields	1,210 acres	Delamar Mountains	111,328 acres
Scenic Areas		Far South Egans	36,384 acres
Blue Mass	950 acres	Fortification Range	30,656 acres
Mount Grafton/North Creek	16,100 acres	Goshute Canyon	42,544 acres
Kious Spring	40 acres	Government Peak	6,313 acres
Weaver Creek	640 acres	Highland Ridge	68,627 acres
Natural Areas		Meadow Valley Range	123,488 acres
Goshute Canyon	7,600 acres	Mormon Mountains	157,938 acres
Shoshone Ponds	1,240 acres	Mount Grafton	78,754 acres
Swamp Cedar	3,200 acres	Mount Irish	28,334 acres
Research Natural Areas		Mount Moriah	8,708 acres
Heusser Bristlecone	480 acres	Parsnip Peak	43,693 acres
Pygmy Sage	160 acres	South Egan Range	67,214 acres
Historic Areas		South Pahroc Range	25,800 acres
Bat Cave and Guano Mine	40 acres	Tunnel Spring	5,371 acres
Archaeological Sites		Weepah Spring	51,480 acres
Baker	80 acres	White Rock Range	24,413 acres
Baker Creek	75 acres	Worthington Mountains	30,664 acres
Garrison	120 acres	**Wilderness Study Areas**	
Mount Irish	640 acres	Antelope Range	566 acres
Rock Animal Corral	160 acres	Blue Eagle	14,411 acres
Snake Creek Indian Burial Cave	40 acres	Park Range	30,744 acres
White River Petroglyphs	480 acres	Riordan's Well	35,696 acres

[1] Note: The acreage presented is within the planning area. Special designation area acreage outside the planning area is not included.
[2] Note: Acreage figures are approximate and have been rounded.
[3] No designated wild and scenic rivers or rivers with wild and scenic characteristics have been identified within the planning area.

3.22.1.1 Areas of Critical Environmental Concern (ACECs)

Existing Conditions

Currently, there are three existing ACECs (Beaver Dam Slope, Kane Springs, and Mormon Mesa) in the planning area (see **Table 3.22-1**). The Beaver Dam Slope ACEC is located in southeastern Lincoln County, west of the Nevada/Arizona/Utah border (**Map 3.22-1**, **Map D-1**). The area extends north from the Lincoln/Clark county line and northwest of the city of St. George, Utah. The Kane Springs ACEC is located in southwestern Lincoln County, west of the existing Mormon Mesa ACEC (**Map 3.22-1**, **Map D-2**). The area extends north along U.S. Highway 93 towards Alamo from the Lincoln/Clark County border. The Mormon Mesa ACEC is located in south central Lincoln County, west of the existing Kane Springs ACEC, and east of the existing Beaver Dam Slope ACEC (**Map 3.22-1**, **Map D-3**). The ACEC extends north from the Lincoln/Clark County line and is north of the communities of Mesquite and Moapa, Nevada, near the Mormon Mountain Range.

These ACECs contain a total of 191,230 acres of critical desert tortoise habitat and are managed primarily for recovery of the species. They also have several relationships to existing rights including several highway and utility corridors, several existing mining claims, oil and gas leases, and water filings/appropriations.

3.22.1.2 Backcountry Byways

Backcountry byways are roadways that have been designated by the Ely Field Office as providing access to aesthetic and scenic resources. These roads can range from narrow, graded roads with seasonal access to paved two-lane highways with year-round access. At present, there is one existing backcountry byway in the planning area (see **Table 3.22-1**).

The Mount Wilson Backcountry Byway begins on State Road 322 at Pioche, or off of U.S. Highway 93 at the Pony Springs Rest Area about 22 miles north of Pioche. This route consists primarily of gravel roads that wind through an ancient volcanic caldera now forested with pinyon and juniper trees at the lower elevations and with aspen, mountain mahogany, and ponderosa pine at higher elevations. Access is extremely limited during the winter and route signing is minimal.

3.22.1.3 Geologic Areas

Geologic areas are areas designated by the Ely Field Office as having unique or outstanding geologic importance that requires special attention and management to ensure preservation of these resources. At present, there are four existing geologic areas in the planning area (see **Table 3.22-1**). These geologic areas offer unique underground geological features and are highly regarded by cavers for their underground exploration and geological study opportunities.

3.22.1.4 Rockhounding Areas

At present, there is one existing rockhounding area in the planning area (see **Table 3.22-1**). Garnet Hill (Garnet Fields) is an internationally known site for collectors of garnet, a ruby red semi-precious gem found in rocky volcanic outcrops. Garnet Hill facilities include picnic sites with grills and a handicap accessible restroom.

3.22.1.5 Scenic Areas

National scenic areas are areas designated to provide for the conservation and protection of certain scenic, recreation, or pastoral values and to provide enhancement of those values. These areas can exhibit a number of unique features such as interesting land forms, lakes, or streams with attractive natural settings. At present, there are five existing scenic areas in the planning area (see **Table 3.22-1**).

3.22.1.6 Natural Areas

Natural areas are areas designated by the Ely Field Office that have outstanding scenic characteristics, natural characteristics, or scientific importance that require special management to preserve these characteristics in a natural condition. At present, there are three existing natural areas in the planning area (see **Table 3.22-1**).

3.22.1.7 Research Natural Areas

Research natural areas are areas set aside by Congress or a public or private agency to preserve and protect ecological communities, associations, phenomena, characteristics, or natural features or processes for scientific and educational purposes. The primary management objective is to protect ecological processes, conserve their biological diversity, and provide opportunities for observational activities associated with research and education. Research natural areas may consist of diverse vegetation communities, wildlife habitat, unique geological formations, cultural resource values, and other values identified by physiographic provinces established in state or agency natural resource planning documents. At present, there are two existing research natural areas in the planning area (see **Table 3.22-1**).

3.22.1.8 Historic Areas

Historic areas are areas designated by the Ely Field Office to preserve and protect sites exhibiting significant cultural resources. These areas typically contain evidence of American history. At present, there is one existing historic area in the planning area (see **Table 3.22-1**).

3.22.1.9 Archaeological Sites

Archaeological sites are areas designated by the Ely Field Office to preserve and protect sites exhibiting significant cultural resources. These areas typically contain evidence of prehistoric resources. At present, there are seven existing archaeological sites in the planning area (see **Table 3.22-1**).

3.22.1.10 Archaeological Districts

An archaeological district is an area that contains a number of archaeological resources that are related and are considered as a whole rather than as a number of individual sites.

At present, there are three existing archaeological districts in the planning area (see **Table 3.22-1**). The White River Narrows Archeological District contains numerous rock art sites that include both pictographs and petroglyphs. The Panaca Summit Archaeological District contains 74 prehistoric sites, which include base camps, short-term campsites, activity loci, and isolates. The Sunshine Locality National Register District consists of more than 90 sites representing a subsistence pattern known as the Western Pluvial Lakes Tradition. The sites primarily are fragile surface deposits composed almost entirely of lithic tools and lithic debris.

3.22.1.11 National Historic Trails

National historic trails are designated by Congress for routes that follow as closely as possible to original trails or routes of travel of national historic significance, and that meet a specific set of criteria. The purpose is to identify and protect historic routes and their associated artifacts. At present, there are two existing National Historic Trails in the planning area (see **Table 3.22-1**).

3.22.1.12 Designated Wilderness

A designated wilderness area is an area designated by Congress and defined by the Wilderness Act of 1964 as a place that "(1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

At present, the Ely Field Office manages approximately 8,700 acres of the 82,000-acre Mount Moriah Wilderness. Mount Moriah is the Nevada BLM's first designated wilderness and is managed in accordance with the Wilderness Act of 1964, the Nevada Wilderness Protection act of 1989, and the 1995 Wilderness Management Plan for the Mount Moriah Wilderness.

In addition to the portion of Mount Moriah, the Ely Field Office also manages 21 designated wilderness areas totaling 1,072,748 acres as created by the Lincoln County Conservation, Recreation, and Development Act of 2004 and the White Pine County Conservation, Recreation, and Development Act of 2006. These areas have high-quality opportunities for primitive and unconfined recreation and solitude due to the variety of landforms and low level of human activity. Special features include prehistoric and historic resources, caves, bristlecone pines and riparian vegetation (see **Table 3.22-1**). The existing designated wilderness areas are managed in accordance with BLM's Wilderness Management Regulations.

3.22.1.13 Wilderness Study Areas

A wilderness study area is an area identified by the Ely Field Office as having wilderness characteristics, thus making it worthy of consideration by Congress for wilderness designation. Wilderness study areas are managed to prevent impairment of the area's suitability for designation by Congress as designated wilderness under the Interim Management Policy for Lands under Wilderness Review (H-8550-1). The BLM no longer identifies wilderness study areas through land use planning but continues to manage existing designated wilderness and wilderness study areas as such. The Ely Field Office currently manages the wilderness values in four wilderness study areas totaling 81,417 acres within the planning area (see **Map 3.22-1**).

3.22.2 Trends

BLM special designations commonly result from the recognition and need for protection of the unique natural and cultural resource qualities of certain areas. These unique qualities often are identified from the results of institutional research and public and external agency input. In general, input concerning potential special designation areas is received continuously by the Ely Field Office. The periodic RMP revision process provides the opportunity to systematically evaluate a variety of natural and cultural features for special designation. As indicated in the discussion of potential ACEC designation, the public has been involved in nominating potential sites, and the Ely Field Office has furthered screened these nominations to a smaller number of sites that have been selected for further analysis in the EIS. The RMP Record of Decision provides the framework for the establishing the boundaries and management prescriptions for any new special designation areas.

3.22.3 Current Management

3.22.3.1 Areas of Critical Environmental Concern

The ACEC designation is an administrative designation used by the BLM that is accomplished through the land use planning process. It is unique to the BLM in that no other agency uses this form of designation. The Federal Land Policy and Management Act states that the BLM would give priority to the designation and protection of ACECs in the development and revision of land use plans.

BLM regulations (Title 43 Code of Federal Regulations Subpart 1610) define an ACEC as an area "within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards." Private lands and lands administered by other agencies are not included in the boundaries of ACECs. ACECs differ from other special management designations (e.g., wilderness study areas) in that designation by itself does not automatically prohibit or restrict other uses. In order to be designated, special management beyond standard provisions established by the plan must be required to

protect the relevant and important values. Further information about these criteria is presented in Appendix D.

3.22.3.2 Other Designations

The BLM may decide to protect specific areas either alone, or in conjunction with other agencies. Examples of BLM designations authorized under the Federal Land Policy and Management Act include backcountry byways (BLM Handbook H-8357-1), archaeological and historic sites, and natural areas.

National historic trails are authorized under the National Trails System Act, administered by the National Park Service. However, the Ely Field Office has responsibility for managing the land uses and activities occurring on or near these trails where they cross BLM public lands.

No rivers have been identified for wild and scenic designation within the planning area. A full inventory and evaluation has not occurred, however, it is planned for fiscal year 2008. This evaluation could potentially identify rivers or river segments within the Ely Field Office jurisdiction that are eligible for inclusion under the Wild and Scenic Rivers Act. If appropriate, management actions associated with these locations will be amended to the RMP.

The Classification and Multiple Use Act of September 19, 1964 (78 STAT 986, 43 USC 1411) authorizes the Secretary of Interior to review the public lands to determine which lands shall be classified as suitable for disposal and which lands are considered to contain such values as to make them more suitable for retention in federal ownership.

A public land order is one type of withdrawal order to segregate land for a specific reason. A withdrawal does not become effective until one of the following are published in the Federal Register:

1. Public Land Orders (approved by the Secretary, Department Secretaries, and Assistant Secretaries).
2. Executive Orders (early withdrawals were done by this, often handwritten).
3. Presidential Proclamations (these are few and far between, often related to new monuments).
4. Secretarial Orders (similar to Executive Orders).
5. Geologic Land Office Orders (pre-BLM).
6. Bureau of Land Management Orders (general, Administrative Order, Director).
7. Act of Congress or Public Law (Military withdrawals over 5,000 acres).

3.23 Economic Conditions

3.23.1 Employment and Unemployment

The BLM does not have direct management responsibility for economic and social conditions. However, the predominance of public lands in the planning area gives rise to interest and concern over the social and economic (socioeconomic) conditions arising from the interactions between people, their activities, and associated public use and management of public lands. As a result, the social structure of the region also must be recognized during the planning process, and social impacts associated with the RMP alternatives assessed as part of the NEPA review. Information related to social conditions is interspersed within the information presented throughout this section.

The planning area includes land in three of Nevada's 17 counties: Lincoln, Nye, and White Pine. All of Lincoln and White Pine counties, but only the eastern portion of Nye County, including the Duckwater Shoshone Indian Reservation, are within the planning area. The portion of Nye County within the planning area is rural and isolated by distance from the major communities and government service centers in the county. Consequently, important economic and social linkages connect the area to Ely and other nearby areas of White Pine County.

Communities and population centers in the planning area include two incorporated municipalities: Ely, the county seat of White Pine County, and Caliente in Lincoln County. Unincorporated communities in the planning area include McGill, Ruth, Lund, Baker, Preston, and Cherry Creek in White Pine County; Panaca, Ash Springs, Alamo, and Pioche in Lincoln County; and Duckwater and Currant in Nye County. Pioche is the county seat of Lincoln County. Ely is the largest trade and service center in the planning area, followed by Caliente. Pioche, Panaca, and McGill; all support a limited range of essential consumer and community services. Three American Indian reservations located within the planning area also are population centers.

Lands administered by the BLM and other federal agencies comprise the majority of all lands in the three counties (98.3 percent in Lincoln, 92.7 percent in Nye, and 93.5 percent in White Pine counties). The statewide average is 85.3 percent. Privately owned lands and lands controlled by units of state and local government total about 1.3 million acres in the three counties, approximately 415,000 acres of that in Lincoln and White Pine counties. Most of the private and locally controlled land in Nye County is outside the planning area.

Additional concerns arise in the context of environmental justice considerations under Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. All or part of three federally recognized American Indian reservations are located within the planning area: the Duckwater Shoshone Reservation, the Ely Shoshone Colony, and the Goshute Shoshone Reservation. The latter straddles the Nevada-Utah state line, with two-thirds located in White Pine County and the remainder in Juab County, Utah.

The description of the socioeconomic environment for the planning area focuses on Lincoln and White Pine counties. This emphasis reflects the geospatial limitations inherent in the available data (i.e., data compiled

and reported at the county level) and the limited population and economic activity of the Duckwater Census Civil Division. Data or qualitative descriptions are included for Nye County or the Duckwater Census Civil Division where appropriate to describe conditions in that portion of the planning area. Additional information regarding socioeconomic conditions in the planning area is contained in a separate document titled Socioeconomic Profile, U.S. Bureau of Land Management, Ely District, Lincoln, White Pine, and Nye Counties, Nevada. Copies of that report are available through the Ely Field Office.

The economies of rural Nevada, including that of the planning area, historically have been relatively undiversified and dependent upon mineral or other natural resource development, agriculture, and government. That dependency subjects the local economy to expansion and contraction cycles tied to changes in one or more key sectors, and to the subsequent amplifications of those changes due to "multiplier" effects as the direct changes in business and consumer spending ripple through the economy. Economic data for White Pine and Lincoln counties indicate a net change of 2.63 jobs for each job gained or lost in gold mining, 1.67 net jobs per job in cattle ranching, 1.4 to 1.7 jobs per construction job, and 1.2 jobs per state government job. The corresponding multipliers for income are 2.18 for gold mining, 1.72 for cattle ranching, 1.27 to 1.60 for construction, and 1.10 for state government employment (Minnesota Implan Group 2001). Such volatility is apparent in the total employment trends for White Pine and Lincoln counties as illustrated in **Figure 3.23-1** and underlies the population trends as discussed in Section 3.24, Social Conditions.

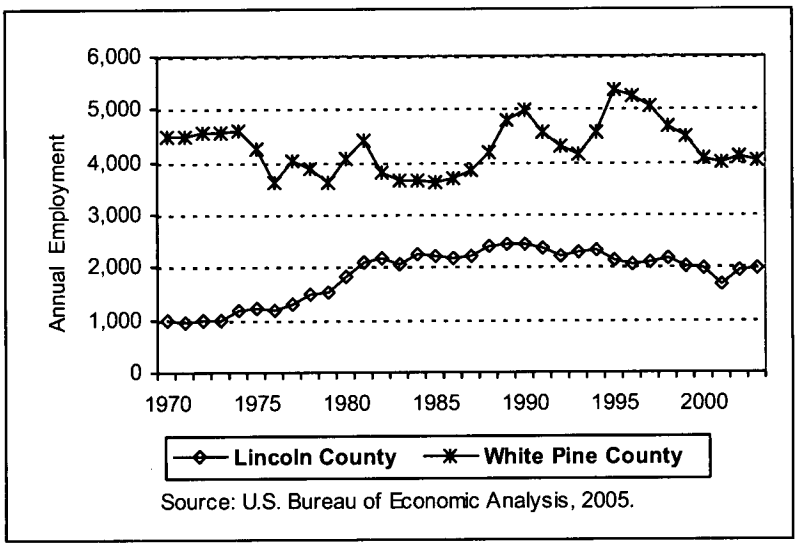


Figure 3.23-1. Total Employment in Lincoln and White Pine Counties 1970 to 2001

Total employment in Lincoln County numbered 996 jobs in 1970. Through the 1970s and 1980s, much local employment growth was tied to federal activities at the Nevada Test Site. The opening of the Caliente Youth Center helped boost total employment to a peak of 2,426 in 1989. Subsequent cutbacks at the Nevada Test Site initiated a period of contraction as the job and income losses rippled through the economy, employment

eventually falling below 2,000 in 1999. Modest growth in retail trade, services, and construction has occurred in concert with recent population growth, raising total employment to 1,969 in 2003. Total farm employment stood at 150 jobs in 2003. Employment growth between 1970 and 2003 averaged 2.1 percent per year.

White Pine County's economy has been consistently larger and more diverse than that of Lincoln County, anchored by mining, manufacturing, services, and trade. In part, the latter resulted from Ely's location at the crossroads of regionally important highway travel routes and a railroad built to serve the area's mining industry. However, White Pine County has been unable to sustain long-term employment growth over time.

Beginning in the mid-1970s, the mining industry went through several expansion and contraction cycles. In the mid-1980s, local manufacturing also declined. Total employment fell from 4,597 in 1974 to 3,625 jobs in 1979, before climbing to 4,394 in 1981 and falling again to 3,597 in 1985. Mining in White Pine County had a resurgence in the 1990s when as many as eight major mining projects were operational. Peak production, in terms of value, occurred in 1998 when local mines produced more than 253,000 ounces of gold and 300,000 ounces of silver. Mining subsequently waned as depleted reserves and weak market conditions caused all but Placer Dome's (Barrick Gold Corporation) Bald Mountain Mine to cease operation. By 2003, mining employment had fallen to 150 jobs, the lowest level since the current employment reporting series began in 1969. The local mining industry was buoyed by the acquisition and subsequent reopening of the historic Robinson copper mine by Quadra, Ltd in 2004. The present mine plan anticipates a 10-plus-year life-of-mine (Quadra Mining, Ltd. 2004).

Construction and opening of the Ely state prison in 1990 brought a new and stable source of jobs to White Pine County. Those jobs, along with increases in federal government employment, were the primary factors underlying the increase in total government employment from 771 employees in 1988 to 1,434 jobs in 2002. Farm employment, including both proprietors and hired hands, totaled 182 in 2003. On average, employment in White Pine County declined by about 0.3 percent per year between 1970 and 2003.

Agriculture plays a historically important role in the contemporary settlement and subsequent economic, social, and political development of the state and region. However, in recent years, farm employment has been stagnant as private non-farm and government employment have grown rapidly. Between 1985 and 2003, more than 725,000 net new non-farm private jobs and 71,700 government jobs were created statewide, compared to a net loss of about 250 farm jobs. Statewide in 2002, non-farm private jobs accounted for 88.8 percent of all jobs, compared to 10.8 percent in government and 0.4 percent in farming.

In Lincoln County, farm employment increased slightly near the end of the 1980s. Since that time, it has declined steadily. In 2003, government accounted for 31 percent of all jobs in Lincoln County, compared to 8 percent in farming and 61 percent in non-farm private industries (see **Table 3.23-1**).

Both the number and share of farm and non-farm private jobs declined in White Pine County between 1985 and 2003. By 2003, non-farm private jobs accounted for 59 percent of all local jobs. During that same period, the number of government employees more than doubled and the share of all jobs in the public sector increased to 36 percent.

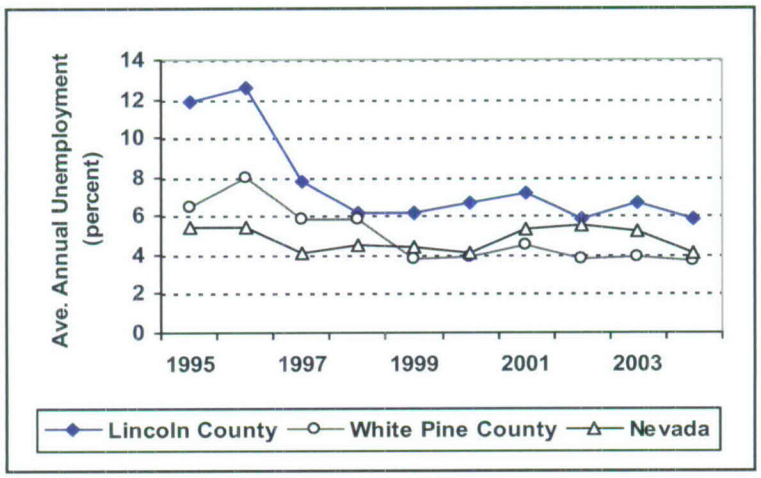
Table 3.23-1
Employment by Major Category for Year 2003

Industry	Lincoln County		White Pine County	
	Employment	Percent of Total	Employment	Percent of Total
Farm	150	8	182	5
Non-farm Private	1,211	61	2,389	59
Government	608	31	1,451	36
Total	**1,969**	**100**	**4,022**	**100**

Source: U.S. Bureau of Economic Analysis 2005.

In rural areas, changes in employment opportunities trigger multiple responses in the local labor market. In the short term, unemployment rises or falls in a countercyclical manner. Major layoffs and new openings also can trigger changes in local labor force participation and in- or out-migration contributing to changes in the region's resident population.

Statewide unemployment from 1995 to 2004 ranged between 4.1 and 5.5 percent. During the same period, workers in the planning area saw a much wider fluctuation in unemployment. In Lincoln County, unemployment climbed to 12.6 percent in 1996 following reductions in federal activity at the Nevada Test Site. Unemployment has since moderated, though it is consistently higher than statewide averages (see **Figure 3.23-2**).



Source: Nevada Department of Employment, Training, and Rehabilitation, 2002 and 2005.

Figure 3.23-2. Average Annual Unemployment Rates, 1995 to 2004

Economic migration has played an important role in White Pine County's labor market, triggered by a loss of about 1,300 mining jobs. As a result of these job losses, unemployment peaked at 8.0 percent in 1996 but has since declined to 3.7 percent in 2004 as residents moved from the area, secured other employment, or

withdrew from the labor force. Workers entering and leaving the labor force in response to the relative availability of jobs provide another labor market adjustment mechanism. Labor force data published by the state indicate that gross labor force participation has declined by 20 to 25 percent in Lincoln and White Pine counties since 1995.

Commuting also plays an important role in the local economy (see **Table 3.23-2**). As reported in the 2000 census, 89.7 percent of employed Lincoln County residents also worked in the county. In White Pine County, 92.4 percent of employed residents worked in the county. Clark County was the primary non-local place of work for residents of Lincoln County. Among White Pine County residents who were employed elsewhere, Elko and Eureka counties, and locations in Utah were the most common non-local places of work. Little cross-commuting occurs between Lincoln and White Pine counties.

Table 3.23-2
Place of Work of Local Resident Workers for Year 2000

County or State	Lincoln County		White Pine County	
	Workers	Percent of Total	Workers	Percent of Total
Lincoln County	1,303	89.7	6	0.2
Nye County	9	0.6	39	1.2
White Pine County	8	0.6	3,036	92.4
Clark County	113	7.8	35	1.1
Other Nevada	0	0.0	115	3.5
Not in Nevada	20	1.4	55	1.7
Total Workers	**1,453**	**100.0**	**3,286**	**100.0**

Source: U.S. Census Bureau 2003.

Work force commuting flows also involve workers who lived elsewhere and commuted to jobs in the planning area. In 2000, 10.3 percent of all workers employed in Lincoln County lived elsewhere. Only 7.7 percent of workers in White Pine County lived elsewhere. Clark County was the principal source of non-local workers employed in the two counties.

3.23.2 Economic Base

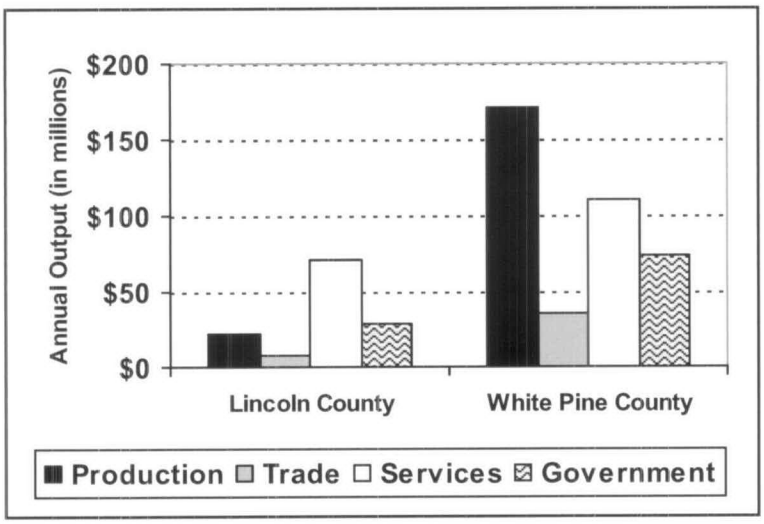
The gross county economic output, that is, the aggregate value of goods and services produced, provides another perspective on the relative size of the local economies. Estimates of the monetary value of output can be clustered into four major categories that highlight the composition of the local economies. Those categories are:

- Production or commodity based, such as livestock, minerals, and manufacturing;
- Trade, which includes the wholesale and retail sale of products;

- Services, which involves utilities, shipment of commodities, and business and personal services, such as lodging, guided hunting, and health care; and

- Government services.

Estimated gross county economic output for Lincoln County in 1999 was $129.9 million. The service-based cluster, with an estimated production of $70.9 million, was the largest in terms of output (see **Figure 3.23-3**). Results of the clustering show a relative lack of production- or commodity-based output in Lincoln County and the higher dependency on service-based and government outputs.



Source: Minnesota Implan Group 2001.

Figure 3.23-3. Composition of County Economic Output for Year 1999

White Pine County's economy had a total output of $392.8 million; approximately three times that of Lincoln County. At that time, production-based activity, lead by mining, was the largest cluster with annual output of $171.5, followed by government at $74.3 million. Contractions in mining since that time have undoubtedly reduced overall output substantially. The high reliance on a production-based economy may typify the natural resource-based economies of many western, rural economies, but also the economic development challenges that communities face with an erosion of that base.

Farming and Ranching

Farming and ranching were traditionally major parts of rural Nevada's economic base. Over the past several decades, that role has been largely supplanted by tourism, mining, and government. Agriculture has struggled to remain viable in an environment characterized by increasing production costs, productivity gains, weak prices, and the effects of extended drought. Nevertheless, agriculture and its strong links to the use of public lands, primarily in the form of grazing, remains an important dimension of the socioeconomic

environment in the planning area. However, recent data indicate that the agricultural sectors of Lincoln and White Pine counties have experienced economic contractions mirroring the overall trend statewide.

Every 5 years, agriculture is the subject of a national economic census. The most current data release is from the 2002 agriculture census. The 2002 census tallied 230 farms and ranches (collectively termed farms in the census) operating in Lincoln and White Pine counties, 6 fewer than five years earlier in 1997.[2] Farms in White Pine County comprised 203,106 acres in 2002, down from 247,446 acres in 1997. The total farm acreage in Lincoln County was not disclosed for 2002, but is estimated at about 46,500 acres, down from 48,497 in 1997. Thus, the combined area of farmed land in Lincoln and White Pine counties declined by an estimated 46,391 acres, or approximately 16 percent, between 1997 and 2002. **Table 3.23-3** presents selected farm data from the 1997 and 2002 agriculture censuses for Lincoln and White Pine counties.

Table 3.23-3
Summary Characteristics of Local Agriculture for Census Years 1997 and 2002

	Lincoln County			White Pine County		
Category	1997	2002	Percent Change	1997	2002	Percent Change
Number of Farms	121	109	-10	115	121	5
Acres in Farming	48,497	46,500 (est.)	-4	247,446	203,106	-18
Average Acres per Farm	404	427 (est.)	6	2,152	1,679	-22
Farms by Size						
1 to 50 acres	37	38	3	28	30	7
50 or more acres	84	71	-16	87	91	5
Farms by Volume of Sales						
Less than $5,000	40	47	18	38	39	3
$5,000 or more	81	62	-23	77	82	6
Principal Occupation						
Farming	60	67	12	71	67	-6
Other	61	42	-31	44	54	23
Tenure						
Farming owners	90	80	-11	82	92	12
Part owners & tenants	31	29	-6	33	29	-12
Number of Farms						
With cattle	102	89	-13	71	76	7
Head of Cattle (Inventory)	14,784	13,703	-7	25,469	24,940	-2
Harvesting Alfalfa	78	43	-45	86	74	-14
Acres Harvested	10,069	14,996	49	18,136	16,332	-10

Source: U.S. Department of Agriculture 2004 and various years.

Farms in Lincoln County averaged 427 acres (estimated) in 2002, an increase of 6 percent over the 404-acre average in 1997. Average farm size in White Pine County declined by 22 percent, down from 2,152 acres in 1997 to 1,679 acres in 2002. The latter reflects the reduction in total farmed land and

[2]A farm is "any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold during the year." Government payments are included in sales (U.S. Department of Agriculture various years).

declines in the number of large farms that either abandoned farming operations or subdivided one large ranch into several smaller units. Most of the local farms are operated as an ongoing economic enterprise. In 2002, 134 farmers and ranchers identified farming as their principal operation, up from 131 in 1997, while 144 operations had sales of $5,000 or more, down from 158 in 1997.

Raising livestock, mainly cattle, is the principal source of cash income for most farming operations in the planning area. Cash receipts from livestock sales in the two counties totaled $11.8 million in 2002, compared to $14.4 million in 1997. Sales of feed and other crops yielded total receipts of $5.8 million in 2002, compared to $6.3 million in 1997, and $2.3 million from all other sources in 2002, compared to $2.4 million in 1997.

Livestock-related income accounted for over 70 percent of the total farm income in White Pine County in 1997 and 2002 and about 46 percent in Lincoln County in 2002, compared to 51 percent in 1997. In 2002, 165 farms reported a combined inventory of 38,643 head of cattle compared to 173 farms in 1997 that reported a combined inventory of 40,253 head of cattle. In the two counties together, farmers harvested 31,328 acres of alfalfa in 2002 as a cash crop or as winter feed for their herds compared to 28,205 acres of alfalfa harvested in 1997.

Net farm income in Lincoln County, excluding corporate farms, was substantially higher in 2002 compared to 1997, having climbed from $0.52 million to $2.53 million in Lincoln County between 1997 and 2001 before dropping to $1.96 million in 2002. Higher farm income reflected the price gains sustained during the period. Net farm and ranch income also grew in White Pine County from $0.38 million in 1997 to $2.67 million in 2001 and then to $3.22 million in 2002. Net farm income in the two counties combined was $5.2 million in 2001, or 5.5 percent of the statewide farm income of $95.1 million, and $5.2 million in 2002, or 6.5 percent of $79.5 million of farm income statewide (U.S. Bureau of Economic Analysis 2004).

Grazing on public lands serves an important role in sustaining the local agriculture industry. Such grazing provides the summer range for cattle and sheep, allowing pastures and cropland to be used to raise winter feed. As described in Section 3.16, Livestock Grazing, there are 239 grazing allotments in the planning area. Licensed grazing use in 2002, following several years of extended drought, was 206,707 animal unit months. That total represents a 20 percent decline compared to 2000. Changes in licensed grazing use on public lands are a contributing factor to changes in farm and ranch income.

Mineral Development

Mineral development has been part of White Pine County's history for nearly 150 years, dating to exploration by Army personnel and early prospectors in the 1860s. The Robinson Mining District, home to one of the nation's largest low-grade copper ore deposits and still active today with the recent reopening of the Robinson mine by Quadra Mining, Ltd. was discovered in 1868. Copper mining was the driving force bringing the Nevada Northern Railroad to the area. The railroad now operates as a tourist train, but is at the center of a plan to reestablish freight rail service in the region.

Over decades, copper production in the region has fluctuated in response to the demands accompanying the nation's involvement in two world wars, other military conflicts, and increasing industrial and household

consumer markets. Those demands carried the industry into the 1970s, at which time falling market prices and foreign production forced cutbacks in local production. The industry remained relatively dormant until rising prices for gold and silver and improvements in mining technology and productivity triggered a new round of mining expansion in White Pine County. In 1989, 10 gold and copper mines were operating in White Pine County. Several of those operations involved reworking of tailings and thus had relatively short life spans. Falling prices through the mid-to-late 1990s triggered the curtailment of several other mines, including the Robinson mine then operated by BHP. In 2002, only two operating mines remained in White Pine County, Placer Dome's (Barrick Gold Corporation) Bald Mountain, and its satellite Mooney Basin facility. Plans for others were put on hold because of weak economics. The Bald Mountain mine continues to operate, employing about 130 people to produce over 80,000 ounces in 2005. Reported proven and probable reserves exceeded 3.3 million ounces at the end of 2005, providing an expectation of continued long-term operations (Placer Dome 2006).

The recent acquisition and reopening of the Robinson mine by Quadra Mining in 2004 and higher gold prices may be indicative of changing economic conditions that could trigger new mineral development during the life of the RMP. Ore processing at the Robinson mine was initiated in August 2004, and the first copper concentrate was shipped in October 2004. Quadra and its mining contractor Washington Group Nevada reported a combined employment in February 2005 of 369 persons, approximately 95 percent of whom live in White Pine County. Current reserves support a 10-year mine life. In addition to copper, production at the Robinson mine would include gold and possibly molybdenum and rhenium (Quadra Mining, Ltd. 2005). Other mineral development in the region includes some crude oil production in Nye County, sand and gravel in many locations across the planning area, and perlite from a deposit in Lincoln County.

Recreation and Tourism

Public lands, be they federal, state, or local, comprise a resource base for public recreation and tourism in the planning area. Uses include, but are not limited to, off-highway vehicle use, camping, picnicking, hunting, hiking, mountain biking, horseback riding, wildlife observation, fishing, geologic exploration, historic/cultural tourism, fossil collecting, backcountry use of designated wilderness areas, and various winter sports. Abundant recreation opportunities are located within the planning area, supporting substantial annual use by residents and visitors, which in turn generates support for the local economies.

Insights into the significance of recreation to the local economy can be gained from the estimated use reported by the various key agencies. Annual visitation to the Great Basin National Park, established in 1986, was 79,879 in 2004 and has averaged 83,087 over the past 5 years. Visitation to the Park is highly seasonal, concentrated primarily from May through September. Seven of Nevada's 21 state parks are located within the planning area, five of which are in Lincoln County. Annual visitation totaled 324,275 users at these 7 state parks in 2003 and 316,045 through November 2004 (Nevada Division of State Parks 2005). In recent years, organized off-highway vehicle events in Lincoln County and northern White Pine County have been attracting increased levels of activity.

The area also supports substantial levels of hunting and fishing. The Nevada Department of Wildlife licenses hunts for antelope, elk, mule deer, and a limited number of mountain lion in the area. Licenses also are issued for bird and small game hunting. Big game tags for deer, elk, bighorn sheep, antelope, and mountain lion are issued by lottery draw. Applicants exceed the number of available tags, often by a substantial margin. Hunting of upland game and small game species and fishing occur under the auspices of the general hunting license and stamps.

Travel and tourism is yet another form of economic activity in the planning area that is tied to the public lands. Tourism resources and attractions include the Nevada Northern Railroad, the historic railroad depot in Caliente, U.S. Highway 50 and Great Basin scenic routes, and numerous historical sites throughout the region.

The economic contributions associated with recreation and tourism has not been quantified, but the linkages are apparent in the types of businesses operating in the planning area. The U.S. Census Bureau reported that 100 of the 300 private sector establishments doing business in Lincoln and White Pine counties in 2001 were either in retail stores, eating and drinking places, or motels or other overnight lodging accommodations.

Hunting and Fishing

Hunting, fishing, and non-consumptive recreation pursuits associated with wildlife, such as watching or photographing, are an important part of the regional economy and quality-of-life. A national study of such pursuits estimated residents and non-residents spent $681 million in Nevada on wildlife-related recreation in 2001. Of that total, about $168 million was related to the actual, active participation, for example, food, lodging, or fuel. The remaining $513 million was for equipment, licenses, guide and outfitting services, and memberships. Non-consumptive activities accounted for 42 percent of the total spending, following by fishing (36 percent) and hunting (22 percent). Total activity levels within the state were estimated at 1.58 million days of fishing, 490,000 days of hunting, and 609,000 days of non-consumptive wildlife related use (U.S. Department of the Interior et al. 2003).

All three types of activity occur on public and private lands across the planning area. County-level estimates of sportsmen fishing were not prepared as part of the 2001 national study, but the 5,738 resident and 1,140 nonresident hunting and fishing licenses sold in Lincoln and White Pine counties in 2002-2003 are indicative of the economic and social importance of these activities in the region (see **Table 3.23-4**).

Published big-game tag sales and hunting statistics indicate about 6,500 resident and 550 non-resident big game hunts occur within the planning area, although not necessarily on lands managed by the Ely Field Office (Nevada Department of Wildlife 2004). Applying results for Nevada from the 2001 national survey to the combination of license and tag sales yields estimated annual spending of $25 million to $30 million by resident and non-resident participants in the planning area. However, that spending is not captured entirely within the planning area due to factors such as mail order purchasing and fishing and hunting by residents outside of the planning area.

Table 3.23-4
Nevada Fishing and Hunting Licenses Sold, 2002-2003

	Lincoln County	White Pine County
Resident Fishing	1,395	2,216
Resident Hunting	244	336
Resident Hunting/Fishing Combination	494	1,053
Nonresident Fishing	186	887
Nonresident Hunting	33	34
Total Licenses Sold	**2,352**	**4,526**

Source: Nevada Department of Wildlife 2004.

Guided fishing and hunting trips are an important economic stimulus because of the income they generate for the guides and outfitters and the purchases of goods and services made by those guides and outfitters to provision the hunts. Local guides and outfitters, licensed by Nevada Department of Wildlife, provide guided big game hunts for residents and non-residents alike. Such hunts are typically 1 week in duration and involve packing into remote areas. In addition to involving a licensed master guide, such hunts require special recreation permits issued by the Ely Field Office when they occur on BLM-administered lands. An outfitter and guide service may provide services to multiple hunters during the course of the complete hunting season. Nevada Department of Wildlife has licensed nearly 90 master guides for one or more big game species in areas included within the planning area, 10 of whom reside in the area. Another 19 sub-guides, who work with master guides, also live in the area (Nevada Department of Wildlife 2004).

The number of guided hunters conducting hunts under special recreation permits issued by the Ely Field Office has increased over the past several years from 63 in 2000 to 174 in 2003. Fee receipts in 2003 totaled $9,631.

Native Plant Products

Another economic linkage between the planning area and the local economy stems from personal collection and use of forest/woodland products. The Ely Field Office issues permits allowing the collection of fuelwood, pinyon pine nuts, Christmas trees, and posts and poles. Permit sales over the past 7 years have ranged from 1,515 to 1,875 cords per year of fuelwood, 0 to 26,000 pounds of pinyon pine nuts, 540 to 4,918 Christmas trees, and 1,500 to 3,118 posts. Private use accounted for nearly 93 percent of the total, with commercial sales accounting for about 7 percent.

Personal Income and Poverty

Total personal income has grown consistently over time. Between 1985 and 2002, total personal income in Lincoln County increased by 86 percent, climbing steadily from $48.3 million to $89.6 million (see **Table 3.23-5**). Personal income in White Pine County increased from $91.9 million to $228.6 million during the same period (a 149 percent increase) exceeding the previous peak of $224.7 million that occurred

during the height of mining activity. Adjusting for inflation reduces the gains in total personal income to 13 and 51 percent in Lincoln and White Pine counties, respectively.

Table 3.23-5
Total Personal Income 1985 to 2002
(in millions)

County	1985	1990	1995	2001	2002	Percent Change
Lincoln County	$48.3	$68.9	$74.0	$83.7	$89.6	86
White Pine County	$91.9	$155.3	$196.8	$220.5	$228.6	149

Source: U.S. Bureau of Economic Analysis 2003 and 2004.

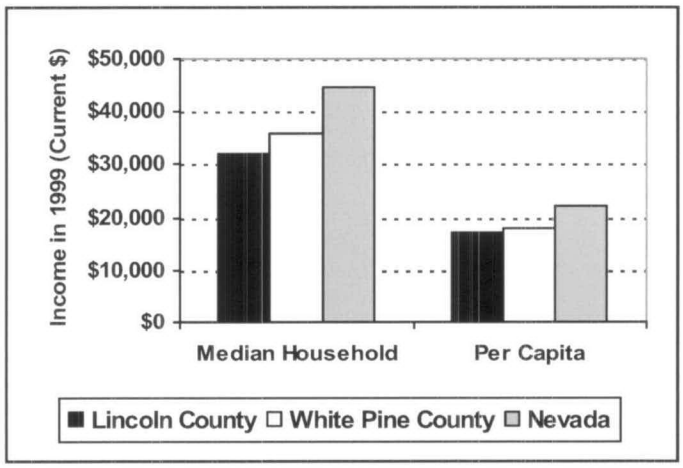
Wage and salary earnings accounted for about 66 percent of total personal income in the planning area in 2002. The statewide average was 76 percent. Dividends, interest, and rents accounted for 17 percent of local income, comparable to the 21 percent statewide. Transfer payments such as social security, Medicaid, and unemployment benefits accounted for about 18 percent of the total income, compared to just 12 percent statewide.

Government and government enterprises account for 30 percent of all direct earnings paid to workers in Lincoln County and 32 percent of earnings in White Pine County in 2002. Both shares are considerably higher than the 11 percent of statewide labor earnings from government. The high local concentrations of earnings from the government sectors reflect a shift away from natural resource-based development (i.e., mining) as the predominant source of high-paying jobs. Jobs in the mining industry historically have been among the highest paying jobs in the region. In 2000, annual earnings per worker in mining in White Pine County averaged nearly $54,300. While the average earnings for federal government employees also were comparatively high, those for state and local government lagged behind those in the private sector. The average earnings for state employees in Nevada have risen in recent years, outpacing earnings growth in the private sectors. As a result, state employees in the planning area, most of whom work at the state correctional facilities and the Nevada Department of Transportation, had average earnings in excess of $54,000 in 2000. Moreover, employment levels of these state agencies do not fluctuate dramatically, providing a degree of economic stability for local communities.

Gains in total personal income translate to increased personal income on both a per-household and per capita basis. The increases in local income, however, have not kept pace with broad gains made across the state and nation. As a result, per capita personal incomes continue a long-term trend of lagging statewide and national averages. As measured by the Bureau of Economic Analysis, per capita incomes in Lincoln and White Pine counties in 2002 were 69 percent and 87 percent, respectively, of the Nevada average of $30,559 and 71 percent and 89 percent, respectively, of the U.S. average of $29,847.

Median household income in 1999, as recorded in the 2000 Census, was $31,979 in Lincoln County and $36,688 in White Pine County. The two counties ranked seventeenth and thirteenth lowest among Nevada

counties and were well below the statewide average of $44,581 (see **Figure 3.23-4**). Note that the Census Bureau measures income using a different definition from the Bureau of Economic Analysis.



Source: U.S. Census Bureau, Census 2000.

Figure 3.23-4. Household and Per Capita Income in 1999

The percentage of households in the planning area with very low incomes is substantially higher than the statewide average (see **Table 3.23-6**). Lower incomes translate to an elevated incidence of poverty among residents in the planning area, particularly in Lincoln County.

Table 3.23-6
Poverty Rates Among Residents 1999

County or State	Persons Below Poverty	Percent of Population	Statewide Rank[1]
Lincoln County	626	16.5	17
Nye County	3,454	10.7	9
White Pine County	866	11.0	11
Nevada	205,685	10.5	NA

[1] Rank is among Nevada's 17 counties, with 1 being the lowest.

N/A = Not applicable.

Source: U.S. Census Bureau, Census 2000.

Across the state, almost one in 10 households lived in poverty. By comparison, in Lincoln County the rate was about one in 6 households (16.5 percent), the highest in Nevada. Countywide poverty rates in Nye and White Pine counties, at 10.7 percent and 11.0 percent, respectively, were above the statewide average, too, but only by a small fraction.

Several communities within each county have high poverty rates relative to county and state averages. In Lincoln County, 20 to 25 percent of the residents of the communities of Alamo and Caliente were below the poverty threshold in 1999. In the Duckwater Census Civil Division of Nye County, 17.4 percent of residents lived at or below the poverty threshold, and in White Pine County the poverty rate was above average in the McGill and Ruth areas. In the communities of Ely and Baker, also in White Pine County, the poverty rate was comparable to the statewide average.

Moderately high incomes in the $50,000 to $60,000 range also occur more frequently in Lincoln and White Pine counties than across the state, most likely due to the large numbers of federal and state employees in those counties. However, the relative frequency of households with incomes of $75,000 or more is lower in the planning area than in the state as a whole: 12 percent locally compared to 21 percent statewide.

Payments in Lieu of Taxes. Congress authorized "payments in lieu of taxes" to local governments that have certain federal lands within their boundaries (31 U.S. Code 6901-6907 – 1976). Payments in lieu of taxes are part of the federal receipts for land and resource use that are shared with local governments to help defray the costs of providing public services such as law enforcement, fire protection, and roads that are affected by the presence and use of those federal lands.

Payments in lieu of taxes payments are authorized to local governments, generally counties, based on the acres of "entitlement lands" within their boundaries. Entitlement lands consist of lands in the National Forest and National Parks systems, some lands involved in U.S. Army Corps of Engineers projects, National Wildlife Reserves, and lands administered by the BLM. The amount of payments in lieu of taxes allocated to each local government is formula based, factoring in the number of entitlement acres, a per acre payment rate, deductions for certain other federal land payments, and a per-capita ceiling or cap on payments based on the area's population. The cap is a sliding scale, ranging from $110.00 per capita for counties with population of 5,000 or less, to $44.00 per capita for counties with 50,000 residents. The amount of payments in lieu of taxes is not a direct function of the land use activity or any mineral production that might occur on the land, although such activities may generate other payments to the local government that could be deducted from the payments in lieu of taxes entitlement.

A total of 20.2 million acres of entitlement land are located in the three counties: 6.4 million acres in Lincoln, 5.3 million in White Pine, and 8.5 million in Nye. The majority of the overall total is BLM-administered land. Public lands managed by the Ely Field Office account for about 1.3 million acres of the Nye County total.

Total annual payments in lieu of taxes payments to the three counties have more than doubled since 1999 from $1,255,770 in 1999 to $2,656,772 in 2005 (see **Table 3.23-7**). Payments in lieu of taxes payments were $407,188 to Lincoln County in fiscal year 2005, $1,624,644 to Nye County, and $625,010 to White Pine County.

Table 3.23-7
Federal Payments in Lieu of Taxes to Local Counties for Fiscal Years 1999 to 2005

Fiscal Year	Lincoln County	Nye County	White Pine County
1999	$221,171	$685,535	$349,064
2000	$222,136	$763,264	$368,447
2001	$314,534	$1,186,179	$519,000
2002	$330,193	$1,245,237	$544,839
2003	$385,964	$1,490,188	$625,150
2004	$396,803	$1,531,911	$642,701
2005	$407,118	$1,624,644	$625,010

Sources: U.S. Department of Interior 2005.

Payments in lieu of taxes payments to all three counties are constrained by the population based caps. In other words, all three counties receive less than the base entitlement amount calculated from the local entitlement acreage based on their respective populations relative to limits on receipts contained in the Payments in Lieu of Taxes authorizations. For Lincoln County and White Pine counties, the effects of the population cap have been substantial reductions in actual receipts. Recent and ongoing population growth in Nye County has diminished the impact of the population constraint over time. Future Payments in Lieu of Taxes receipts in White Pine and Lincoln counties would be affected by population changes as well; cutting receipts in the event of substantial declines or raising receipts given sufficient growth.

Actual payments in lieu of taxes payments to counties are subject to further reductions based on the level of Congressional funding appropriated for the payments in lieu of taxes program. Historically, appropriations levels have not funded the program fully. For fiscal year 2004, the appropriations were about 67.7 percent of the full funding level. Consequently, the actual payments to counties for fiscal year 2004 reflected about a 32.3 percent pro-rata reduction.

Countywide Assessed Valuation. Taxes imposed on real and personal property and on the proceeds from mining operations are an important revenue source for local governments in Nevada, particularly counties. Although federal lands are exempt from taxation, the proceeds of natural resource development are subject to tax. Under Nevada law, a county's assessed valuation includes the net proceeds derived from the production of minerals (ores, oil, gas, and other hydrocarbons) after production expenses are netted out from gross receipts. The derivation of assessed valuation captures changes in the amount of development or level of production and changes in mineral commodity prices due to market forces.

Lincoln County has a relatively low assessed valuation that has increased steadily, albeit modestly, from $77.4 million in 1994/95 to $105.1 million in 2004/05 (see **Figure 3.23-5**). With limited natural resource development occurring in the county, primarily sand and gravel, mining-related assessments have accounted for little of the county's tax base.

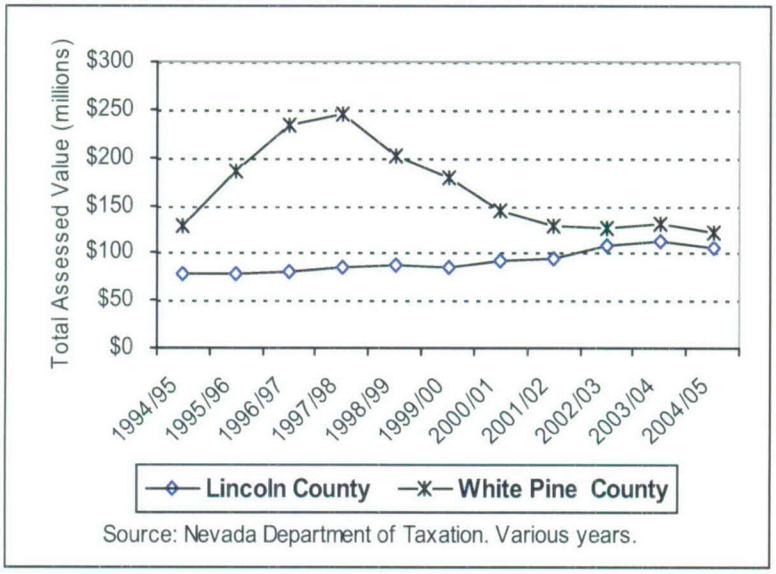


Figure 3.23-5. Assessed Valuation in Lincoln and White Pine Counties 1994 to 2004

The trends in White Pine County's assessed valuation are more pronounced. Increases in mineral development and the commercial and residential development it help spawn, resulted in a $117.9 million (92 percent) increase in total assessed valuation in just 3 years. A similar decline occurred from 1997/1998 to 2001/2002 due to falling production, mine closures, and falling real estate values prices. The volatility of mineral related assessed value, which is in part attributable to the limited tax base that is inherent in rural counties with large public land holdings, is another common dimension of the local socioeconomic environment that challenges residents and governments alike. White Pine County may expect to realize an increase in assessed valuation from the recent reopening and renewed production at the Robinson Mine near Ely.

3.24 Social Conditions

3.24.1 Introduction

The Ely planning area comprises 11.5 million acres of public lands (about 17,800 square miles) in east-central Nevada, an area larger than the combined areas of Connecticut, Delaware, Rhode Island and Massachusetts, or about comparable to the combined areas of New Hampshire and Vermont. Generally rectangular in shape, the planning area runs approximately 240 miles north to south and 115 miles east to west (see **Map 1.2-1**). yet only 13,596 people resided within the perimeter boundary in 2000, an average density of less than 0.8 persons per square mile. The region's rural character is even more evident when the following characteristics are considered:

- There are two incorporated municipalities in the planning area: Ely the seat of White Pine County and also the largest community in the planning area with a population of 4,041 residents in 2000, and Caliente, with a 2000 population of 1,123, the largest community in Lincoln County.

- Unincorporated communities in the planning area include McGill, Lund, Ruth, Baker, Preston and Cherry Creek in White Pine County; Panaca, Ash Springs, Alamo, and Pioche in Lincoln County, and Duckwater and Currant IN Nye County.

- Nearly 58 percent of all residents of the region live in just five communities, Ely, Caliente, McGill, population 1,184 in 2000, Pioche, population 840, and Panaca, population 632. That share rises to 63 percent of the total non-institutionalized population, that is, excluding the 1,158 persons living in correctional facilities from the total population.

- Ely and Caliente are approximately 133 highway miles distant from one another.

- The nearest major metropolitan areas are Las Vegas (150 highway miles south from Caliente), Reno (320 highway miles west from Ely), and Salt Lake City (242 highway miles east from Ely).

- Primary highway transportation access within the planning area and connecting the planning area to the major metropolitan areas are: U.S. Highway 50, which traverses east-west across White Pine County, passing through Ely; U.S. Highway 6, which traverses east-west through the portion of the planning area in Nye County and southwestern White Pine County, before entering and passing through Ely and then being collocated with U.S. Highway 50 east of Ely; and, U.S. Highway 93 which runs north-south through the entire length of White Pine and Lincoln counties

- Several state roads connect to the major highway framework created by U.S. Highways 6, 50, and 93, principally providing access to other local and regional destinations.

The historical dependency on natural resource extraction and production (see Section 3.23, Economics), low population, distances separating communities, structure of local governance in rural Nevada, and issues associated with the vast amounts and management of federal lands (not solely BLM), all influence social

conditions, organization, and values in the planning area. Some of ways in which these influences manifest themselves include the following:

- Relatively high mobility for some segments of the population that migrates into the region in response to new job opportunities, for example, the opening of a new mine, but then moves elsewhere within the region in pursuit of other jobs or leaves the region rapidly when the jobs are completed.

- In contrast to the highly mobile population, there also is a nucleus of long-time residents of the area, comprised of members of the agricultural economy, retired or semi-retired individuals, and others attracted by low cost of living or the rural, outdoor quality of life in the region, who are less sensitive to short term economic trends. While these individuals and groups are generally quite self-reliant, they also participate in formal and informal social groups and networks based on occupations, religious beliefs, recreational or leisure pursuits, or other common interests.

- Public demand and acceptance of lower levels of services, infrastructure capacity and programs than typically characterizes more urban environments. Demand for public services is more on "essential" services, such as law enforcement, or centralized water service in communities, and less on what many see as discretionary programs such as recreation. White Pine and Lincoln county governments are the primary provider or coordinator for many of these services, with special service districts functioning in unincorporated communities. Municipal governments in Ely and Caliente provide additional services and facilities in their communities.

Additional information regarding social conditions and trends are presented below.

3.24.2 Population

Historical Population Trends

The planning area is a rural and sparsely populated area where historical population trends reflect the influence of mineral development activity and of federal activities at the nearby Nevada Test Site and Nevada Test and Training Range. Mineral development has been the strongest influence in White Pine County, causing a series of population cycles since 1970 (see **Figure 3.24-1**). From 1972 to 1979, population decreased 22 percent in White Pine County. Beginning in 1979, White Pine County population was in an upward trend that included an increase of 29 percent from 1987 to 1997. Then, from 1997 to 2000, population in White Pine County decreased by more than 1,850 persons following closures and layoffs at several of the area's gold and copper mines. Activities at the nearby Nevada Test Site and Nevada Test and Training Range, the other major economic force in the planning area, have had more of an influence on Lincoln County. The effect of federal energy and defense activity on population in Lincoln County has been some cyclical change but more generally a modest upward growth trend since 1970.

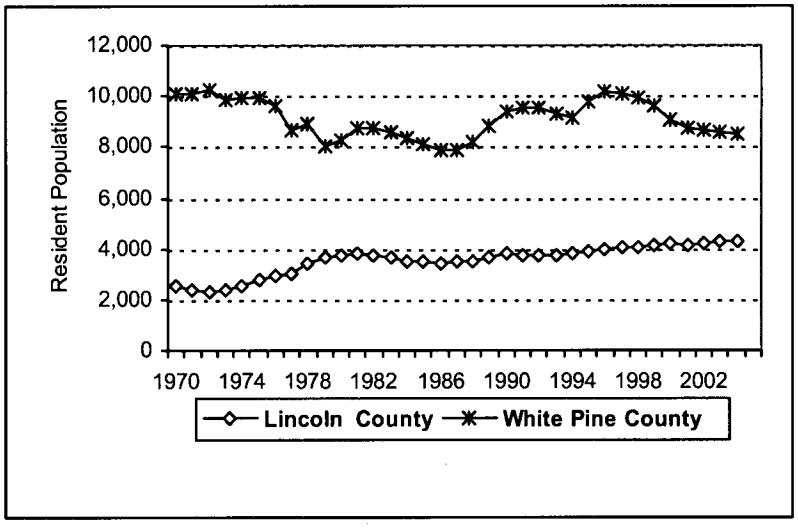


Figure 3.24-1. White Pine and Lincoln County Populations 1970 to 2004

Between 1990 and 2000 the planning area experienced a net increase in population (see **Table 3.24-1**). The planning area's population was 13,596 in 2000, up from 13,337 in 1990, a gain of 1.9 percent.[3] The planning area's population in 2000 represented less than 0.7 percent of Nevada's total population. Within the planning area, Lincoln County gained population from 1990 to 2000, and White Pine County and the eastern portion of Nye County both lost population. In 2000, White Pine County's 9,181 residents accounted for 67.5 percent of the planning area total.

Table 3.24-1
Estimated Population in the Planning Area 1990 to 2000

County	Year		Change 1990 to 2000	
	1990	2000	Absolute	Percent
Lincoln County	3,775	4,165	390	10.3
Nye County (Duckwater Census Civil Division)	298	250	(48)	-16.1
White Pine County	9,264	9,181	(83)	-0.9
Planning Area Total	**13,337**	**13,596**	**259**	**1.9**

Source: U.S. Census Bureau 2000.

The American Indian Reservations involved in the planning area had a combined population of 387 in 2000, a net increase of 73 individuals over the total in 1990. Of the total in 2000, 297 residents lived within the

[3] The Nye County portion of the planning area does not directly coincide with the census geographies used for Census 2000. The Duckwater Census Civil Division offers a reasonable estimate of the population in the Nye County portion of the planning area because the area is very rural with few farm and ranch households due to the limited amount of private land.

planning area's outer boundaries and the remainder lived on the Utah part of the Goshute Reservation. The Ely and Duckwater reservations gained population between 1990 and 2000. Population declined by 19 persons on the Nevada portion of the Goshute Reservation during that period.

Estimated Population Since 2000

Lincoln County as a whole grew by 10.3 percent from 1990 to 2000. All areas of Lincoln County grew during that time, but growth was the strongest in the Pioche area. White Pine County as a whole lost 0.9 percent of its population from 1990 to 2000. Within White Pine County, population decreased in the Ely and Lund areas during that time and increased in the McGill and Baker areas.

Population estimates prepared by the Nevada State Demographer's Office and the U.S. Census Bureau paint somewhat different pictures of population change since 2000 in the principal counties of the planning area. The State Demographer's estimates indicate that Lincoln County experienced modest population decline through 2003, with a slight gain to 3,822 in 2004, down 343 persons from 2000 (Nevada State Demographer's Office 2006). In White Pine County, the State Demographer's estimates show several years of population decline, followed by modest growth to yield a population of 8,966 in 2004, up 215 from 2000.

The Census Bureau's estimates for 2000 to 2004 indicate a net population growth of approximately 120 persons in Lincoln County, to 4,286 in 2004, but a net reduction of more than 600 residents to 8,539 in White Pine County. Recent population estimates are not available for the Duckwater Census Civil Division.

The reasons for the difference between the two sources of county-level population estimates are not known. However, other available economic data would tend to support the higher estimates for each county, or the Census Bureau's estimate of 4,286 in 2004 in Lincoln County and the State Demographer's estimate of 8,966 in 2004 in White Pine County. In Lincoln County, other data suggest that there have been gains in retirement migration and in migration by households in which one or more workers commute to jobs in Clark County to the south. In White Pine County the reopening of the Robinson mine in 2003 and subsequent expansion of its workforce would argue against population declines.

Demographics. In 2000, more than 87 percent of residents in the planning area identified themselves as white alone. That percentage is substantially above the statewide average of 75 percent white alone (see **Table 3.24-2**). Individuals identifying themselves as American Indians or Alaska Natives, either alone or in combination with some other race or races, comprised 4.6 percent of the planning area population. Black, Asian, individuals of other races or two or more races other than American Indian or Alaska Native, accounted for a much smaller share of the residents in the planning area than in the state as a whole; 8.1 compared to 22.8 percent, respectively.

Table 3.24-2
Ely Planning Area Population by Race for Census Year 2000

Race	Nevada (percent)	Planning Area (percent)
White alone	75.2	87.3
American Indian or Alaska Native, alone or in combination with one or more other races	2.0	4.6
Black, Asian, other race, or two or more races not including American Indian or Alaska Native	22.8	8.1

Source: U.S. Census Bureau, Census 2000.

Many American Indians residents in the planning area are affiliated with the Duckwater Shoshone, Goshute or Ely Shoshone tribes, each with a reservation located entirely or partially within the planning area. The Duckwater Indian Reservation (about 3,814 acres and 149 residents in 2000) is located in northwestern Nye County and the Goshute Indian Reservation (about 3,867 acres and 105 residents) is in northwestern White Pine County and straddles the Nevada-Utah state line. Both reservations are extremely rural, with limited scale economies which are dependent upon tribal operations and agriculture. The Ely Colony of Shoshone (about 110 acres and 133 residents in 2000) is contiguous to the town of Ely and is in many ways functionally part of the larger Ely community. Tribal members, both those residing in on-site housing and those living elsewhere, have access to health care, day care, tribal government and other activities provided on-site, as well as to job opportunities, shopping and other trade and services located in town.

Across Nevada, 98.3 percent of all residents lived in households, the other 1.7 percent of residents living in group quarters.[4] The percentage of residents in group quarters is much higher in Lincoln and White Pine counties, 8.4 percent and 13.5 percent, respectively, due to the location of state correctional facilities in Caliente and near Ely. The large institutionalized population in White Pine reflects the 1989 opening and subsequent expansion of the Ely State Prison to its present capacity of about 1,200 inmates.

Residents of the planning area are slightly older than the statewide population, in terms of median ages; 39 years in Lincoln County and 38 years in White Pine County compared to 35 years statewide. Factors that likely contributed to the variances include the outflow of working age households following recent declines in the mining industry, the relatively static size and age profiles associated with the institutionalized populations at the Caliente Youth Center and the Ely State Prison, and the attraction of retired residents to the area. Residents aged 65 and older account for 16 percent of Lincoln County and 13 percent of the White Pine County residents.

Student enrollment in public schools is an important barometer of local socioeconomic conditions. The schools in the planning area operate under a unified school district in each county. Total county enrollment at the beginning of the 2002/03 school year was 1,006 students (kindergarten to 12) in Lincoln County and

[4] The Census Bureau classifies all people not living in households as living in group quarters. There are two types of group quarters: institutional (correctional facilities, nursing homes, and mental hospitals) and non-institutional (e.g., college dormitories, military barracks, group homes, missions, and shelters).

1,446 (pre-kindergarten to 12) in the White Pine School District. Overall enrollments have trended downward in Lincoln and White Pine counties until very recently. During the eight years ending with the 2002/03 school year, the declines numbered 117 students in Lincoln County and 545 students (28 percent) in White Pine County. Since then, Lincoln County has gained 14 students and White Pine has gained 11 students. The Nye County School District teaches grades K-6 at a school in Duckwater. Enrollment at that school was 12 students at the beginning of the 2004/05 school year. Middle and high-school students, grades 7-12, living in the Duckwater area attend school in Eureka under an agreement between the respective districts.

Housing. Housing availability, affordability, and conditions are important elements of community development and local socioeconomic conditions. Housing conditions can affect migration, quality of life, the cost of living, and a community's capacity to accommodate growth and public infrastructure investment.

From 1990 to 2000, the housing stock in Lincoln County increased by 378 to a total of 2,178 dwelling units. There were 4,439 housing units in White Pine County in 2000, 457 more homes than the 1990 count of 3,982 units. Despite some recent new residential construction in and near Ely, the Census Bureau estimates a net reduction of 8 units in White Pine County between July 2000 and July 2004 (U.S. Census Bureau 2005). The housing supply in the Duckwater Census Civil Division totaled 154 housing units in 2000, 65 on the reservation and 89 units in the remainder of the Census Civil Division. While the total number of units in both Lincoln and White Pine counties increased, the number of occupied units actually declined in White Pine County. Across the planning area, about 73 percent of all units were occupied in 2000. Owner occupancy of the occupied units averaged about 75 percent, and 25 percent were renter-occupied. Census Bureau estimates indicate a net addition of 33 units between July 2000 and July 2004.

In 2000, nearly half of the 638 vacant homes in Lincoln County were for seasonal, recreational, or occasional use. Only 87 units were available for rent or sale. Units listed for sale or rent numbered 422 in White Pine County, with another 232 units identified for seasonal or recreation use. Single-family homes were the largest shares of housing in Lincoln and White Pine counties, 63 percent and 72 percent, respectively.

The housing stock in Lincoln and White Pine counties is relatively old. Homes built 30 or more years ago accounted for 43 percent of all homes in Lincoln County and 58 percent of homes in White Pine County. There were 206 homes in Lincoln County built in 1995 or later. The number of homes less than 6 years old totaled 435 units in White Pine County.

Social Values and Attitudes Regarding Public Land Management. The process of planning and administering public lands involves trade-offs and balancing among competing demands and opportunities associated with the physical and natural resources within the statutory and regulatory framework established by Congress and various administrative guidance.

The vast land area and concentration of BLM-administered lands within the planning area spawn substantial stakeholder interest in the Field Office's management decisions for the area. For this discussion, stakeholders are defined as individuals or groups of people who have an interest or interests in public lands

and the decisions affecting those lands. The commonalities within a stakeholder group can arise due to geography, occupation, lifestyle interests, membership or group affiliation, or ethnic and cultural ties. Individuals often belong to multiple stakeholder groups (e.g., a local businessman/rancher who holds a grazing permit, hunts, and serves on a local economic development organization). Depending on the forum and topic, stakeholders may participate in the planning process as individuals, as well as in some type of official capacity. Stakeholder groups need not have a physical presence in the area to participate or be engaged in the process.

Because of the diversity of issues involved in land management planning, some stakeholders focus their attention narrowly, on specific issues. Others are concerned about a much broader range of issues and topics. Stakeholders who engage in the process typically do so with the aim of influencing the decision in a way promoting their particular interest, position, or values. Stakeholder groups may be characterized in terms of one or more key attributes or descriptors, such as consumptive versus non-consumptive uses, local or nonlocal, individual or organization, programmatic (e.g., wild horses or designated wilderness), or philosophical (sustainable development or maximum yield). While some of these attributes are dichotomous in form (e.g., supports off-highway vehicle use or opposes such use), others relate to positions along some type of continuum (e.g., number of acres of designated wilderness that is desirable).

Scoping conducted at the outset of the RMP/EIS process identified a broad range of social values and stakeholder interests in the planning area (see Section 1.6, Scoping Issues). Ongoing intergovernmental coordination efforts and participation by cooperating agencies provide additional insights into stakeholder interest and values (see Chapter 5.0, Consultation and Coordination).

Local residents and organizational interests have a strong and often direct relationship with BLM administration of public lands in the planning area. Many residents are at least partially dependent on these lands for their economic livelihood (e.g., ranchers who maintain and operate livestock grazing permits, commercial big game hunting guides and outfitters, individuals employed in mining, and the staff of the agencies themselves). Some long-time residents see these uses of the land as part of their local custom and culture, which they believe ensures them to at least some preferential consideration. In turn, the revenues generated by those activities help support other local businesses and the functioning of local government. Maintaining and expanding economic uses of the public lands are important for these stakeholders.

Local governments and Tribes also are interested in expanding uses that support economic development in the planning area. That interest reflects recognition of the region's historical economic dependency on natural resource use and the recent downturn in such use, but also a belief that the economic development of the area is being constrained by the lack of private land and the impacts of public land management decisions that affect agricultural, industrial, and commercial recreation and tourism development. These interests manifest themselves in policies discouraging actions that would result in the loss of additional private lands, promoting additional land disposal to local governments or to private ownership, and expanding outdoor recreation opportunities, particularly for off-highway vehicle use. Due to recent wildland fires, both local and nonlocal governments are increasingly concerned about wildland fires on public lands;

the risks they pose to lives, private property, and local communities; and the potential impacts on fiscal resources and government operations.

The interests of American Indians in the region extend beyond land disposal issues because of their traditional ancestral and cultural ties to the area. Thus, protection of cultural resources and maintaining subsistence use of forest/woodland products by tribal members also are important social values (see Section 3.9, Cultural Resources, Section 3.25, American Indian Issues, and Chapter 5.0, Consultation and Coordination).

Another major stakeholder group is local residents having strong attachments to the public lands for various recreation pursuits and the contributions of such pursuits to their quality of life. These pursuits include rock-hounding, hunting, wildlife viewing, backcountry touring, four-wheeling and off-highway vehicle use, and camping. Proximity and ready access to these opportunities, which are ancillary attributes of the rural character and lifestyle of the area, also are key factors influencing their choice to live in the area. Along with factors such as affordable housing and Nevada's favorable personal income tax structure, local economic development interests are promoting outdoor opportunities to recruit retirees and others, whose residency choices are largely independent of a specific work-site or location, to move to the area.

Non-local interest in the RMP/EIS process echoed some of the same values and interests held by residents. At the same time, other non-local interests supported a management emphasis more focused on ecological system health and restoration. An example of the former was support voiced for increased opportunities for off-highway vehicle use, both for individuals and in the context of organized events. Much of that interest, which is consistent with local economic development interests, emanated from Las Vegas, Mesquite, and Reno, urban areas with many off-road vehicle/off-highway vehicle/dirt bike enthusiasts interested in expanding the area and range of trails and riding environments open to the public. Others, however, view off-highway vehicle use as threatening ecological system health and wildlife and being incompatible with other forms of outdoor recreation. Livestock grazing, declining biodiversity, wildland fire risks, and the associated implications for invasive and noxious weeds also were identified as threats to ecological system health and wildlife. For these stakeholders, the value of ecological system health and wildlife warrants limiting or eliminating others uses, even if doing so may have adverse social and economic implications within the region for other users. Therein lies one of the classic challenges for land use planning and management, balancing the interests of local residents, which are often directly tied to the land, with those of non-locals whose interests are more philosophical.

3.25 American Indian Issues

3.25.1 Indian Trust Resources

Indian Trust Resources are natural resources, either on or off Indian lands, that are retained by, or reserved by or for Indian tribes through treaties, statutes, judicial decisions, and executive orders, which are protected by a fiduciary obligation on the part of the U.S. Federal laws and guidance that may apply to Indian Trust Resources and other Indian issues within the conditions of the RMP include, but are not limited to, the American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, Indian Sacred Sites, and Secretarial Order #3206. Indian Trust Resources located on the Goshute, Ely Shoshone, or Duckwater Indian reservations, which are found within the planning area, are managed and protected by the tribes. Indian Trust Resources located on lands administered by the BLM are managed and protected by the BLM; however, no Indian Trust Resources have been identified on BLM-administered lands within the planning area.

American Indian tribes within the planning area have used pinyon pine nuts as a traditional food source. The pinyon pine nut is culturally significant as it has been the focal-point of American Indian traditional ways of life and important to maintaining historical tribal gathering areas or culture-geography areas. Historically, tribes would have pinyon pine nut festivals at the conclusion of the harvest. These festivals provided an opportunity for: 1) tribes to gather with other tribal members; 2) the sharing of oral histories; 3) a social gathering that included dancing and hand-game tournaments; and 4) the performance of traditional religious practices. These cultural values have been practiced for generations, and are expected to be practiced into the future, as part of maintaining American Indian traditional ways of life.

3.26 Environmental Justice

Executive Order 12898, "Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations" was published in the *Federal Register* (59 FR 7629) on February 11, 1994. Executive Order 12898 requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations (defined as those living below the poverty level). Potential environmental justice concerns arise particularly in instances where minority or low-income populations comprise disproportionately high shares of the affected population, or where anticipated or potential projected impacts would affect minority or low-income populations disproportionately due to timing, location, specific character or other form of incidence, or constrained participation or consideration in the decision making process.

In 2000, racial and ethnic minorities accounted for 18.2 percent of the resident population of the planning area; 48 percent lower than the 34.8 percent minority population across Nevada and 41 percent lower than the 30.9 percent racial and ethnic minority population across the nation. In relative terms, there are substantially fewer individuals identifying themselves as being Hispanic, of Latino ethnicity or not Hispanic or Latino and not white, American Indian or a Alaska Native within the planning area than across either the state or nation (see **Table 3.26-1**). Native Americans, primarily American Indians and not Hispanic or Latino, comprise a larger share of the resident population in the planning area than within the state or nation; 3.8 percent in the planning area, compared to 1.1 percent in Nevada and 0.7 percent in the nation.

Table 3.26-1
Racial and Ethnic Population Composition in the Planning Area and Geographic Comparison Areas (2000)

	Percentage of Total Population					
	(A)	(B)	(C)	(D)	(E)	(F)
Geographic Area	White and not Hispanic or Latino	American Indian and Alaska Native and not Hispanic or Latino	Other Races, Two or More Races, and not Hispanic or Latino	Hispanic or Latino Ethnicity	Total Racial and Ethnic Minorities (B) +(C)+(D)	Difference in Percent Minority Population Above/Below the State Average
United States	69.1	0.7	17.6	12.5	30.9	-3.9
Nevada	65.2	1.1	14.0	19.7	34.8	NA
Planning Area	81.8	3.8	5.2	9.2	18.2	-16.4

Source: 2000 US Census, US Census Bureau, Summary File 1.

Notes: Racial minorities includes all persons identifying themselves in the census as a non-white race, including "Black or African American," "American Indian and Alaska Native," "Asian," "Native Hawaiian and Other Pacific Islander," "Some other race alone," and "Two or more races." Ethnic minorities include persons who identify themselves as Hispanic or Latino. Persons of Hispanic or Latino origin can identify themselves as part of any race (including white) and as persons of Hispanic or Latino origin are an ethnic minority, the racial group of White Alone does not include persons of Hispanic or Latino origin.

Average labor force participation rates among American Indians, ages 16 and older, are above those of the non-American residents, however, so too is the rate of unemployment experienced by Native Americans in the planning area.

Public lands play an important economic role for many American Indians residents of the planning area. The economic ties to the public lands in the planning area include subsistence use (nut harvesting, wood collection and hunting), grazing, and guided recreation and hunting. In addition to the Native American residents of the areas, the Moapa Band of Paiutes and Yomba Shoshone and perhaps other tribes have traditional ties to the area. Historically, the administration of public land use may have affected existing subsistence or traditional cultural practices of these peoples (see Section 3.9, Cultural Resources, and Section 5.2, Tribal Consultation).

In contrast to relatively fewer minority residents, the incidence of poverty is higher among residents of the planning area. Persons living below the federal established poverty level represented 12.8 percent of the population in the planning area; slightly higher than the shares of low income population across the state and nation. Moreover, there also are relatively more residents with incomes less than one and a half to two times the poverty level, which still qualifies those residents as low income for some programs (see **Table 3.26-2**). One-third of all residents in the planning area had incomes less than twice the poverty level, 5.6 percentage points or 20 percent higher than across Nevada as a whole. Census data indicate that many of those with low income are older, Native American, or both.

Table 3.26-2
Percentages of Population with Incomes below Specific Poverty Thresholds in Planning Area and Geographic Comparison Areas, 2000 Census

Geographic Area	Share of Population: Below Poverty Level	Share of Population: Below 150% of Poverty Level	Share of Population: Below 200% of Poverty Level	Percentage of Low Income (Below Poverty) Population Above/Below the State Average	Percentage of Low Income (Below 200% of Poverty) Population Above/Below the State Average
United States	12.4	20.9	29.6	1.9	2.0
Nevada	10.5	18.7	27.7	NA	NA
Planning Area	12.8	22.6	33.3	2.3	5.6

Source: 2000 US Census, US Census Bureau, Summary File 3.

The health status of the ecological systems and watersheds across the planning area does not reflect discriminatory management practices based on use or economic linkages to either minority or low income populations.

3.27 Health and Safety

Health and safety includes hazardous materials and conditions (including solid wastes) that have resulted from prior industrial or commercial activities on public lands or adjacent privately held properties. Hazardous materials also may include chemicals used by the agency for land treatment. The potentially affected environment resulting from the presence of hazardous materials includes, air, water, soil, and biological resources.

Hazardous materials, which are defined in various ways under a number of regulatory programs, can represent potential risks to both human health and to the environment when not managed properly. The term hazardous materials includes the following materials that may be utilized or disposed of in conjunction with a variety of industrial and commercial activities:

- Substances covered under the Occupational Safety and Health Administration Hazard Communication Standard (Title 29 Code of Federal Regulations Subpart 1910.1200). Materials and substances covered under the Standard may be used in a variety of industrial and commercial activities and also may be subject to the regulations listed below.

- Hazardous materials as defined under the U.S. Department of Transportation regulations in Title 29 Code of Federal Regulations, Subparts 170-177.

- Hazardous substances as defined by the Comprehensive Environmental Response, Compensation, and Liability Act and listed in Title 40 Code of Federal Regulations Table 302.4. Comprehensive Environmental Response, Compensation, and Liability Act regulations also govern the cleanup of contaminated sites. Sites evaluated under the Comprehensive Environmental Response, Compensation, and Liability Act that pose serious threats to human health and the environment may be placed on the National Priorities List and commonly are referred to as Superfund sites.

- Hazardous wastes as defined in the Resource Conservation and Recovery Act.

- Hazardous substances and extremely hazardous substances as well as petroleum products such as gasoline, diesel, or propane, that are subject to reporting requirements (Threshold Planning Quantities) under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act.

- Petroleum products defined as "oil" in the Oil Pollution Act of 1990. The materials defined under the Oil Pollution Act of 1990 include fuels, lubricants, hydraulic oil, and transmission fluids.

- There are a number of other federal statutes such as the Toxic Substance Control Act and Federal Insecticide, Fungicide, and Rodenticide Act that regulate substances such as polychlorinated bi-phenyls and pesticides. Asbestos is regulated by the Asbestos Hazardous Emergency Response Act.

In conjunction with the definitions noted above, the following lists provide information regarding management requirements during transportation, storage, and use of particular hazardous chemicals, substances, or materials:

- Superfund Amendment and Reauthorization Act Title III List of Lists (U.S. Environmental Protection Agency 2001) or the Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act and Section 112(r) of the Clean Air Act.

- U.S. Department of Transportation listing of hazardous materials in Title 49 Code of Federal Regulations Subpart 172.101.

Resource Conservation and Recovery Act governs the handling and disposal of solid wastes. Solid wastes comprise a broad range of materials that include garbage, refuse, sludge, non-hazardous industrial waste, municipal wastes, and hazardous waste. Solid waste as defined includes solids, liquids, and contained gaseous materials. Hazardous wastes are those materials that exhibit certain characteristics (as defined by laboratory analysis), are generated from specific industrial processes, or chemical compounds, that if abandoned could pose a threat to human health and the environment.

In addition to the body of federal regulations listed above, the State of Nevada regulates hazardous materials through a number of environmental statutes and regulations that are enforced by the Nevada Division of Environmental Protection. The Nevada Division of Environmental Protection also supervises and implements a number of programs that regulate hazardous materials or are involved with the cleanup of contaminated sites.

3.27.1 Existing Conditions

Contaminated Sites

The BLM has limited regulatory authority over hazardous materials. However, the agency is part of the regulated community and has an obligation to abide by the existing federal and state statutes and regulations regarding hazardous materials and to require that leasees and right-of-way grantees also abide by such regulations as part of the lease or grant terms and conditions. However, there may have been past activities on BLM-administered lands that have resulted in conditions where hazardous wastes or substances may pose a potential threat to human health and the environment. Based on review of U.S. Environmental Protection Agency and Nevada Division of Environmental Protection databases (U.S. Environmental Protection Agency 2003a,b; Nevada Division of Environmental Protection 2003), there are no uncontrolled hazardous waste sites on BLM-administered lands in the planning area that are under enforcement actions for clean up or violation of environmental regulations. However, there are several sites that, while not on the U.S. Environmental Protection Agency and Nevada Division of Environmental Protection lists as under cleanup enforcement actions, may pose a threat to human health and the environment. These sites include the Castleton Tailings site 3 miles southwest of Pioche and the Johnson Mill site 20 miles southeast of Caliente.

The database review indicated only one site on BLM-administered lands that has been investigated as a potential Superfund site. The site is known as the BLM-Caliente Landfill located in Section 28 Township 3 South, Range 67 East in Lincoln County and is listed on the Comprehensive Environmental Response, Compensation, and Liability Act Information System list of sites. The site investigation indicated that there was not evidence of a threat and the status of the site was designated as no further remedial action proposed.

Hazardous Conditions

In addition to potential contamination issues at mining sites, unsecured shafts and adits at abandoned mining sites present severe physical hazards to people and animals. The Nevada Division of Minerals and BLM cooperatively manage the Abandoned Mine Lands program and are responsible for identifying hazardous conditions at abandoned mines sites and securing dangerous mine openings. BLM and the Nevada Division of Minerals have a formal Memorandum of Understanding for the cooperative management of hazardous mining sites. According to the Nevada Division of Minerals, there are 313 and 347 identified abandoned mine hazards in Lincoln and White Pine counties, respectively. In Lincoln County, 254 hazards have been secured and in White Pine County, 313 hazards have been secured. No breakdown of hazards was readily available for the portion of Nye County in the planning area. Nye County has a total of 883 identified hazards, 580 of which have been secured (Nevada Division of Minerals 2003).

Chemical Use

Periodically the Ely Field Office uses herbicides to treat land that has been invaded by noxious weeds and invasive exotic species.

3.27.2 Trends

Contaminated Sites

It is likely that there are abandoned mines, mill sites, landfills, illegal dumps, and drug labs that pose a threat to human health and environment that have not been discovered, or that conditions at current sites have not manifested themselves to the extent that a threat has been perceived. For mining sites, contaminants potentially could move off-site onto federal lands.

Hazardous Conditions

Hazardous conditions at abandoned mine sites would continue to be mitigated through the Abandoned Mine Lands program conducted by Nevada Division of Minerals as funds become available to deal with the potentially most hazardous sites.

Chemical Use

The BLM is conducting a nation-wide evaluation of the use of herbicides on BLM-administered lands. The evaluation is to determine the safest chemicals that would efficiently treat affected lands (BLM 2005c).

3.27.3 Current Management

Contaminated Sites

The planning area handles contaminated sites when those sites become a recognized problem (Caselton Tailings and Johnson Mill Sites). There is no program to proactively determine the number of potential sites on BLM-administered lands that may pose contamination risks.

Hazardous Conditions

The planning area participates in the Abandoned Mine Lands program that deals with hazardous conditions at abandoned mine sites. The planning area must approve the mitigation of hazardous conditions at mine sites on public lands. Hazardous mine conditions are mitigated by the by the Nevada Division of Minerals.

Chemical Use

The use of herbicides is conducted in accordance with applicable federal and state regulations and BLM guidance.

4.0 ENVIRONMENTAL CONSEQUENCES

How to Read Chapter 4.0

Chapter 4.0 presents the impacts to the natural and human environments from the implementation of the alternatives presented in Chapter 2.0. The basic organization of Chapter 4.0 follows the categories and subcategories that have been used throughout this RMP/EIS, with five alternatives discussed under each. The chapter contains the following major components:

- Introduction – including types of effects to be addressed, BLM's critical elements of the human environment, assumptions for analysis, and incomplete and unavailable information.
- Impacts by category – including impact issues, assumptions, interactions with other programs, and impacts for each management goal by alternative.
- Cumulative impacts – including assumptions, interrelated projects, and impacts by category.
- Potential mitigation and monitoring.
- Unavoidable adverse environmental effects.
- Several other required sections as detailed in the table of contents.

The tools and techniques that are presented in Appendix G could be utilized by the Ely Field Office regardless of which alternative is selected (common to all alternatives). Where appropriate, the environmental effects of these tools and techniques are discussed at the beginning of a resource program that could be affected by their use. The first section of this appendix looks at the tools and techniques that could be used for vegetation treatment. This is followed by those that could be used to achieve other management goals. Since the tools and techniques are so numerous, they have been grouped into categories that would have similar effects (e.g., mechanical treatment, chemical treatment).

The paragraph summarizing interactions with other programs at the beginning of each section indicates which resource programs may interact with the program that is the topic of the section. If no interaction is indicated, the other program will not be discussed further in the section. The discussion of impacts for each alternative begins with the program specific impacts; e.g., what impacts would the wildlife management direction have on wildlife. This is followed by a discussion of the interactions between the management direction for other programs and the topic of the section; e.g., what impacts would mineral development have on wildlife. In reading each section, it is important to maintain a clear understanding of the direction of the interaction analyses; i.e., how do other programs affect the program being considered, <u>not</u> how does the program being considered affect other programs.

For ease of reading, impacts from the management actions of the Proposed RMP are presented first. Analysis that is presented for the Proposed RMP may be referenced in the following alternatives with such

statements as "impacts would be the same as (or similar to) the Proposed RMP" or "impacts would be the same as the Proposed RMP except for ...," as applicable. Since best management practices and other mitigating measures have been incorporated into the basic structure of the alternatives, many potential impacts have been reduced or eliminated "up front."

All maps referenced in Chapter 4.0 are presented in the separate Map Volume.

4.1 Introduction

This chapter describes the environmental consequences that would result from the implementation of the management actions contained in the Proposed RMP, the No Action Alternative, and three other action alternatives. The analysis of impacts associated with the alternatives is required by BLM planning regulations and by the Council on Environmental Quality Regulations for implementing NEPA. The analysis presents best estimates of impacts. When quantitative information is available (frequently through geographic information system analysis), numerical values or ranges are presented. However, since many of the management actions presented for the alternatives are programmatic in nature, impacts are frequently described in qualitative terms, relying on best professional judgment. Impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and conditions within the planning area, information collected by the Ely Field Office and other agency resource specialists, and published and unpublished literature, including information available on internet web sites. Chapter 3.0 presents the characteristics of the affected environment that were considered during impact analysis. Assumptions for analysis also have been developed to facilitate impact analysis (see Section 4.1.3).

4.1.1 Types of Effects to be Addressed

As specified in the Council on Environmental Quality guidelines for implementing the NEPA contained in the Code of Federal Regulations, three types of effects are discussed in this EIS and each is described below.

- "Direct effects, which are caused by the action and occur at the same time and place." (Title 40 Code of Federal Regulations Subpart 1508.8).

- "Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems." (Title 40 Code of Federal Regulations Subpart 1508.8).

- "Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (Title 40 Code of Federal Regulations Subpart 1508.7).

The impact discussion is subdivided by resource program, but each program would not be subject to each type of impact. Potential mitigation and monitoring and unavoidable adverse environmental effects are discussed at the end of the chapter.

4.1.2 Summarize Critical Elements of the Human Environment

The BLM's NEPA Handbook (H-1790-1) requires that all EISs address certain Critical Elements of the Human Environment. The list of elements contained in the handbook has been expanded by BLM Instruction Memoranda and Executive Orders. These critical elements are presented below along with the location in this chapter where the element is discussed. If the element does not occur within the planning area, or if it occurs, but would not be affected by the management actions being analyzed, this is indicated below and the element is not discussed further in the EIS. This elimination of non-relevant issues follows the Council on Environmental Quality guidelines as stated in Title 40 Code of Federal Regulations Subpart 1500.4. Critical issues affect by management actions are discussed within this document (e.g., see Section 4.18 for discussion of impacts from proposed withdrawals).

From BLM NEPA Handbook (H-1790-1):

- Air Quality – Section 4.2
- American Indian Religious Concerns – Section 4.25
- Areas of Critical Environmental Concern – Section 4.22
- Cultural Resources – Section 4.9
- Farm Lands (prime or unique) – Prime or unique farmlands occur within the decision area, but are limited in their extent. These soils are not currently used for production agriculture within the decision area.
- Floodplains – Section 4.3
- Threatened or Endangered Species – Section 4.7
- Wastes, Hazardous or Solid – Section 4.27
- Water Quality (Surface and Ground) – Section 4.3
- Wetland/Riparian Zones – Section 4.5
- Wild and Scenic Rivers – No designated wild and scenic rivers or rivers with wild and scenic characteristics have been identified within the planning area.
- Wilderness – Section 4.22

Added subsequent to Handbook:

- Environmental Justice – Section 4.26
- Invasive, Nonnative Species – Section 4.21
- Migratory Birds – Section 4.6
- Statement of Adverse Energy Impact – Section 4.37

4.1.3 Assumptions for Analysis

Where specific information is not available for a resource program, it is necessary to formulate reasonable assumptions with which to facilitate the impact analyses. General assumptions are presented below, while program-specific assumptions are presented at the beginning of each subsection. These assumptions should not be interpreted as constraining or redefining the management actions described for each alternative in Chapter 2.0.

- Existing state and federal environmental legislation and regulatory programs would remain relatively unchanged and in effect (i.e., analyses are based on current, rather than projected, future regulations).

- For purposes of the EIS analysis, the underlying assumptions are first that ongoing natural and human-related changes would continue in vegetation communities in the absence of management intervention, and second, that the successful application of treatments developed for a specific watershed would result in the maintenance or establishment of the desired range of conditions for the major vegetation communities in approximately the desired proportions. Thus, the planned management actions would increase vegetation and habitat resilience beyond that existing prior to the treatment.

- For impact analyses, short term is generally defined as being less than 10 years and long term as being greater than 10 years unless otherwise noted for a specific resource. Each resource would explain the differences in impacts within these periods as appropriate. The short-term period may be less than 10 years if a resource being managed would respond in less time (such as specific treatments for wildlife species or their habitats). The length of the long-term period also could vary by resource. For example, recreation may need to discuss impacts out to 20 years, while vegetation may need to discuss impacts out to 50 to 100 years.

- For impact analysis, it has been assumed that best management practices (see Appendix F) would be implemented wherever appropriate. Best management practices would be implemented at the discretion of the Ely Field Office on a project-specific basis, depending on the specific characteristics of the project area and the types of disturbance being proposed. They may not be appropriate to implement in all cases.

- Alternative D would exclude all permitted, discretionary uses of the public lands including livestock grazing, mineral sale or leasing, lands and realty actions (such as disposals, leases, rights-of-way), recreation uses requiring permits, etc. Some components of Alternative D could be implemented through the discretionary authority of the Ely Field Manager or the Nevada State Director, while others would require action by the Secretary of the Interior or new legislation by Congress. For impact analysis, it has been assumed that the necessary authorizations or legislative changes would be made to allow implementation of Alternative D as described in Section 2.8.

4.1.4 Incomplete or Unavailable Information

The best available information pertinent to the decisions to be made in the Ely RMP/EIS was used to develop and evaluate alternatives. As is always the case when developing management actions for a wide range of resources, not all information that might be desired was available. The discussions below highlight the areas where information is incomplete or unavailable and the approach taken to allow impact analysis to proceed based on the information that is available. The primary effect of unavailable information is the inability to quantify certain impacts. Where quantification was not possible, impacts have been described in qualitative terms. The Council on Environmental Quality Regulations provide direction on how to proceed with the preparation of an EIS when information is incomplete or unavailable:

"If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: 1) a statement that such information is incomplete or unavailable; 2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; 3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and 4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason." (Title 40 Code of Federal Regulations Subpart 1502.22 b).

A range of data types and qualities for resources in the planning area was available for the analysis of the impacts of the management actions contained in the five alternatives presented in the Ely RMP/EIS. Since the alternatives contain primarily programmatic management, the question of data completeness and quality is less important than would be the case for site-specific actions. Data adequacy would be a primary consideration of the Ely Field Office during watershed analyses and for analyzing and monitoring of site-specific actions.

4.1.4.1 Vegetation Treatment and Watershed Management

- Incomplete Information – Certain descriptive information for vegetation in the planning area, which relates to watershed management, is incomplete and unavailable. Key items within the information that are incomplete are soil surveys for about 1.2 million acres of the planning area and existing vegetation composition and resiliency in the various Great Basin and Mojave Desert vegetation communities.

- Relevance of Incomplete Information – An impediment to completing watershed analyses is the lack of detailed soils information that is collected by the Natural Resources Conservation Service. It would be necessary to treat portions of the vegetation in each watershed to restore resiliency. The incomplete information relates to the number of acres that would need to be treated for each vegetation type and the tools and techniques that would be used for treatment, based primarily on topography and resource

objectives. Selection of appropriate tools and techniques for individual treatment situations would be based on the available knowledge at that time. This knowledge base would continue to grow with the use of the adaptive management process, leading to improved treatment success, through and beyond the life of this plan.

- Summary of Existing Information – Of the 61 watershed management units that exist in the planning area, watershed analyses are being conducted for nine. The remaining high-priority watersheds would be analyzed over the next 10 years. Soil surveys are complete on 10.3 of the 11.5 million acres of the planning area. Vegetation composition and resiliency are available for about 2.5 million acres from ecological site inventory data and 600,000 acres from vegetation assessment using line-point intercept methods at a landscape scale. Soil survey information for unsurveyed acres should be available by the end of 2009.

- Approach to Evaluate Impacts – The Ely Field Office extrapolated the characteristics of vegetation for the entire planning area from ecological status inventory and cover data that are available for three watersheds in the Great Basin Desert and Southwest Regional GAP Analysis Project data in the Mojave Desert. Extrapolating characteristics of a large area from a smaller subset is a commonly accepted practice in landscape analysis, and this approach has allowed the Ely Field Office to analyze existing vegetation composition and resiliency. Each watershed analysis also would gather vegetation composition and resiliency as part of the watershed assessment phase. It is anticipated that an environmental assessment would be prepared for site-specific decisions stemming from watershed analyses. In addition, ongoing watershed analyses across the planning area would continue to update and refine data available for use in implementing this RMP.

- Conclusion – The incomplete vegetation, soils, and watershed information for the entire 11.5 million acres of the planning area could not be obtained for use in the RMP/EIS analysis within a reasonable timeframe, estimated at 20 years given current funding levels, without an exorbitant cost.

4.1.4.2 Condition of Vegetation Communities

- Incomplete Information – While it is generally accepted by the scientific community that some vegetation conditions in the Great Basin are deteriorating (including reduction of species diversity, loss of perennial understory grass and forb species, increase in abundance of invasive annual species, and/or increase in density of woody species), quantitative information on the rate of this deterioration, especially within the planning area, is not available. While much is known about the general situation, much additional inventory, assessment, monitoring, and research is needed to gain greater certainty about specific watersheds and areas, as well as the effectiveness of some management treatments.

- Relevance of Incomplete Information – The rate of change in vegetation communities would have a direct bearing on the rate of vegetation treatment that would be necessary in order to prevent or reverse undesirable changes.

- Summary of Existing Information – Information on vegetation condition and trends is presented in Sections 3.5 and 3.19. Some general information exists on the rate of vegetation change; for example, pinyon-juniper expansion removes most of the understory shrubs in 4 to 5 decades after the tree seedlings become established. Once invasive weed populations become established in small areas, they can increase so quickly that they can become economically or ecologically beyond eradication within a few years.

- Approach to Evaluate Impacts – The influence of change in vegetation communities has been incorporated into impact analysis based on the number of acres within the decision area that require some type of vegetation treatment over the next 50 to 100 years. It has been assumed that change would continue in the absence of intervention, without specifying a rate. Therefore, for plant community health attributes that are fire dependent, the normal fire return interval provides guidance (see **Table 3.20-2**).

- Conclusion – The deterioration of vegetation communities in the planning area is a long-term process that has been ongoing for several decades and is likely to continue for many additional years or decades. The cost to obtain the incomplete information on the rate of deterioration of vegetation communities over the 11.5 million acres of the decision area during the RMP/EIS preparation would be exorbitant.

4.1.4.3 State and Transition and LANDFIRE Biophysical Setting Models

- Incomplete Information – State and transition models are an important part of the watershed analyses that would be conducted as part of the management of the planning area (please see Section 3.5.3 and Appendix C). However, models have not been completed for all the vegetation types (ecological sites) found in the planning area.

- Relevance of Incomplete Information – State and transition models are relevant in determining desired future conditions and estimating the number of acres to be treated. State and transition models and their associated vegetation thresholds are helpful in evaluating data collected to assess the condition of watersheds and to help identify the appropriate types of treatments required to maintain or return a watershed to ecological health.

- Summary of Existing Information – Generalized draft working models (approximations) are available for major key vegetation types within the planning area including Wyoming big sagebrush, black sagebrush, mountain big sagebrush, winterfat, shadscale, curlleaf mountain mahogany, and pinyon-juniper forestland ecological sites. LANDFIRE biophysical setting models also are available (see http://www.landfire.gov), and as soils inventories are completed, there may be additional ecological site models developed concurrent with, and after the preparation of, this RMP/EIS.

- Approach to Evaluate Impacts – In the absence of output from a complete set of models, the Ely Field Office has estimated the number of acres (by major vegetation type) that would need to be treated across the planning area and discussed the general types of treatment that may be appropriate. These

estimates would be refined as additional data and models become available. LANDFIRE biophysical setting models would be used as a supplement to ecological site descriptions in determining the desired range of conditions in various vegetation communities. To achieve the desired states for any alternative, intensive coordination among the various resource management programs would be needed.

- Conclusion – State and transition models currently are being developed for the ecological sites found in the planning area by parties outside the BLM and they would be available for watershed analysis. Even if it were possible to accelerate the preparation of these models, the cost to complete all the models during the RMP/EIS preparation would be exorbitant.

4.1.4.4 Bighorn Sheep and Domestic Sheep and Goat Interactions

- Incomplete Information – The transference of disease from domestic sheep and goats to bighorn sheep is a matter of debate among wildlife specialists, game management agencies, and the livestock industry. The relevance of the incomplete information is to provide site-specific data to support implementation of the Revised Guidelines for Management of Domestic Sheep and Goats in Native Wild Sheep Habitats, which would protect desert bighorn sheep but impact livestock grazing.

- Relevance of Incomplete Information – Conclusive information, especially from studies conducted in the planning area, would end the debate on the transference of disease from domestic sheep and goats to bighorn sheep.

- Summary of Existing Information – Approximately 1.2 million acres of Rocky Mountain bighorn sheep and desert bighorn sheep habitat (occupied and historic ranges, and migration corridors) occurs within existing domestic sheep and goat grazing allotments. It has been reported from past studies that domestic sheep may have been the main vector of disease transference to bighorn sheep, which resulted in the decimation of bighorn sheep populations in isolated areas of the western U.S. Based on a recent literature review regarding the compatibility between bighorn sheep and domestic sheep (Martin et al. 1996), contact between bighorn sheep and domestic sheep in both fenced studies and free-ranging herds resulted in the death of all or most of the bighorn sheep while the domestic sheep were not affected. In addition, there were no studies where bighorn sheep came into contact with domestic sheep and remained healthy. The major pathogen responsible for the death of bighorn sheep after contact with domestic sheep is *Pasteurella haemolytica*.

- Approach to Evaluate Impacts – Even though there is still debate on this issue and additional research is ongoing, management direction and impact analysis contained in this RMP/EIS is based on the potential for conflicts between the species. Since domestic sheep utilize similar resources to bighorn sheep within the planning area, and because domestic sheep may be a primary disease vector to bighorn sheep populations in the planning area, exclusion of livestock (i.e., domestic sheep and goats) from occupied and historic ranges of bighorn sheep would improve overall health of bighorn sheep populations and habitat quality for bighorn sheep populations in the planning area.

- Conclusion – While there are no studies on the interaction of bighorn sheep and domestic sheep or goats specific to the planning area, there is enough information to allow for a reasoned choice among alternatives. The Revised Guidelines for Management of Domestic Sheep and Goats in Native Wild Sheep Habitats are based on numerous research projects and case studies that show bighorn sheep are adversely affected when they come into contact with domestic sheep and goats. It was determined that implementation of the revised guidelines should occur.

4.1.4.5 Special Status Species

- Incomplete Information – Site-specific information is lacking for many of the special status species listed in Appendix E.

- Relevance of Incomplete Information – During implementation of this RMP, site-specific information is necessary for accurate impact analysis in support of proper habitat management for special status species. The programmatic analysis in this RMP/EIS can be completed without the site-specific information.

- Summary of Existing Information – A variety of information exists for special status species (Section 3.7 and Appendix E).

- Approach to Evaluate Impacts – An assumption was made for impact analysis in this programmatic RMP/EIS that the site-specific information would be collected during implementation of this RMP. Impacts to special status species would be evaluated during the watershed analysis process and through project-specific NEPA analysis.

- Conclusion – The cost to collect site-specific information on all special status species over 11.5 million acres of public land in the planning area would be exorbitant, and is not necessary for the level of analysis in this programmatic RMP/EIS.

4.1.4.6 Paleontological Sites

- Incomplete Information – Detailed inventories to locate all paleontological sites of scientific value that may occur in the planning area have not been conducted.

- Relevance of Incomplete Information – Site location and significance information is necessary for identifying conflicts between paleontological sites and the management and use of other resources.

- Summary of Existing Information – Information on previously identified paleontological sites is presented in Section 3.10. There are relatively few sites of notable scientific value identified in the planning area.

- Approach to Evaluate Impacts – Impacts were evaluated based on the location and quality of known sites. Management would apply to newly discovered sites as well as known sites. Therefore, impacts to known sites are a good measure of potential impacts to unknown sites.

- Conclusion – The cost to collect location and significance information for paleontological sites on 11.5 million acres of the planning area during the RMP/EIS preparation would be exorbitant.

4.1.4.7 Historic Fire Return Intervals – Riparian

- Incomplete Information – Data on the historic fire return interval for the riparian vegetation community is not available.

- Relevance of Incomplete Information – The plants that occur in riparian areas are typically less susceptible to the start of fires, and the linear nature of many riparian areas does not facilitate the propagation of fires. Fires occur in riparian areas with less frequency and are less severe than fires in drier upland areas in the planning area.

- Summary of Existing Information – Historic fire return intervals for vegetation communities in the planning area are discussed in Sections 3.20.1 and 3.20.2. Intervals range from about 20 to 200 years, depending on vegetation type.

- Approach to Evaluate Impacts – Due to the lower probability of fires in riparian areas, impact analysis was based on fire return intervals for upland areas where data are available, but the historic return interval is probably similar to that of the adjacent upland areas where most of the fires affecting riparian areas would have originated.

- Conclusion – Fire return intervals are based on historic data that have not been recorded for riparian areas. Thus, there is no means to obtain these data.

4.1.4.8 Contaminated Sites

- Incomplete Information – There is the potential that contaminated sites associated with mining, landfills, illegal dumping, and drug labs exist in the planning area where a threat to human health has not yet been characterized.

- Relevance of Incomplete Information – Contaminated sites are handled by the Ely Field Office as a hazard or health risk when identified, according to the requirements of existing laws and policies. Thus, until a site is identified, no action can be taken.

- Summary of Existing Information – Two contaminated sites are currently being managed in the planning area (see Section 3.27).

- Approach to Evaluate Impacts – Since all contaminated sites are managed according to the existing laws and policies, impacts associated with the management of known sites are a good measure of potential impacts associated with unknown sites.

- Conclusion – The cost to identify and characterize contaminated sites over the 11.5 million acres of the planning area during the RMP/EIS preparation would be exorbitant.

4.1.4.9 Interrelated Projects

- Incomplete Information – An extensive list of interrelated projects has been assembled for consideration in the cumulative impacts analysis (see Section 4.28, **Table 4.28-1**). In an attempt to make the list as comprehensive as possible, six reasonably foreseeable future actions (Lincoln County Land Act development; actions under the Lincoln County and White Pine County Conservation, Recreation, and Development Acts; water development in White Pine County; water development in Lincoln County; and Coyote Springs residential development) were included for which there is limited information. The unavailable information relates to ongoing water demand and permanent employment for the projects.

- Relevance of Incomplete Information – The unavailable information is relevant to the cumulative impacts to groundwater resources and economic growth in the counties that make up the planning area.

- Summary of Existing Information – While these projects are in the discussion stage, specific development plans have not been completed. The projects were included in the list to capture their anticipated surface disturbance, but specific information on water demand and employment does not exist. Because advancement of the projects requires decisions or actions by entities outside the Ely Field Office, including private developers and the Nevada State Engineer, the Ely Field Office knows of no means to obtain the unavailable information.

- Approach to Evaluate Impacts – The basic approach to the cumulative impacts analysis was to establish an order of magnitude for the impacts of the interrelated projects on air emissions, surface disturbance, water demand, and employment. It is believed that the unavailable information on water demand and employment would not substantially increase the totals for these two categories (about 400,000 acre-feet per year and 1,500 employees, respectively). Therefore, cumulative impact analysis proceeded without the information.

- Conclusion – Since many of the interrelated projects are in the early planning stage and projects may not be at the permitting stage for 2 to 5 years, there is no means to obtain detailed project description information from the outside parties.

4.1.5 Comparison of Impacts by Alternative

Table 4.1-1, which follows, presents a comparative summary of the primary impacts to each resource program for each of the five alternatives analyzed in detail in Chapter 4.0. The detailed discussion of impacts begins in Section 4.2.

Table 4.1-1
Summary Comparison of Impacts

AIR RESOURCES	
Goal – Meet all applicable local, state, and tribal constraints, and National Ambient Air Quality Standards under the Clean Air Act (as amended), and prevent significant deterioration of air quality (defined as violation of air quality regulations) within the Ely planning area from all direct and authorized actions.	
Proposed RMP	Under the Proposed RMP, as watershed analyses are completed and projects are implemented to meet or maintain rangeland health standards, fire management would expand as a tool in vegetation management to approximately 8.9 million acres. In the long term, this approach likely would result in more small fires and fewer major fires producing fewer emissions in the planning area compared to recent historic (last 30 years) levels. Short-term impacts could include larger and more frequent fires plus increased fugitive dust from recreational events impacting air quality. Mitigation measures would be applied where appropriate to help maintain air quality. In the long term, the Proposed RMP would meet the goal of the air resources program and maintain compliance with federal and state air quality standards.
Alternative A	Short-term impacts of fugitive dust from recreational events and smoke emissions from larger and more frequent wildfires would impact air quality. In the long-term, implementation of the existing Ely Fire Management Plan, which incorporates the Ely Managed Natural and Prescribed Fire Plan, would not reduce the smoke emissions from wildfires as much as in the Proposed RMP. Alternative A would meet the goal of the climate and air quality program in the short term, but would not meet the goal over the long term.
Alternative B	This alternative would likely result in the same impacts as the Proposed RMP. Alternative B would meet the goal of the climate and air quality program.
Alternative C	In the short term, air quality impacts from fire could be lessened over the present. In the long term, air quality is likely to be impacted by increased recreation activity in comparison to the Proposed RMP and greater numbers of large-scale fires producing more emissions. Alternative C would not meet the goal of the climate and air quality program.
Alternative D	Air quality would be impacted in both the short term and long term by an increased probability for occurrence of large-scale fire events. Alternative D would not meet the goal of the climate and air quality program.
WATER RESOURCES	
Goal – The quality of water resource on public lands administered by the Ely Field Office will be suitable for the appropriate beneficial uses and will meet approved federal, state, tribal, and local requirements, guidelines, and objectives. The quantity of water on public lands administered by the Ely Field Office will be suitable to meet public land management purposes. **Northeastern Great Basin Resource Advisory Council Standard. Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.**	
Proposed RMP	Water resource conditions would be improved on a long-term basis as individual watersheds are analyzed and treated. During the short term, localized decreases of water quality may occur immediately following treatments. The potential for these effects would be minimized by the use of best management practices during the treatment process. Increases in water availability (mainly springflows and baseflows) may occur in local areas conducive to groundwater recharge and discharge. This alternative provides a suitable management framework to achieve the goals of the water resources program, including proper functioning condition of wetlands and riparian areas, and achievement of state water quality standards.
Alternative A	Since restoration currently does not keep pace with the decline in ecological trends, groundwater recharge and seasonal surface water flows would be expected to decline. Shorter term runoff events (e.g., thunderstorms, snowmelt) would continue to exhibit their current timing and volume, or may occur over shorter time scales and with somewhat larger volumes in watersheds where conditions continue to degrade. In general, water quality would continue to decline under Alternative A. Water consumption (primarily through evapotranspiration) would be expected to increase. This alternative does not provide a suitable management framework to achieve the goals stated for the water resources program, including the Resource Advisory Council Standard.

Table 4.1-1 (Continued)

Alternative B	Water resource conditions would be improved on a long-term basis as individual watersheds are analyzed and treated. Major disturbance factors (i.e., grazing) would be removed over a large portion of the planning area. Similar to the Proposed RMP, policies and standards would be applied with selected tools and techniques that would further enhance water resource conditions over the long term. Localized, short-term increases in erosion and sedimentation may occur immediately following vegetation treatments. Such effects would be minimized by the implementation of best management practices during the treatment process. The substantially larger area of livestock closures under Alternative B would increase the likelihood of water resources improvements beyond those that would occur under the Proposed RMP. This alternative provides a suitable management framework to achieve the goals stated for the water resources program, including the Resource Advisory Council Standard.
Alternative C	In general, long-term improvements in water quality and water resources availability for uses would occur as a result of intensive vegetation management under Alternative C. Increases in seasonal water availability (mainly springflows and baseflows) would occur in areas conducive to groundwater recharge and discharge. Water usage and water quality degradation may occur in some areas as a result of livestock grazing and increased recreational developments. Over the long term, these effects would be combined with rapid runoff, increased flooding, and greater sediment yield encouraged by the fire suppression approach under this alternative. This alternative does not provide a suitable management framework to achieve the goals stated for the water resources program, including the Resource Advisory Council Standard.
Alternative D	In general, improvements in water quality and water resources availability for uses would not be extensive as a result of management under Alternative D. Small increases in seasonal water availability, primarily in limited areas conducive to groundwater recharge and discharge, would occur. More stable watershed conditions and water quality improvements would occur in the short term as a result of recreation and livestock management approaches. This would be offset by watershed deterioration due to heavy overuse by wild horses within the herd management areas as populations rapidly expand. Over the long term, however, these improvements would be overshadowed by the fire management approach under this alternative, which would lead to widespread major fires that ultimately encourage rapid runoff, flooding, and sediment yield. This alternative does not provide a suitable management framework to achieve the goals stated for the water resources program, including the Resource Advisory Council Standard.
SOIL RESOURCES	
Goal – Maintain or improve long-term soil quality. **Northeastern Great Basin Resource Advisory Council Standard. Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and landform.** **Mojave/Southern Great Basin Resource Advisory Council Standard. Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.**	
Proposed RMP	Over the short term, the Proposed RMP would be expected to increase the risk of soil erosion and temporary loss of productivity on freshly treated areas. Implementation of best management practices, including restoration monitoring, would minimize these risks. Long-term reductions in erosion rates and increases in soil quality would be expected with successful widespread vegetation restoration and weed management. The Proposed RMP would achieve the stated goals for the soils program, including the Resource Advisory Council Standards.
Alternative A	Current soils impacts and accelerated erosion losses primarily result from changing ecological conditions within the planning area. Such factors include reduction in perennial herbaceous understory and widely scattered minor surface disturbances such as those resulting from concentrations of grazing animals, off-highway vehicle use, and various other human activities. Under Alternative A, the effects of accelerated erosion on soil resources would continue their current trends, and this alternative would fail to achieve the goals for the soils program, including the Resource Advisory Council Standards.
Alternative B	Under Alternative B, the scale of vegetation treatment would increase the short-term risk for accelerated erosion in the event of extensive soil disturbance or delays in restoration success. However, the implementation of best management practices, including restoration monitoring, would minimize this impact. On a long-term basis, the erosion potential of restored areas would be diminished, soil quality would be enhanced, and activities contributing to accelerated erosion and sedimentation would be reduced over much of the planning area. Restoration of vegetation resilience and return to historical fire regimes would result in reduced impacts to soils when fires occur. Alternative B would achieve the goals for the soils program, including the Resource Advisory Council Standards.

Table 4.1-1 (Continued)

Alternative C	Alternative C would involve substantial increases in terms of vegetation treatment. Thus, it would involve short-term erosion risk, but long-term improvement to soil stability and quality. Short-term impacts from management of vegetation and other resources would be minimized by best management practices. Long-term reductions in accelerated erosion may be limited by the emphasis on commodity production. Alternative C would likely achieve the goals for the soils program over major portions of the planning area but may not sustain that achievement in the event of a major wildland fire. Thus, Resource Advisory Council Standards may not be met.
Alternative D	Alternative D would involve some increases in rates of vegetation treatment, but with a limited approach and treatment scale. It also would involve limited fire suppression. Thus, Alternative D would create long-term erosion risk, limit long-term benefits to soil quality from vegetation treatments, and enhance erosion risk from major fire events. Erosion-generating human activities such as off-highway vehicle use would be substantially reduced over much of the planning area, but benefits from limiting these more concentrated activities would likely be offset by more widespread increases in accelerated erosion from major wildland fires. Overall, this alternative is not expected to achieve the program goals in a sustained manner over the long term, including the Resource Advisory Council Standards.
VEGETATION RESOURCES	
Goal – Manage vegetation resources to achieve or maintain resistant and resilient ecological conditions while providing for sustainable multiple uses and options for the future across the landscape. **Northeastern Great Basin Resource Advisory Council Standard. Habitats – Exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes; habitat conditions meet the life cycle requirements of threatened and endangered species.** **Mojave/Southern Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**	
Proposed RMP	The Proposed RMP would generally reduce dominance by woody species and increase the diversity of vegetation communities over the long term, providing vegetation communities with structure, multiple-aged shrubs, forbs, and perennial grasses. This would result in greater productivity, improved wildlife habitat, and improved natural functions and watershed stability. Livestock grazing management could be used to maintain vegetation communities which currently meet the desired range of conditions and allow improvement of remaining vegetation communities to the desired range of conditions over the short and long term. It also would increase the return of plant litter to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities with maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained across the landscape through the use of numerous tools. This alternative would achieve the program goal.
Alternative A	Existing management would lead to a moderate reduction in shrub-dominated communities and a reduction in pinyon/juniper-dominated communities over the long term. Moderate shrub reintroduction into burned sites, as part of rehabilitation efforts, would maintain diversity in the long term at a broad scale. The historic rate of treatment (largely fire rehabilitation) each year to restore desirable perennial herbaceous species and restore ecological resiliency would be increased to the extent allowed under the current fire plan. This rate, however, is not considered adequate to match the current rate of ecological deterioration, increase in woody fuel, and expansion of weedy species throughout the planning area, and substantial long-term effects are anticipated. Thus, this alternative is not likely to achieve the program goal.
Alternative B	Alternative B would generally reduce dominance by woody species and increase the diversity of vegetation communities over the long term, providing structure with multiple-aged shrubs, forbs, and perennial grasses. This would result in greater productivity and improved natural functions and watershed stability. Sustained or slightly reduced levels of livestock grazing would maintain vegetation communities which currently meet the desired range of conditions and allow improvement of remaining vegetation communities to the desired range of conditions over the short and long term. It also would increase the return of plant litter to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities, which includes maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained across the landscape, expect at small localized areas of soil disturbing activities. This alternative would achieve the program goal.

Table 4.1-1 (Continued)

Alternative C	Implementation of this alternative would reduce dominance of woody and exotic annuals species and increase dominance of herbaceous perennials in the long term. Greater productivity for allocation to consumptive uses would result. Limited shrub reintroduction into some burns would maintain diversity at a broad scale. However, the narrower range of desired conditions (with greater emphasis on the herbaceous state) in this alternative as compared to the Proposed RMP would require more effort and more frequent treatments to achieve and maintain. The higher probability for widespread fire over the long term also would necessitate greater efforts for fire suppression and rehabilitation as opposed to planned treatments. As a result of optimizing livestock use of available forage, the benefits of returning vegetation material to the soil would be minimized. Long term vigor and health of vegetation communities would be maintained across the landscape, except at localized areas of concentrated activity. This alternative has a high potential for achieving the program goal over the short term, but the sustainability of resilient ecological conditions over the long term is questionable.
Alternative D	Exclusion of livestock from all public land would allow natural succession to improve the condition of many vegetation communities currently supporting desirable species. Altered vegetation communities dominated by annual species would improve little toward the desired range of conditions over the life of the plan. Fine fuels would increase with limited utilization of herbaceous growth, resulting in increased size of wildland fire and increased occurrence and frequency of fire near frequent sites of ignition. Limited suppression of wildland fire would also increase the average fire size, resulting in more frequent impacts to affected vegetation resources. The condition of many vegetation communities currently dominated by desirable mosaics of native species would be maintained or improved in those areas not subject to frequent fire. Frequent wildland fires in healthy, native communities, would cause a decline in vegetation diversity and health, leading to decline in natural levels of nutrient, water, and energy cycling. This alternative would result in continued proliferation of tree species into historic sagebrush-dominated sites with minimal prospects for restoration of resiliency. Therefore, this alternative would fail to achieve the program goal.
FISH AND WILDLIFE	
Goal – Provide habitat for wildlife (i.e., forage, water, cover, and space) and fisheries that is of sufficient quality and quantity to support productive and diverse wildlife and fish populations, in a manner consistent with the principles of multi-use management, and to sustain the ecological, economic, and social values necessary for all species. **Northeastern Great Basin Resource Advisory Council Standard. Habitats exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** **Mojave/Southern Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**	
Proposed RMP	Aquatic habitat management would include habitat enhancement for existing aquatic species. Vegetation treatments could result in increased short-term impacts from erosion and sedimentation immediately after treatment. These impacts would be minimized through implementation of management actions that would provide mitigation during the treatment process. Changes in grazing management in riparian areas and restoration of vegetation resilience in nearby riparian and upland areas would improve habitat conditions over the long term. By implementing the various management actions associated with the wildlife and fisheries management direction and mitigation actions associated with other programs, the goal and objective for fisheries would be achieved. There would be a loss of wildlife habitat on less than 5 percent of the planning area. Direct loss of habitat would occur as a result of land disposals and construction activities associated with energy production and mineral development. Indirect losses would occur through fragmentation of habitat and avoidance of areas adjacent to project sites during construction and operation activities. Mitigation of discretionary permitted activities that result in losses of aquatic habitat and priority wildlife habitat would occur by improving 2 acres of comparable habitat for every 1 acre disturbed as determined on a project-by-project basis. The quality of wildlife habitat, both aquatic and terrestrial, on the remaining 95 percent of the planning area would improve as a result of wildlife habitat management, wild horse management, livestock grazing management, off-highway vehicle management, vegetation management, watershed management, fire management, and noxious and invasive weed management.

Table 4.1-1 (Continued)

	Over the long term, the Proposed RMP would achieve the goal for the fish and wildlife management program. Because of the time required to implement the necessary vegetation treatments and other management actions, achievement of the goal for the entire area in the short term may not occur in the first few years. Site-specific locations may achieve the goals sooner due to the prioritization of treatments.
Alternative A	Aquatic species habitat management would focus on sustaining aquatic habitats by following Resource Advisory Council standards and guidelines. Other programs could continue to affect aquatic habitat as a result of sedimentation, vegetation removal, and habitat alteration due to surface disturbance. Upland areas would continue to degrade in terms of vegetation loss and erosion, which would indirectly affect riparian areas along streams and springs. Land and realty actions (e.g., rights-of-way or disposals) could involve subsequent changes in demand for either surface or groundwater resources throughout the planning area with resultant effects to aquatic habitat as a result of flow or water level changes. The long-term degradation of riparian vegetation and increased level of sedimentation from surface disturbance could result in the goal and objective for fisheries not being achieved. The loss of terrestrial wildlife habitat from various programs would be similar to the Proposed RMP. Improvement in the quality of wildlife habitat would not occur as quickly or to the degree it would under the Proposed RMP because fewer acres of the different vegetation types would be treated. In addition, most of the planning area would remain open to off-highway vehicle use. This alternative has a low probability of achieving the program goal over the long term.
Alternative B	Aquatic habitat management would result in maintenance and enhancement of habitat parameters involving riparian vegetation. Most of the same programs discussed in the Proposed RMP and Alternative A also could affect aquatic species habitat as a result of sedimentation, vegetation removal, or habitat alteration. Vegetation management would result in greater short-term impacts through erosion and vegetation removal as a result of increased treatment areas. On a long-term basis, these habitats would be improved from current conditions along with the improvement of vegetation resilience and ecological health in the nearby riparian and upland areas. Fish habitat could be improved in Meadow Valley Wash and Clover Creek due to the ACEC designations and elimination of wild horses, respectively. By implementing the various management actions associated with the wildlife and fisheries management direction and mitigation actions associated with other programs, the goal and objective for fisheries would be achieved. Fewer acres of terrestrial wildlife habitat would be lost under Alternative B because fewer acres of public land would be disposed of in the planning area. Improvement in the quality of wildlife habitat would be greater than under the Proposed RMP because an additional 3.6 million acres would be unavailable for livestock grazing. Wildlife habitat also would improve because the additional forage created as a result of restoration actions would not be allocated to livestock or wild horses, but reserved for watershed maintenance and wildlife. Overall, Alternative B would achieve the program goal.
Alternative C	In general, management actions would allow greater intensity of development, which would result in higher potential for sedimentation impacts on aquatic habitat. Increased sedimentation could affect aquatic habitat in the short term as a result of vegetation treatments and in the long term as a result of fire management. Watershed management could result in long-term improved habitat conditions in treated areas with an emphasis on recreation. Stream habitats in untreated areas would be jeopardized by increased risk of intense wildland fires. The potential for increased level of sedimentation from surface disturbance could result in the goal and objective for fisheries not being achieved in some drainages that support fisheries. Alternative C would have similar direct impacts to the quantity and quality of wildlife habitat from fish and wildlife management actions as the Proposed RMP, but impacts from other programs, particularly fire management, would differ substantially. Thus, on a long-term basis, Alternative C would probably fail to achieve the program goal.

Table 4.1-1 (Continued)

Alternative D	Aquatic habitat would not be actively managed, which could involve the elimination of fish populations in some water bodies. Greater impacts to aquatic habitat could occur due to uncontrolled wild horse population increases in herd management areas, increased dispersed recreation, and fire management with minimal fire suppression. Less short-term erosion would occur from vegetation treatment, but in the long term, erosion and sedimentation would be greater due to more intense fires. The goal and objectives for fisheries may not be achieved in some drainages because fish populations could be eliminated in some water bodies and habitat could be degraded on a long-term basis from increased sedimentation. The amount of terrestrial wildlife habitat lost as a result of lands and realty actions, renewable energy production, and mineral development under Alternative D would be minimal compared to the Proposed RMP. Improvement to wildlife habitat as a result of restoration actions would not occur except through limited fire use and weed treatment. The quality of wildlife habitat would be enhanced under Alternative D, at least in the short-term, because approximately 11.1 million acres would be closed to off-highway vehicle use, and because livestock grazing would be eliminated throughout the entire planning area. Habitat quality would probably deteriorate over the long-term due to increased fire effects throughout the planning area. This alternative would fail to meet the program goal because the habitat management under this alternative is not consistent with the principles of multiple use management and because the habitat quality achieved in the short-term would not likely be sustainable over the long-term with increasing fire risks.
SPECIAL STATUS SPECIES	
Goal – Manage public land to conserve, maintain, and restore special status species populations and their habitats; support the recovery of federally listed threatened and endangered species; and preclude the need to list additional species. **Northeastern Great Basin Resource Advisory Council Standard.** • **Habitats exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** • **Riparian and wetland areas exhibit a properly functioning condition and achieve State water quality criteria.** **Mojave/Southern Great Basin Resource Advisory Council Standard.** • **Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.** • **Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).**	

Table 4.1-1 (Continued)

Proposed RMP	Sensitive fish and invertebrate species would be managed through evaluations of their overall habitat conditions. Numerous resource uses could affect sensitive aquatic habitat as a result of sedimentation, vegetation removal, or habitat alteration. Changes in grazing management and restoration efforts in riparian areas could improve habitat conditions in the long-term, particularly in Lower Meadow Valley Wash ACEC and Condor Canyon ACEC. Vegetation management could result in greater short-term impacts through erosion and sedimentation as a result of increased treatment areas. On a long-term basis, the restoration of vegetation resilience in riparian areas and the surrounding uplands would improve habitat conditions for sensitive fish and invertebrate species. By implementing the various management actions associated with the special status species management direction and mitigation actions associated with other programs, the goals and objectives for special status aquatic species would be achieved. Special status wildlife species would be specifically assessed, based on species-specific desired future conditions, and compared to overall habitat conditions and identification of causal factors for declines. On a watershed level, restoration activities would result in higher quality forage, increased cover and vegetation structure, and increased habitat quality for special status species. On a landscape level, restoration activities to achieve appropriate ranges of vegetation conditions would improve special status species habitats by reducing habitat degradation and fragmentation, and promoting ecological health and resiliency. The Proposed RMP would achieve the program goal for special status wildlife species. A detailed analysis of potential impacts to special status plants would be completed in conjunction with each watershed and habitat analysis. As part of the best management practices, potential mitigation measures and monitoring would be developed on a site-specific basis. Three new ACECs would be established primarily for the protection of special status plants. The establishment of these ACECs and the land use restrictions associated with them may offer additional protection where special status plants occur in these areas. Therefore, implementation of the Proposed RMP would result in additional protection for special status plants and achieve the program goal relative to such species.
Alternative A	Management for sensitive fish and invertebrate species would focus on the maintenance, mitigation, and restoration of habitat, as identified in the management and recovery plans for the species. Other programs would continue to result in sedimentation and habitat alteration due to surface disturbance. On a long-term basis, riparian vegetation would be degraded as a result of wild horses and livestock grazing, which would adversely affect aquatic habitat. Development of disposed lands could involve uses with water consumption requirements that could affect habitat through changes in flow or water level. In general, there would be less protection for spring habitat. Alternative A would meet the goal and objectives for federally listed fish species through management actions and compliance with Section 7 of the Endangered Species Act. However, the goal and objectives may not be met for "precluding the need to list additional species." Management of special status species would continue to occur predominantly at the scale of individual allotments and occasionally at a planning area scale through management actions that address an immediate need or habitat niche for the maintenance, mitigation, and restoration of a single special status species on a case-by-case basis. Although restoration would promote more suitable habitat conditions for special status species on a localized basis, watershed level and landscape level effects would include continued habitat deterioration for many of the special status species. A detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. As part of the best management practices, potential mitigation measures and monitoring would be applied on a site-specific basis. Therefore, implementation of Alternative A would result in minimal long-term impacts to special status plants and enable additional management emphasis for any populations identified during the watershed analysis. However, any ongoing impacts to unknown populations of special status plants would continue until such areas undergo watershed analysis. Overall, this alternative would have a greater risk than the Proposed RMP of failing to achieve the program goal for special status plant species.

Table 4.1-1 (Continued)

Alternative B	Sensitive fish and invertebrate species would be managed through evaluations of their overall habitat conditions. Numerous resource uses could affect sensitive aquatic habitat as a result of sedimentation, vegetation removal, or habitat alteration. However, grazing impacts would be eliminated on approximately 3.9 million acres including habitats for several aquatic special status species. Vegetation management could result in greater short-term impacts through erosion and sedimentation as a result of increased treatment areas. Management and restoration plans with two new ACECs would help restore habitat for fish species in Condor Canyon and Lower Meadow Valley Wash. On a long-term basis, the restoration of vegetation resilience in riparian areas and the surrounding uplands would improve habitat conditions for sensitive fish and invertebrate species. By implementing the various management actions associated with the special status species management direction and mitigation actions associated with other programs, the goals and objectives for special status aquatic species would be achieved. Special status wildlife species would be specifically assessed, based on species-specific desired future conditions, and compared to overall habitat conditions and identification of causal factors for declines at the mid-scale. On a watershed level, restoration activities would result in higher quality forage, increased cover and vegetation structure, and increased security for special status species. On a landscape level, restoration activities to achieve desired range of conditions would improve special status species habitats by reducing habitat degradation and fragmentation, and promoting ecological health and resiliency. Alternative B would be expected to achieve the program goal. The initiation of a systematic survey of potential habitats for the Ute ladies'-tresses orchid, development of recovery actions and a conservation strategy for potential habitat for, or possible new occurrences of, Ute ladies'-tresses orchid would provide additional protection and recovery prospects for these species. The establishment of 15 new ACECs for the protection of other resources and the land use restrictions associated with these ACECs may offer additional protection where and if special status plants occur in these areas. Therefore, implementation of Alternative B would result in additional protection for special status plants and would achieve the program goal relative to such species.
Alternative C	Program-specific impacts special status aquatic species would be similar to Alternative A. In general, management actions would allow a greater intensity of development, which would result in a higher potential for sedimentation impacts on aquatic habitat. Increased recreation activities could result in additional surface disturbance and sediment impact on habitat for sensitive aquatic species. Alternative C would meet the goal and objectives for federally listed fish species through management actions and compliance with Section 7 of the Endangered Species Act. However, the goal and objectives may not be met for "precluding the need to list additional species." Management of special status wildlife species would continue to address an immediate need or habitat niche for the maintenance, mitigation, and restoration of a single special status species on a case-by-case basis. On a watershed level, special status species conflicts would include decreased shrub cover, a reduction in vegetation community structure, and increased competition for habitat by sagebrush dependent species. On a long-term basis, Alternative C would not likely achieve the program goal. A detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. As part of the best management practices, potential mitigation measures and monitoring would be developed on a site-specific basis. In addition, the establishment of 17 new ACECs for the protection of other resources and the land use restrictions associated with these ACECs may offer additional protection where and if habitat for special status plants occur in these areas. However, any ongoing impacts to unknown populations of special status plants would continue until such areas undergo watershed analysis. Overall, this alternative would have a greater risk than the Proposed RMP of failing to achieve the program goal for special status plant species.

Table 4.1-1 (Continued)

Alternative D	Emphasis on passive management of sensitive aquatic species through exclusion of commodity uses on public lands could result in improved habitat conditions. Less erosion would occur from vegetation treatment, but far more would occur from widespread wildland fires. By implementing the various management actions associated with the special status species management direction and mitigation actions associated with other programs, the goals and objectives for special status aquatic species would be achieved. Management of habitat for special status species would emphasize a passive management approach through the exclusion of discretionary commodity uses of public lands. On a watershed level, natural habitat transitions would continue with increased canopy cover and possible increased regeneration of palatable species. On a landscape level, habitats would exhibit a reduction in overall habitat quality, ecological health, and resiliency as the result of major, widespread wildland fires resulting in conversion to herbaceous communities. These habitat changes would result in a reduction of vegetation community structure and overall suitability of habitats for special status species. This alternative would likely achieve the program goal in the short term, but fail to sustain this habitat quality and achieve the goal over the long term. Potential habitat for Ute ladies'-tresses orchid could improve in the planning area with the elimination of grazing and most other physical disturbances. A detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. The additional protection resulting from these measures, however, would be offset by the potential damage to special status plant populations resulting from increased wildland fires and uncontrolled wild horse populations under this alternative. Overall, this alternative would have a greater risk than the Proposed RMP of failing to achieve the program goal for special status plant species.
WILD HORSES	
Goal – Maintain and manage healthy, self-sustaining wild horse herds inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple-use relationship with other uses and resources. **Northeastern Great Basin Resource Advisory Council Standard. Healthy wild horse and burro populations exhibit characteristics of healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long-term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.** **Mojave-Southern Great Basin Resource Advisory Council Standard. Wild horses and burros within herd management areas should be managed for herd viability and sustainability. Herd management areas should be managed to maintain a healthy ecological balance among wild horse and/or burro populations, wildlife, livestock, and vegetation.**	
Proposed RMP	Wild horses would be managed where healthy populations can be maintained over the long-term. Wild horse populations would be brought into balance with the available habitat resources needed to sustain healthy populations and prevent damage to the environment and surrounding resources. The Proposed RMP would achieve the goal for the wild horse management program.
Alternative A	Alternative A would maintain several herd management areas that possess marginal or inadequate habitat to sustain wild horse populations at a level that would ensure healthy populations over the long-term, thereby resulting in a high probability for continued conflicts with other resources, conflicts with private land owners, and occasional starvation and dehydration of wild horses. Alternative A would fail to achieve the program goal over the long term.
Alternative B	Wild horse populations would be brought into balance with the available habitat resources needed to sustain healthy populations over the long-term and prevent damage to the environment and surrounding resources. Vegetation treatments would, in the long term, enhance habitat conditions within the herd management areas to ensure the sustainability of healthy herds maintained at appropriate management levels. Thus, Alternative B would achieve the program goal.

Table 4.1-1 (Continued)

Alternative C	Wild horse populations would be brought into balance with the available habitat resources needed to sustain healthy populations and prevent damage to the environment and surrounding resources. Alternative C, however, would likely have greater impacts and risks to wild horse populations than the Proposed RMP over the long term due to increased potential for major wildland fires.
Alternative D	The limited management approach in Alternative D for the existing 24 herd management areas and absence of fire management would result in rapid deterioration of ecological systems within these areas and likely starvation of many animals as populations increase beyond the support level of their habitat. Therefore, Alternative D would fail to achieve the stated goal for this program.
CULTURAL RESOURCES	
Goal – Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (Federal Land Policy and Management Act, Section 103(c), 201(a), and (c); National Historic Preservation Act, Section 110(a); Archaeological Resources Protection Act, Section 14 (a)). **Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (Federal Land Policy and Management Act, Section 103(c), National Historic Preservation Act, Section 106, 110(a)(2)) by ensuring that all authorizations for land use and resource use will comply with the National Historic Preservation Act, Section 106.** **Northeastern Great Basin Resource Advisory Council Standard. Land use plan will recognize cultural resources within the context of multiple use.**	
Proposed RMP	There would be a higher level of protection of cultural resources through use allocations, with 100 percent of the sites determined eligible to the National Register of Historic Places allocated and managed for Conservation, Scientific, and Public Use, and the designation of 8 new ACECs. There also would be more protection of cultural/archaeological resources than current management due to the decrease in lands open to off-highway vehicle use, wild horses, and livestock grazing. The level of protection from impacts associated with fire management and recreation activities would be greater than current management. The Proposed RMP would meet the goals for the cultural resources program, including the Resource Advisory Council Standards.
Alternative A	Cultural resources would continue to be managed for future resource use allocations. Indirect impacts associated with off-highway vehicle use, wild horses, livestock grazing, and recreational activities would continue to occur under existing management. Alternative A would not meet the goals for the cultural resources program but would meet the Resource Advisory Council Standards.
Alternative B	Management of cultural resources would be the same as the Proposed RMP. The level of protection from recreation activities would be greater than the current management. Alternative B would meet the goals for the cultural resources program, including the Resource Advisory Council Standards.
Alternative C	Cultural resource use allocations would protect cultural/archaeological resources; however, there would be a lower level of protection since more sites would be allocated as Discharged from Management. The decrease of lands open to off-highway vehicle use would provide more protection of cultural resources than current management. The level of protection from impacts associated with recreation and fire management would be lower than Alternative A and the Proposed RMP. Alternative C would meet the goals for the cultural resources program, including the Resource Advisory Council Standards.
Alternative D	More cultural resources would be allocated and managed for Conservation Use, which would provide a higher level of protection compared to the Proposed RMP. The level of protection of cultural/archaeological resources from off-highway vehicle use, recreation, and livestock grazing would be greater than all other alternatives. Fire management activities would pose a higher risk to cultural resources than all other alternatives. Alternative D would meet the goals for the cultural resources program, but would not meet the Resource Advisory Council Standards.

Table 4.1-1 (Continued)

PALEONTOLOGICAL RESOURCES	
Goal – Identify and manage at-risk paleontological resources (scientific value), preserve and protect vertebrate fossils through best science methods, and promote public and scientific use of invertebrate and paleobotanical fossils.	
Proposed RMP	Paleontological resources would be protected under the Proposed RMP, because they would be allocated and managed for Scientific, Conservation, and/or Public Use. An increase in the number of acres withdrawn from mineral entry and a decrease in lands open to off-highway vehicle use would reduce impacts to paleontological resources. The no-fee registration system would increase the protection of known trilobite localities by tracking the amount of use and associated impacts. The Proposed RMP would meet the goal for the paleontology program.
Alternative A	Paleontological resources would be managed the same as the Proposed RMP, but no registration system would be in place for trilobite collecting. The amount of unauthorized collecting of common invertebrate fossils (e.g., trilobites) and impacts associated with off-highway vehicle use would continue to increase as recreation and visitor use increases. Alternative A would not meet the goal for the paleontology program.
Alternative B	Paleontological resources would be protected, because they would be allocated and managed for Scientific, Conservation, and/or Public Use. An increase in the number of acres withdrawn from mineral entry and a decrease in lands open to off-highway vehicle use would reduce impacts to paleontological resources. The no-fee registration system would increase the protection of known trilobite localities by tracking the amount of use and associated impacts. Alternative B would meet the goal for the paleontology program.
Alternative C	Management of paleontological resources would be the same as the Proposed RMP, with the exception of the registration system. The fee-based registration system could reduce the number of trilobite collectors, as well as increase the protection of trilobite collecting localities and associated impacts by tracking the amount of use and associated impacts. The decrease in lands open to off-highway vehicle use would reduce impacts to paleontological resources. Alternative C would meet the goal for the paleontology program.
Alternative D	Management of paleontological resources would be the same as the Proposed RMP, with the exception of trilobite collecting. Under this alternative, all trilobite collecting localities would be closed, which would provide a higher level of protection of these fossils compared to all other alternatives. The increase in lands closed to off-highway vehicle use would reduce impacts to paleontological resources. Alternative D would meet the goal for the paleontology program.
VISUAL RESOURCES	
Goal – Manage public land actions and activities in a manner consistent with Ely Field Office visual resource management class objectives.	
Proposed RMP	Management prescriptions under the Proposed RMP would classify approximately 1.2 million acres as Visual Resource Management Class I and 2.4 million acres as Visual Resource Management Class II. Having classifications for all lands within the decision area would allow for a more comprehensive framework for preserving and mitigating impacts to visual resources. Maximizing the use of prescribed fire and wildland fire use would create short-term visual impacts that would diminish in the long term after treatments are completed. The Proposed RMP would meet the goal for the visual resources program.
Alternative A	Management prescriptions for Class I and II areas (approximately 1.5 million acres and 284,000 acres, respectively) would continue to preserve the scenic character of these lands. Although unclassified areas in the historic Egan Resource Area totaling approximately 3.6 million acres (32 percent of the decision area) would be addressed on a project-specific basis, there potentially could be impacts by not having a comprehensive framework for addressing visual resources in place. Continued designation of areas as open to cross-country off-highway vehicle use would result in visual impacts through surface disturbances and dust emissions. Alternative A would not meet the goal for the visual resources program.
Alternative B	Management prescriptions under Alternative B would classify approximately 1.2 million acres as Visual Resource Management Class I and 2.4 million acres as Visual Resource Management Class II. Having classifications for all lands within the decision area would allow for a more comprehensive framework for preserving and mitigating impacts to visual resources. Maximizing the use of prescribed fire would create short-term visual impacts that would diminish in the long term after treatments are completed. Alternative B would meet the goal for the visual resources program.

Table 4.1-1 (Continued)

Alternative C	Management prescriptions under Alternative C would classify approximately 1.2 million acres as Visual Resource Management Class I and 2.4 million acres as Visual Resource Management Class II. Having classifications for all lands within the decision area would allow for a more comprehensive framework for preserving and mitigating impacts to visual resources. Utility corridor widths of 3 miles would create greater impacts in localized areas. Suppression of wildland fires would reduce impacts from fire in the short term until wildland fires became impossible to suppress, which could lead to greater long-term impacts. Alternative C would meet the goal for the visual resources program.
Alternative D	Management prescriptions under Alternative D would increase the amount of land in Visual Resource Management Class II to approximately 10.3 million acres (90 percent of the decision area). By identifying all areas (11.5 million acres) as either Class I or II, substantial restrictions would be placed on activities that could be allowed under other resource management activities or increase the potential mitigation measures that would be required. The fact that there would be no new land use authorizations, such as rights-of-way, also would reduce impacts in the short and long term. A policy of minimal fire suppression would create short-term visual impacts that would increase over the long term as more catastrophic fires occur. Alternative D would meet the goal for the visual resources program.
LANDS AND REALTY	
Goal – Manage public lands in a manner that: • **Allows the retention of public land with high resource values;** • **Consolidates public land patterns to ensure effective administration and improve resource management;** • **Makes public lands that promote community development available for disposal;** • **Meets public, local, state, and federal agency needs for use authorizations such as rights-of-way, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values; and** • **Utilizes withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the desired purpose.**	
Proposed RMP	Approximately 75,600 acres would be available for possible disposal by competitive sales and would be withdrawn from mineral entry. Having these areas identified would facilitate the disposal of BLM-administered lands for community development. Designated critical habitat for federally listed threatened and endangered species, cultural resources, mineral exploration and development, watershed restoration, and special designation areas could preclude the disposal of certain parcels and land use authorizations. The Proposed RMP would allow a higher degree of flexibility in land use authorizations by identifying the new 0.5-mile-wide Spring Valley corridor. Encouraging co-location of land use authorizations would reduce or localize impacts to other resources. Approximately 1.4 million acres would be identified as avoidance or exclusion areas. The Proposed RMP would meet the goals for the lands and realty program.
Alternative A	Under Alternative A, approximately 31,900 acres would be identified for disposal by competitive sales. Having fewer areas identified for potential disposal or withdrawn could make the disposal of land for promoting community development more difficult and time-consuming compared to the Proposed RMP. By not identifying new communication sites or 0.5-mile-wide corridors, the location of future rights-of-way and communication sites would not be addressed proactively and could take longer to occur by being addressed on a case-by-case basis under site-specific NEPA analyses. Alternative A would not meet the goals for the lands and realty program.
Alternative B	Under Alternative B, there would be 90,600 acres identified for disposal by competitive sales and withdrawn from mineral entry. More area would be available for siting rights-of-way within utility corridors because several corridors would be twice as wide as they would be under the Proposed RMP. This would allow greater flexibility in conducting lands and realty activities. Limitations on siting new communication sites until existing capacity was exceeded would limit the ability to develop new sites to promote community development. Alternative B would meet the goals of the lands and realty program.
Alternative C	Under Alternative C, there would be 295,200 acres identified for disposal by competitive sales and withdrawn from mineral entry. More area would be available for siting rights-of-way within utility corridors because several corridors would be six times as wide as they would be under the Proposed RMP. This would allow greater flexibility in conducting these lands and realty activities. Lack of emphasis on co-location of siting new communication sites may lead to a greater proliferation of these sites as compared to the Proposed RMP. Alternative C would meet the goals of the lands and realty program.

Table 4.1-1 (Continued)

Alternative D	Approximately 12,400 acres would be identified for possible disposal by competitive sales. Because there would be no net loss of BLM-administered public land, conducting disposals would be much more difficult and time-consuming, as replacement lands would need to be acquired concurrently or prior to disposal. This would limit the ability of the Ely Field Office to dispose of land for community and economic development, or for other purposes. Because requests for new withdrawals, withdrawal relinquishments, or modifications would be processed on a case-by-case basis, there would not be a proactive effort toward identifying areas of sensitive or high resource values for withdrawal from entry. Limitations on new land use authorizations, and the closure of sites within migratory bird corridors and visually sensitive sites would greatly restrict lands and realty actions in Alternative D. The possible elimination of existing communication sites would further reduce the ability of the lands and realty program to address future needs. Alternative D would not meet the goals of the lands and realty program.
RENEWABLE ENERGY	
Goal – Provide opportunities for development of renewable energy sources such as wind, solar, biomass, and other alternative energy sources while minimizing adverse impacts to other resources such as wildlife and visual resources.	
Proposed RMP	The primary impact of the Proposed RMP would be to facilitate the development of renewable energy resources. Surface disturbance for an assumed wind energy development scenario could total 4,000 acres, about 0.03 percent of the decision area. Wind and solar power developments would have to be compatible with the management prescriptions for other resources and would be evaluated on a project-specific basis. Biomass development would be based on the acreage of vegetation treatment needed to restore healthy vegetation communities. The Proposed RMP would meet the goal for the renewable energy program.
Alternative A	The current management actions under Alternative A are not specific for the development of renewable energy projects, which could slightly reduce the likelihood of developing such projects. Alternative A would meet the goal for the renewable energy program.
Alternative B	The primary impact of Alternative B would be to facilitate the development of renewable energy resources. Surface disturbance for an assumed renewable energy development scenario could total 4,000 acres, about 0.3 percent of the decision area. Wind and solar power developments would have to be compatible with the management prescriptions for other resources and would be evaluated on a project-specific basis. Biomass development would be based on the acreage of vegetation treatment needed to restore healthy vegetation communities. Alternative B would meet the goal for the renewable energy program.
Alternative C	The primary impact of Alternative C would be to facilitate the development of renewable energy resources. Surface disturbance for an assumed renewable energy development scenario could total 4,000 acres, about 0.03 percent of the decision area. Wind and solar power developments would have to be compatible with the management prescriptions for other resources and would be evaluated on a project-specific basis. Biomass development would be based on the acreage of vegetation treatment needed to restore healthy vegetation communities. Alternative C would meet the goal for the renewable energy program.
Alternative D	Under Alternative D, renewable energy development on public lands would be effectively eliminated through the prohibition on new land use authorizations. Alternative D would not meet the goal for the renewable energy program.
TRAVEL MANAGEMENT AND OFF-HIGHWAY VEHICLE USE	
Goal – Provide and maintain suitable access to public lands. Manage off-highway vehicle use to protect resource values, promote public safety, provide off-highway vehicle opportunities where appropriate, and minimize conflict. Work closely with local, state, tribal, and other affected parties and other resource users to address off-highway vehicle management including land use and route designations, and monitoring and adaptive management strategies such as applying the Limits of Acceptable Change process.	
Proposed RMP	The elimination of areas open to cross-country vehicle travel would reduce motorized access to parts of the planning area not served by existing or designated roads and trails in the short and long term. Completing road and trail designations in site-specific travel management plans would improve motorized access and road and trail conditions over the long term. The Proposed RMP would meet the goal for the travel management and off-highway vehicle use program.
Alternative A	The current management program addresses transportation issues as they arise and on a case-by-case basis. Continuation of an open designation for 9.8 million acres (86 percent) of the decision area provides for the greatest accessibility but would result in increased damage to resources and increased conflicts between other resource users and off-highway vehicle users over time. Alternative A would not meet the goal for the travel management and off-highway vehicle use program.

Table 4.1-1 (Continued)

Alternative B	The elimination of areas open to cross-country vehicle travel would reduce motorized access to parts of the planning area not served by existing or designated roads and trails in the short and long term. Completing road and trail designations in site-specific travel management plans would improve motorized access and road and trail conditions over the long term. Alternative B would meet the goal for the travel management and off-highway vehicle use program.
Alternative C	The reduction of areas open to cross-country vehicle travel from 9.8 million acres to 32,000 acres would reduce motorized access to parts of the planning area not served by existing or designated roads and trails in the short and long term. Completing road and trail designations in site-specific travel management plans would improve motorized access and road and trail conditions over the long term. Alternative C would meet the goal for the travel management and off-highway vehicle use program.
Alternative D	The management actions under Alternative D would substantially restrict motorized access in the planning area in the short and long term by limiting off-highway vehicle use to maintained roads and trails. The lack of new land authorizations for roads would reduce accessibility in the long term. Alternative D would not meet the goal for the travel management and off-highway vehicle use program.
RECREATION	
Goal – Provide quality settings for developed and undeveloped recreation experiences and opportunities while protecting resources. Conduct an assessment of current and future off-highway vehicle demand, and plan for and balance the demand for this use with other multiple uses/users. Develop sustainable off-highway vehicle use areas to meet current and future demands, especially for urban interface areas.	
Proposed RMP	The Proposed RMP would constitute a comprehensive program that addresses the trend of increasing recreational use as well as provides the opportunity to develop management strategies for anticipated future conditions. Five special recreation management areas totaling approximately 1.2 million acres (10 percent of the decision area) would be designated. Elimination of areas designated as open to cross-country off-highway vehicle use would reduce off-highway motorized recreational opportunities. However, these transportation restrictions also would provide an increased opportunity for seclusion and primitive recreational experiences. A sufficient number of routes would be designated to accommodate motorcycle and truck competitive events. The Proposed RMP would meet the goal for the recreation program.
Alternative A	As recreation use continues to increase over time, the limited number of recreation sites in Alternative A eventually would lead to increased competition for recreation opportunities. With only one 750,000-acre special recreation management area in the decision area and no further creation of developed recreation sites, the ability of the Ely Field Office to manage recreation as a primary objective in areas with high recreation potential would be constrained. About 9.8 million acres (86 percent of the decision area) would remain open to cross-country off-highway vehicle travel, resulting in no reduction in off-highway motorized recreational opportunities. No routes would be designated for motorcycle and truck competitive events, but such events would still be permitted. Alternative A would not meet the goal for the recreation program.
Alternative B	Alternative B would constitute a comprehensive program that addresses the trend of increasing recreational use as well as provides the opportunity to develop management strategies for anticipated future conditions. Nine special recreation management areas totaling approximately 2.7 million acres (24 percent of the decision area) would be designated. Elimination of areas designated as open to cross-country off-highway vehicle use would reduce off-highway motorized recreational opportunities. However, these transportation restrictions also would provide an increased opportunity for seclusion and primitive recreational experiences. A reduced number of routes would be designated for motorcycle and truck competitive events, but such events would still be permitted. The Proposed RMP would meet the goal for the recreation program.
Alternative C	Alternative C would constitute a comprehensive program that addresses the trend of increasing recreational use as well as provides the opportunity to develop management strategies for anticipated future conditions. Nine special recreation management areas totaling approximately 2.56 million acres (22 percent of the decision area) would be designated. Reduction but not elimination of areas designated as open to cross-country off-highway vehicle use would reduce off-highway motorized recreational opportunities. However, these transportation restrictions also would provide an increased opportunity for seclusion and primitive recreational experiences. An increased number of routes would be designated to accommodate motorcycle and truck competitive events. The Proposed RMP would meet the goal for the recreation program.
Alternative D	Under Alternative D, the spectrum of recreation opportunities on BLM-administered lands would be greatly reduced, as there would be no special recreation management areas designated, no special recreation permits issued, and all existing developed recreation sites would be eliminated. Alternative D would not meet the goal for the recreation program.

Table 4.1-1 (Continued)

LIVESTOCK GRAZING	
Goal – Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health. **Northeastern Great Basin Area Standards.** • **Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form.** • **Riparian and wetland areas exhibit a properly functioning condition and achieve State water quality criteria.** • **Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** **Mojave-Southern Great Basin Area Standards.** • **Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.** • **Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).** • **Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**	
Proposed RMP	Approximately 11.3 million acres would remain available for grazing following closures on all or portions of five ACECs. Approximately 424,602 animal unit months on 8.4 million acres would be authorized on grazing allotments that have been determined to be meeting or progressing toward achievement of standards for rangeland health. Approximately 120,665 animal unit months on 3.2 million acres would be authorized on grazing allotments pending their evaluation for meeting rangeland health standards. The total acreage available for grazing is subject to change based on approximately 75,600 acres identified for potential sale. Although portions of these lands may continue to be grazed after they are sold, they would no longer be administered as part of the BLM livestock grazing program. Vegetation treatments and protection of freshly seeded areas also could temporarily affect grazing on substantial areas during the treatment process, but it is expected that increased forage production on previously treated areas would offset temporary reductions in those allotments. The Proposed RMP would achieve the stated goal for this program.
Alternative A	Approximately 11.3 million acres would remain open to grazing. Approximately 424,602 animal unit months on 8.4 million acres would be authorized on grazing allotments that have been determined to be meeting or progressing toward achievement of standards for rangeland health. Approximately 120,665 animal unit months on 3.2 million acres would be authorized on grazing allotments pending their evaluation for meeting rangeland health standards. Potential land disposals would affect total acreage available for grazing.
Alternative B	Approximately 3.8 million acres of additional grazing area affecting 189 total allotments would be unavailable for grazing due to desert tortoise habitat, bighorn sheep habitat, acquisition of former U.S. Forest Service allotments that are currently unavailable for grazing, and new ACECs (beyond the 203,670 acres already unavailable in the existing desert tortoise ACECs) resulting in long-term impacts to livestock grazing. Livestock grazing would be authorized on those allotments that have been determined to be meeting the standards for rangeland health. Livestock grazing would also be authorized on allotments pending their evaluation for meeting the standards. Vegetation treatments and protection of freshly seeded areas also could temporarily affect grazing on substantial areas during the treatment process causing short-term impacts. It is expected, however, that increased forage production on previously treated areas would offset temporary reductions in these allotments. Because this alternative would effectively render one-third of the planning area unavailable for livestock grazing, it is questionable as to whether the alternative could be considered as meeting the program goal, even though the goal would be met on the remainder of the area.

Table 4.1-1 (Continued)

Alternative C	Approximately 11.3 million acres would remain available for grazing in 234 existing allotments, subject to potential land sales of up to 295,200 acres. These areas would become unavailable for grazing when they are sold. Long-term fire impacts to grazing would be substantial. Vegetation treatments and protection of freshly seeded areas also could temporarily affect grazing on substantial areas during the treatment process, but it is expected that increased forage production on previously treated areas would offset temporary reductions in these allotments. Alternative C would achieve the goal for the livestock grazing program.
Alternative D	Elimination of the livestock grazing program within the planning area would constitute a major change in policy with attendant impacts to livestock grazing, other resource uses, and users. Since Alternative D does not provide for livestock grazing as a component of multiple use of the public lands, it would not achieve the stated goal for this program.
FOREST/WOODLAND AND OTHER PLANT PRODUCTS	
Goal – Provide opportunities for traditional and non-traditional uses of vegetation products on a sustainable, multiple-use basis.	
Proposed RMP	The Proposed RMP would expand the number of species permitted for use as fuelwood, posts and poles, and Christmas trees, providing a greater opportunity for personal and commercial use and greater flexibility in the management of these woodland communities. The increased availability is not likely to affect the overall resource supply for any of the species involved. Availability of woodland biomass products would continue to exceed demand on both short and long term basis. Green biomass availability would be replaced with dead wood during treatments, but overall product availability would remain relatively constant. Christmas tree availability would likely be reduced as treatments are implemented in more productive sagebrush ecological sites. Pine nut production would be reduced during the short term after treatments, but should maintain or exceed current production rates in the long term as woodland sites are restored and become resilient. Forest/woodland and other plant product availability would be affected in high priority watershed areas prior to other watersheds. The harvest of forest/woodland products would continue to have minimal effects on the woodland communities involved. The management actions of the Proposed RMP would achieve the goal for this program.
Alternative A	Current supplies of forest/woodland and other plant products including fuelwood, posts and poles, Christmas trees, pinyon pine nuts, various native seeds, and live plants of selected species for transplantation are adequate to meet existing demands. It is expected that availability of these forest/woodland products would continue to exceed the expected demand. Thus, this alternative would meet the program goal.
Alternative B	Alternative B would expand the number of species permitted for use as fuelwood, posts and poles, and Christmas trees, providing a wider opportunity for personal and commercial use. The increased availability is not likely to affect the overall resource supply for any of the species involved. Availability of forest/woodland products would exceed the expected demand. On a long-term basis, the production of forest/woodland products from restored and resilient communities is expected to exceed current levels. This alternative would achieve the program goal.
Alternative C	Alternative C would expand the number of species permitted for use as fuelwood, posts and poles, and Christmas trees and areas in which these products could be collected, thus, providing a greater opportunity for personal and commercial use. The increased availability is not likely to affect the overall resource supply for any of the species involved. Availability of forest/woodland products would exceed the expected demand until major fires eliminated large blocks of pinyon-juniper woodlands. This alternative would achieve the program goal in the short-term, but may fail to achieve sustainability over the long term.
Alternative D	It is highly probably that major fires at an early date under this alternative would substantially reduce the long-term supply of forest/woodland products. The harvest constraints under Alternative D would fail to provide the desired opportunities for traditional and non-traditional use of the resource outlined in the program goal.

Table 4.1-1 (Continued)

GEOLOGY AND MINERAL EXTRACTION	
Goal – Allow for meeting the Nation's energy needs while providing environmentally responsible production of fluid leasable minerals and geophysical exploration for energy resources on public lands. Allow development of solid leasable and locatable minerals in a manner to prevent unnecessary or undue degradation. Allow development of mineral materials in a manner that would prevent unnecessary or undue degradation, meet public demand, and minimize adverse impacts to other resource values.	
Proposed RMP	The majority of the decision area would be open to fluid mineral exploration and development. The areas proposed for closure to leasing or those with no surface occupancy restrictions that are outside of wilderness, yet within high to moderate potential is less than 5 percent of the decision area. Therefore, the proposed management would allow for the exploration and development of oil and gas while protecting important resource values. The decision area has a low potential for the occurrence of solid leasable mineral resources, so the closure of the lands described would likely have little impact on the exploration and development of solid leasable minerals. Less than 5 percent of the decision area would involve discretionary closures to locatable minerals within high to medium potential. This small percentage of withdrawn areas is not expected to have a major impact on the recovery of locatable minerals. Therefore, the Proposed RMP would allow for the exploration and development of locatable minerals while protecting important resource values. Because mineral material occurrences are so common and widespread, there should be little impact to the availability of these deposits despite the proposed closures and areas where discretionary closures are likely. It is expected that there would be sufficient resources available to meet local, regional, and national needs, while providing for the protection of other resources and uses.
Alternative A	Alternative A limits the oil and gas program mostly due to the small percentage of the decision area that is available to leasing due to the limited coverage of previous NEPA analyses. It is difficult to compare Alternative A with the Proposed RMP because of the difference in acres available for leasing. Looking only at the areas available for leasing in both programs, the differences are small. The Proposed RMP identifies more ACECs and emphasizes the use of no surface occupancy more often than in Alternative A. In Alternative A there is high to medium oil and gas potential within about 92 percent of the entire area considered for leasing. The areas designated as "closed" and "no surface occupancy" occupy about 13 percent of this high and medium potential with about 80 percent of those acres in designated wilderness. Under current management there would be noticeable impact on the ability to develop oil and gas resources because over half the decision area is currently not available for leasing. The decision area has a low potential for the occurrence of solid leasable mineral resources so the closure of the lands described would likely have little impact on the exploration and development of solid leasable minerals. About 1.8 percent of the decision area in Alternative A as compared to about 4.3 percent in the Proposed RMP would involve discretionary closures to development of locatable minerals within high to medium potential. This small percentage of withdrawn areas is not expected to have a major impact on the recovery of locatable minerals. Therefore, Alternative A might allow for slightly more opportunities (2.5 percent of the decision area) for the exploration and development of locatable minerals but would not protect important resource values as well as the Proposed RMP. The total acreage open to mineral materials disposal would be about 87 percent of the decision area. Most of the closed areas are non-discretionary closures for designated wilderness or wilderness study areas and not subject to the management of the Ely Field Office. Proposed discretionary closures would be about 3.4 percent of the decision area. Because mineral material occurrences are so common and widespread, there should be little impact to the availability of these deposits despite the proposed closures and areas where discretionary closures are likely.

Table 4.1-1 (Continued)

Alternative B	The percentage of closed and no surface occupancy areas are not substantially different than for the Proposed RMP. The main difference would be in how the stipulations were applied. All other conclusions would be the same as for the Proposed RMP. Since the potential for solid leasable minerals in the Ely decision area is extremely low, and there are no current or reasonably foreseeable operations, the areas of closures would have little impact on the exploration and development of solid leasable minerals. Alternative B would have approximately 209,500 fewer acres withdrawn from locatable mineral entry and a lower percentage of closed areas within areas of high to medium potential in comparison to the Proposed RMP. Alternative B would have slightly less impact to the development of locatable minerals but would not have the more defined protection of critical resources that are found in the Proposed RMP. Alternative B closes about half of the acreage of discretionary closures in comparison with the Proposed RMP. The proposed management actions in Alternative B would meet the stated goal of the minerals program to provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses.
Alternative C	Alternative C would have approximately the same area closed to leasing as the Proposed RMP, but 3 percent less of these closed areas would be in high to medium potential. Alternative C further developed the stipulations from existing management rather than evaluate and identify new areas of resource protection as thoroughly as in the Proposed RMP. The differences in percentages between Alternative C and the Proposed RMP are not enough to state that either alternative would have more impact than the other. The overall differences would be minimal compared to the size of the decision area. Since the potential for solid leasable minerals in the Ely decision area is extremely low, and there are no current or reasonably foreseeable operations, the areas of closures would have little impact on the exploration and development of solid leasable minerals. There would be comparable acreage proposed for withdrawal for locatable minerals in Alternative C as in the Proposed RMP. Within the withdrawals there would be approximately 13 percent more within high to medium potential in the Proposed RMP than for Alternative C. Therefore, even though approximately the same acreage is proposed for withdrawal in Alternative C, fewer of those acres are within high to medium potential. Therefore, Alternative C could have less impact to the development of locatable minerals than the Proposed RMP. The overall differences would be minimal compared to the size of the decision area. Because mineral material occurrences are so common and widespread, even with the differences in withdrawals, there should be little impact to the availability of these deposits despite the proposed closures and areas where discretionary closures are likely.

Table 4.1-1 (Continued)

Alternative D	The entire decision area would be closed to new fluid minerals leasing, but existing leases would be honored. The effects would be to preclude exploration and development (except on existing leases) and result in the loss of the resource available to the country, loss of potential lease bonus and rental revenue, loss of potential production royalties and property taxes, and other losses to related economic activity in the decision area. If no discoveries are made on existing leases, the leases would expire over time resulting in a total cessation of fluid mineral activities. Since 80 percent of the area has a high to medium potential for fluid minerals (especially oil and gas) and those resources would be unavailable, this extensive closure of lands described above would adversely affect the exploration and development of fluid minerals. Because there is no current solid leasable activity and the potential is low, the closure of the entire decision area would not be important unless an economical deposit was discovered. With over half the decision area withdrawn from mineral entry, there would be a major impact on the exploration and development of locatable minerals. Alternative D would not meet the stated goal of the minerals program to provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses. The withdrawal of over half the decision area would cause severe limitations on access to current and potential locatable mineral deposits. Inability to explore and develop locatable minerals would result in loss of the resource to the country, loss of tax revenue, and other losses to related economic activity in the decision area. The high demand for sand, gravel, and other mineral materials for development and construction would not be met under this alternative. Alternative D would not meet the stated goal of the minerals program to provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses. The closure would preclude development of mineral materials resources and result in the loss of an important resource to the public and the loss of related economic activity.
WATERSHED MANAGEMENT	
Goal – Manage watersheds to achieve and maintain resource functions and conditions required for healthy lands and sustainable uses. **Northeastern Great Basin Resource Advisory Council Standards.** • **Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form.** • **Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.** • **Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics; to provide suitable feed, water, cover, and living space for animal species; and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.** • **Land use plans will recognize cultural resources within the context of multiple use.** **Mojave/Southern Great Basin Resource Advisory Council Standards.** • **Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.** • **Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.** • **Riparian and wetland vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover; capture sediment; and capture, retain, and safely release water (watershed function).** • **Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.**	

Table 4.1-1 (Continued)

Proposed RMP	The Proposed RMP watershed management actions, in combination with the associated vegetation treatment programs, generally would reduce dominance by woody species; increase the diversity of vegetation communities over the long term; and provide structure with multiple-aged shrubs, forbs and perennial grasses. This would result in greater productivity, improved watershed function, and increased stability. It also would increase the amount of plant litter returned to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities, which includes maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained and improved across the landscape except at small localized areas of soil disturbing activities. Thus, the Proposed RMP management actions of this and related programs would achieve the program goal for watershed management.
Alternative A	Existing management in watershed management, vegetation, and related programs, would lead to minimal improvement at the watershed level, moderate reduction in shrub-dominated communities, and a reduction in pinyon/juniper-dominated communities over the long term. Moderate shrub reintroduction into burned sites, as part of rehabilitation efforts, would maintain diversity in the long term at a broad scale. The historic rate of treatment (largely fire rehabilitation) each year to restore desirable perennial herbaceous species and restore ecological resiliency would be increased to the extent allowed under the current fire plan. This rate, however, is not considered adequate to match the current rate of ecological deterioration, increase in woody fuel, and expansion of weedy species throughout the planning area, and substantial long-term effects on watershed function are anticipated. Thus, the rate of treatment under this alternative, when combined with actions proposed for vegetation, fish and wildlife, special status species, wild horses, livestock grazing, and fire management, has a low probability of achieving noticeable gains in vegetation resiliency and watershed function throughout the planning area and is unlikely to achieve the program goal.
Alternative B	Alternative B generally would reduce dominance by woody species and increase the diversity of vegetation communities over the long term, providing structure with multiple-aged shrubs, forbs and perennial grasses. This would result in greater productivity, and improved natural functions and watershed stability. Sustained or slightly reduced levels of livestock grazing would maintain vegetation communities which currently meet the desired range of conditions and allow improvement of remaining vegetation communities to the desired range of conditions over the short and long term. It also would increase the amount of plant litter returned to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities, which includes maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained across the landscape, except at small localized areas of soil disturbing activities. Additional forage resulting on areas successfully restored would not be allocated to livestock or wild horses and, thus, could help in further improvement of ecological health beyond meeting the standards for rangeland health. Overall, the watershed management aspects of this alternative and effects of most other programs would be similar in effect to the Proposed RMP and would be expected to achieve the goal for watershed management.
Alternative C	Implementation of this alternative would reduce dominance of woody and exotic annual species, and increase dominance of herbaceous perennials in the long term. Greater productivity for allocation to consumptive uses would result. Limited shrub reintroduction into some burns would maintain diversity at a broad scale. However, the narrower range of desired conditions (with greater emphasis on the herbaceous state) in this alternative as compared to the Proposed RMP would require more effort and more frequent treatments to achieve and maintain. The higher probability for widespread fire over the long term also would necessitate greater efforts for fire suppression and rehabilitation as opposed to planned treatments. As a result of optimizing livestock use of available forage, the benefits of returning vegetation material to the soil would be minimized. Long term vigor and health of vegetation communities would be maintained across the landscape, except at localized areas of concentrated activity. This alternative would have a good probability of achieving the program goal, but the probability would be less than for the Proposed RMP or Alternative B.

Table 4.1-1 (Continued)

Alternative D	Improvement in watershed function could be seen with the exclusion of livestock from all public lands and would allow natural succession to improve the condition of many vegetation communities currently supporting desirable species. Altered vegetation communities dominated by annual species would improve little toward the desired range of conditions over the life of the plan. Fine fuels would increase with limited utilization of herbaceous growth, resulting in increased size of wildland fires and increased frequency of fire. Limited suppression of wildland fire also would increase the average fire size, resulting in more frequent impacts to affected vegetation resources. The condition of many vegetation communities currently dominated by desirable mosaics of native species would be maintained or improved in those areas not subject to frequent fire. Intense, hot, wildland fires in healthy, native communities, would cause a decline in vegetation diversity and health, leading to a decline in natural levels of nutrients, water, and energy cycling. The limited management approach would result in continued proliferation of tree species into historic sagebrush-dominated sites with minimal prospects for restoration of resiliency and watershed function. Treatments would not occur at a scale and rate, when combined with the actions proposed for vegetation, fish and wildlife, special status species, wild horses, livestock grazing, and fire management, which would reverse the historic deterioration in rangeland health and restore resiliency of vegetation communities. The long-term consequences would be more dramatic and severe than in other alternatives due to the differences in fire management and other programs. Therefore, the watershed management actions, in combination with the related programs of this alternative, would fail to meet the program goal.
FIRE MANAGEMENT	
Goal – Provide an appropriate management response to all wildland fires, with emphasis on firefighter and public safety, consistent with overall management objectives. Return fire to its natural role in the ecological system and implement fuels treatments, where applicable, to aid in returning fire to the ecological system. Establish a community education program that includes fuels reduction within the wildland urban interface to create fire-safe communities.	
Proposed RMP	Implementation of the Proposed RMP would result in a major increase in the use of fire throughout the watersheds in the planning area. Fire use and prescribed fire would be implemented year-round in the treatment of vegetation communities and watersheds to achieve the desired range of conditions for vegetation, watersheds, and other resource programs (e.g., livestock grazing, wild horses, soils, etc.). An increase in application of other tools (e.g., herbicides) also may be necessary to meet management goals prior to expanding the use of fire.
Alternative A	Continued implementation of the Ely Fire Management Plan, which incorporates the Ely Managed Natural and Prescribed Fire Plan, would allow case-by-case decisions based in part on where the fire occurs in relation to where in the planning area such fire would be considered beneficial or detrimental.
Alternative B	Implementation would result in a major increase in the use of fire throughout the watersheds in the planning area. Fire use and prescribed fire would be implemented year-round to meet resource objectives in accordance with the Ely Fire Management Plan (BLM 2004a), thus meeting the goal for this management program. An increase in application of other tools (e.g., herbicides) also may be necessary to meet management goals prior to expanding the use of fire.
Alternative C	Full suppression of fires within the planning area would be practical only on a short-term basis. Over the long term, the attempts at full suppression would probably lead to catastrophic widespread fires resulting in long-term ecological damage and increased risk to human safety and property. Thus, this alternative would fail to meet the stated goal and objective for the fire management program.
Alternative D	Buildup of fuels would occur throughout the planning area and eventually lead to catastrophic fires, resulting in long-term ecological damage and increased risk to human safety and property. It is expected that such fires would occur earlier in time with this alternative than with Alternative C. Thus, this alternative would fail to meet the stated goal and objective for the fire management program.

Table 4.1-1 (Continued)

NOXIOUS AND INVASIVE WEED MANAGEMENT	
Goal – To reduce the introduction of, and the areal extent of noxious and invasive weed populations and the spread of these populations.	
Proposed RMP	The Proposed RMP would involve a substantial increase in vegetation treatments resulting in a temporary increase in the risk of weed invasion and expansion in the areas disturbed by treatments, but a long-term reduction in the vulnerability of these same areas. Additional constraints on off-highway vehicle use throughout the planning area and formalization of weed management actions related to construction and development activities would substantially reduce weed dispersal associated with these activities. However, with the increase in use of off-highway vehicles in designated special recreation management areas and special recreation permit areas, the potential spread of weeds will increase. Monitoring measures will be implemented to ensure containment of any outbreak. Therefore, this alternative would reduce the rate of spread of noxious and invasive weeds on a long-term basis and meet the program goal.
Alternative A	Weed control efforts historically have focused primarily on toxic and noxious weed species with less attention devoted toward the spread of annual invasive species such as cheatgrass, which provide usable forage during a short grazing season each spring. Current management includes emphasis on slowing and reversing the spread of these invasive species through application of integrated pest management methods. The rapidly increasing levels of recreational activities throughout the planning area contribute to the increasing spread of noxious and invasive species. Under this alternative, the rate of spread of noxious and invasive weeds would increase in both the short and long term, thus failing to meet the program goal.
Alternative B	Alternative B would be similar to the Proposed RMP in terms of weed management because the substantial increase in vegetation treatments under this alternative would temporarily increase the risk of weed invasion and expansion in areas disturbed by treatment but reduce the vulnerability of these same areas on a long-term basis. Additional constraints on off-highway vehicle use throughout the planning area would substantially reduce weed dispersal associated with this activity. However, with the increase in use of off-highway vehicles in designated special recreation management areas and special recreation permit areas, the potential spread of weeds would increase. Monitoring measures would be implemented to ensure containment of any outbreaks. Therefore, this alternative would reduce the rate of spread of noxious and invasive weeds on a long-term basis and meet the program goal.
Alternative C	The level of vegetation treatments involved in Alternative C would be approximately the same as the Proposed RMP. This alternative, like the Proposed RMP, would reduce the long-term impacts of noxious and invasive weeds through vegetation treatments, but this would likely be offset by the increased probability of weed establishment and spread following major wildland fire events. With the increase in use of off-highway vehicles in designated special recreation management areas and special recreation permit areas, the potential spread of weeds would increase. Monitoring measures would be implemented to ensure containment of any outbreaks.
Alternative D	Weed management would involve exclusion of some groups of herbicides. This would effectively reduce the capability to control several weed species and increase impacts associated with noxious and invasive weeds. In the short-term, the reduction in discretionary activities that serve as vectors for weed dispersal may temporarily reduce the rate of spread for existing populations and the rate of introduction for new species. However, since very few fires would be suppressed, the spread of noxious and invasive weeks throughout the planning area would likely be accelerated in both the short and long term. Once this occurred, the control of noxious and invasive species would not be attainable. Thus, the combination of weed management actions with other program actions under this alternative is not expected to reduce the rate of spread of noxious and invasive weeds in the long term, and, thus, would fail to meet the program goal.
SPECIAL DESIGNATIONS	
Goal – Evaluate areas of interest for special designation and appropriately manage those areas that meet necessary requirements.	
Proposed RMP	Approximately 317,800 acres would be designated as three existing and 17 new ACECs. Management prescriptions would protect the relevant and important values in these ACECs. Opportunities for scenic drives would be created through the designation of one existing and two new back country byways, though there may be some decrease in solitude in these areas. The Proposed RMP would meet the goal for the special designations program.

Table 4.1-1 (Continued)

Alternative A	Approximately 203,670 acres would be designated as three existing ACECs. Management prescriptions would protect the relevant and important values in these ACECs. However, no other nominated areas would be designated as ACECs, and no back country byways would be designated. These management actions would not protect the resource values deemed relevant and important nor provide the benefits of designated scenic drives. Alternative A would not meet the goal for the special designations program.
Alternative B	Approximately 338,000 acres would be designated as three existing and 15 new ACECs. Management prescriptions would protect the relevant and important values in these ACECs. Opportunities for scenic drives would be created through the designation of one new back country byway (the Silver State Trail), though there may be some decrease in solitude in this area. The benefits of designating two additional byways would not be realized. Alternative B would meet the goal for the special designations program.
Alternative C	Approximately 333,390 acres would be designated as three existing and 20 new ACECs. Management prescriptions would protect the relevant and important values in these ACECs. Opportunities for scenic drives would be created through the designation of one new back country byway (the Silver State Trail), though there may be some decrease in solitude in this area. The benefits of designating two additional byways would not be realized. Alternative C would meet the goal for the special designations program.
Alternative D	Under Alternative D, all special designations except designated wilderness and wilderness study areas would be eliminated, but with minimal activity allowed under other management programs, few impacts to the sensitive resources would be anticipated from other uses. Nevertheless, no special management or protect would be afforded to areas nominated for ACEC designation, and potential benefits to visitors from back country byway designation (other than the Mount Wilson Back Country Byway) would not be realized. Alternative D would not meet the goal for the special designations program.
ECONOMIC AND SOCIAL CONDITIONS	
Goal – No program-specific goals have been identified for economic and social conditions or health and safety.	
Economic Conditions	
Proposed RMP	The Proposed RMP would result in slight, long-term enhancements of the local economy, e.g., 255 to 260 jobs, across the planning area due to the added restoration funding, stewardship contracting, increased woodland commodity production, and developed and organized recreation. Ranch income would be adversely impacted over the short term, but would increase over the long term. Annual payments in lieu of taxes to Lincoln County would increase slightly and to White Pine County would decrease in the short term, but both would increase in the long term due to land disposal and development. RMP-related impacts on local fiscal conditions would be minimal and long term relative to local budgets.
Alternative A	Alternative A would result in minor, long-term economic impacts (jobs, income, locally derived taxes, etc.) across the planning area. Such impacts would intensify over time, accruing across the entire planning area, though not necessarily uniformly. The adverse economic impacts in Lincoln County would be masked by major, long-term economic growth associated with the Lincoln County Land Act and the Lincoln County Conservation, Recreation, and Development Act. The impacts of these Acts are unrelated to the RMP and would be differentiated across alternatives based on the acreages of affected lands, the timing of disposals, and the type and pace of subsequent development. Federal payments in lieu of taxes and grazing fees received by White Pine County would decline by as much as $86,000 annually, until development facilitated by the White Pine County Conservation, Recreation, and Development Act is realized, but would increase in Lincoln County. Changes in payments in lieu of taxes and grazing fees would be minor relative to the total budgets of the affected local governments.
Alternative B	Alternative B would result in slight, long-term enhancements of the local economy, e.g., 255 to 260 jobs, across the planning area due to the added restoration funding, enhanced woodland commodity availability, and increases in big-game hunting. Gains would be tempered by long-term decreases in farm/ranch income from allotment closures in the Mojave Desert and bighorn sheep habitat. Lincoln and White Pine counties would see major, long-term economic growth triggered by the Lincoln County Land Act and the Lincoln County and White Pine County Conservation, Recreation, and Development Acts. Annual payments in lieu of taxes to White Pine County would be lower than at the present, but higher than under Alternative A. Payments in lieu of taxes would increase in Lincoln County. RMP-related impacts on local fiscal conditions would be minimal and long term relative to local budgets.

Table 4.1-1 (Continued)

Alternative C	Alternative C would promote increased organized and developed recreation activity in the planning area, compared to Alternative A, and the development of tourism and recreation-oriented facilities by both the public and private sectors. Higher levels of organized use, in the form of truck and motorcycle events, would augment continued off-highway vehicle use accommodated by a management emphasis to designate roads and trails for such use. The combined organized and dispersed recreation use would stimulate recreation spending in the region, providing added stimulus to local retail, eating and drinking, lodging, and other such establishments, which would increase the number of local jobs in the affected industries.
Alternative D	Alternative D would result in moderate, long-term economic impacts, due to substantial reductions in ranch income, wildland fire suppression, and withdrawals of lands open for mineral and energy-related development. The latter could result in foregone short-term economic benefits associated with utility construction projects precluded by the lack of utility rights-of-way. The Lincoln County and White Pine County economies would experience major, long-term economic growth associated with development of lands sold under the Lincoln County Land Act and the Lincoln County and White Pine County Conservation, Recreation, and Development Acts. Absent development spawned by land disposals under the three acts, annual payments in lieu of taxes to White Pine County would be lower than at the present, but comparable to those under Alternative A. The provision for no net loss of public lands may delay or limit land disposal actions that would otherwise foster community and economic development, thereby impacting local fiscal budgets.
Social Conditions	
Proposed RMP	The Proposed RMP would result in regional population increases of 510 to 560 residents during restoration, with corresponding positive long-term effects on local housing markets. The gains would be relatively more concentrated around Ely. Additional social benefits may be realized from stewardship contracting, the fuels management/wildland fire risk reduction, and potential for developed recreation associated with possible land disposal. This alternative may hold relatively less appeal for those desiring maximum emphasis on resource protection and rangeland health restoration. Additionally, long-term population growth facilitated by land disposal could result in fundamental, long-term changes in social conditions across the area.
Alternative A	Long-term moderate population declines in White Pine County and moderate to major population increases in Lincoln County are projected under Alternative A absent the indirect growth associated with proposed land disposals and subsequent development. Subsequently, housing demand and prices would fall in White Pine County, while increasing in Lincoln County. Residential development in Lincoln County would increase concerns about wildland fire risks. Continuation of current management practices would be widely perceived as unresponsive to public concerns regarding declining ecological health in the Great Basin and the implications for public land use. Potential long-term development facilitated by land disposal actions under Alternative A would counteract the underlying projections and result in long-term population growth which would be accompanied by changing social dynamics in the planning area.
Alternative B	Alternative B management actions related to restoration would increase regional population by 510 to 560 residents. Generally perceived as beneficial, the gains would be relatively more concentrated around Ely. By accelerating the pace of restoration and improved ecological health, Alternative B would contribute to potential long-term population growth over and above that under Alternative A. Long-term population growth facilitated by land disposal could result in fundamental, long-term changes in social conditions across the planning area. Higher population growth would bolster housing markets in White Pine County. Many would view the increased restoration funding levels favorably, but would be concerned about short-term impacts on lifestyles and personal use, and future management as rangeland health standards are achieved. Alternative B may hold relatively stronger appeal to those favoring resource protection and restoration.
Alternative C	Alternative C restoration activities would increase regional population by 190 to 210 residents. The gains and corresponding benefits on local housing markets would be concentrated around Ely. Indirect benefits from long-term commodity use, stewardship contracting, and expanded options for land disposal would result in long-term social benefits and adverse impacts due to the scale of potential long-term growth. The management emphasis for Alternative C may hold less appeal to stakeholders desiring stronger resource protection, sportsmen, and those favoring commercial uses of forest/woodland and other plant products than to interests promoting motorized recreation.

Table 4.1-1 (Continued)

Alternative D	Alternative D would have little direct impact on regional population or housing markets, as compared to Alternative A. Alternative D carries forward several elements of Alternative A, but eliminates livestock grazing and places additional constraints on possible land disposal, mineral entry, and energy development that are viewed by residents as imperative to community and economic viability. Consequently, this alternative would hold relatively less appeal for area residents and local government officials than for those stakeholders whose specific areas of concern serve as the foundation for this alternative. Alternative D would support the least amount of residential development associated with land disposals, and thereby potentially would introduce the least influence on social dynamics within the planning area.
AMERICAN INDIAN ISSUES	
No specific impacts are compared. See Section 4.25 to identify specific issues and the sections in which they are addressed.	
ENVIRONMENTAL JUSTICE	
Goal – Continue efforts to avoid, to the extent practicable, inequitable distributions of adverse environment impacts that may arise based on race, ethnicity, or income.	
Proposed RMP	No significant, adverse, or disproportionately high environmental or health effects to minority or low-income populations were identified in conjunction with the resource programs, objectives, or management actions associated with the Proposed RMP.
Alternative A	No disproportionate adverse impacts to low-income populations were identified in conjunction with the resource programs or management actions associated with Alternative A. Alternative A would meet the goal for environmental justice.
Alternative B	No significant, adverse, or disproportionately high environmental or health impacts to minority or low-income populations were identified in conjunction with the resource programs, objectives, or management actions associated with Alternative B.
Alternative C	No significant, adverse, or disproportionately high environmental or health impacts to minority or low-income populations were identified in conjunction with the resource programs, objectives, or management direction associated with Alternative C.
Alternative D	No significant, adverse, or disproportionately high environmental or health impacts to minority or low-income populations were identified in conjunction with the resource programs, objectives, or management direction associated with Alternative D.
HEALTH AND SAFETY	
Goal – The goal of the health and safety program is to ensure that management actions are protective of life and property.	
Proposed RMP	There would be a decrease of risk to public health and safety because of the decreased wildland fire risk. The Proposed RMP would meet the goal for the health and safety program.
Alternative A	There would be a slight increase of risk to public health and safety because of an increased wildland fire risk. Alternative A would meet the goal for the health and safety program.
Alternative B	There would be a decrease of risk to public health and safety because of decreased wildland fire risk. Alternative B would meet the goal for the health and safety program.
Alternative C	There would be an increase of risk to public health and safety because of increased wildland fire risk. Alternative C would not meet the goal for the health and safety program.
Alternative D	There would be a great increase of risk to public safety because of the increased wildland fire risk and the potential for large destructive fires. Alternative D would not meet the goal for the health and safety program.

4.2 Air Resources

Impact Issues

Management of certain resources and uses (e.g., renewable energy, travel management and off-highway vehicle use, mineral management, and fire management) can result in increased particulate emissions, thereby affecting air quality in the planning area. Activities such as competitive off-highway vehicle events can produce increased levels of dust in localized areas, impair visibility, and affect other land uses (e.g., recreation). Prescribed fires and wildland fires in particular may have a substantial effect on air quality in the planning area.

Various members of the public have expressed concern that radioactive fallout from historic atmospheric nuclear tests at the Nevada Test Site may now be present in existing vegetation. When vegetation burns, any radioactive material present could be released, thereby posing a radiation exposure risk to BLM firefighters and others exposed to the smoke from the fires. In 1991, the National Nuclear Security Administration Nevada Operations and the State of Nevada Radiological Health Section collected soil and vegetation samples in nuclear fallout and non-fallout areas.

The results of this study concluded that there is no significant difference between samples taken in fallout and non-fallout areas. All results indicate radioactive materials, natural and man-made, are at minimum detectable amounts and within allowable averages for human health and safety for this geographic region and other areas of the U.S. The report concluded "Consequently, an individual exposed to smoke from burning vegetation in the Caliente, Ely, and Elko area, would be at no increased radiological risk than from smoke in southern Nevada or other areas of the U.S." (Nevada State Health Department 2001).

The National Nuclear Security Administration Nevada Operations also reported that previous studies published in 1981 demonstrated that fallout is not concentrated into forage over time and is presently at concentrations far below soil concentrations. They concluded that "... the concentration of radioactivity in plant life is sufficiently low as not to be of concern during a fire" (Izell 2001).

Assumptions for Analysis

- For modeling purposes, representative weather conditions were selected for prescribed burns.
- For modeling purposes, representative weather conditions in summer when an active wildland fire would occur were selected.

Interactions with Other Programs

The air quality management program within the planning area potentially would be affected by actions within the resource management programs for vegetation, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, geology and mineral extraction, and fire management.

Goal

Meet all applicable local, state, and tribal constraints, and National Ambient Air Quality Standards under the Clean Air Act (as amended), and prevent significant deterioration of air quality (defined as violation of air quality regulations) within the Ely planning area from all direct and authorized actions.

Objective

To ensure air quality in the Ely planning area meets all National Ambient Air Quality Standards.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to air resources also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Air Resources Management Actions. Air quality management actions requiring continued coordination with the Nevada Division of Environmental Quality concerning air quality permitting and fire management planning would ensure that existing regulatory standards are met. Review of the air quality effects associated with proposals for land use authorizations during the project-specific NEPA process would identify potential adverse effects in Class I and II areas prior to the authorization being made. However, the State of Nevada is responsible for issuing air quality permits and not the Ely Field Office.

Impacts from Other Programs.

Vegetation. Vegetation treatments commonly would involve various degrees of disturbance to existing vegetation communities and increased exposure of bare soil surfaces until the desired vegetation changes are accomplished. Thus, the vegetation treatments are likely to be accompanied by localized increases in fugitive dust from these areas. Such impacts are expected to be local in nature and short in duration (single growing season) for any given area.

Lands and Realty. Development of fossil fuel-fired power plants in the planning area may result in additional new sources of criteria and hazardous air pollutants with associated impacts to air quality in the region. Such development may require additional transmission lines through existing corridors or new

transmission line corridors. Construction, maintenance, and operations of these power plants would potentially degrade regional air quality. Construction activities associated with new rights-of-way within utility corridors would lead to temporary increases in fugitive dust emissions in these areas. Disposal of lands for residential and commercial development and the increased construction of utility rights-of-way and communication sites would contribute to short-term, localized increases in fugitive dust emissions during construction activities on these areas. Site-specific mitigation would include dust abatement procedures.

Renewable Energy. Renewable energy project construction and operation may increase the use of heavy and light vehicles on paved and unpaved roads within the planning area. Based on the reasonably foreseeable development scenario, a maximum of 4,000 acres is expected to be disturbed for construction of renewable energy facilities within the planning area during the life of this plan. This area would include several separate facilities constructed at different times. Thus, the acreage disturbed at any one time and contributing to local fugitive dust emissions would be a small fraction of this total. Dust would be controlled during construction, operation, and maintenance activities by using dust abatement techniques in accordance with applicable Nevada regulations. Water sprays or chemicals would reduce emissions on roads by as much as 90 percent. Gravel on high use roads would reduce fugitive dust emissions by reducing the silt content of the surface material.

Travel Management and Off-highway Vehicle Use. Road construction, maintenance, and use can adversely affect air quality in the planning area due to fugitive dust emitted from paved and unpaved roads by trucks, graders, pickups, and personal vehicles. Fugitive dust particles from roadways and trails tend to be larger in size and heavier in weight than other suspended particulate matter like smoke. Thus, it stays suspended for a shorter period of time and travels a shorter distance. While fugitive dust from roadways can be a nuisance and affect air quality locally, it does not typically affect regional air quality. Dust released from unpaved roads would be controlled during construction and maintenance activities by watering or using chemical dust suppressants and posting vehicle speed limits in accordance with applicable Nevada regulations. Water sprays or chemicals would reduce emissions on roads by as much as 90 percent. Gravel on high use roads would reduce fugitive dust emissions by reducing the silt content of the surface material. The operation of recreational off-highway vehicles on designated roads and trails within the planning area also would generate fugitive dust. Restriction of off-highway vehicle use to designated roads and trails as determined through a subsequent public process and area-specific analysis would help reduce the area over which fugitive dust is generated.

Recreation. Recreational events such as motorcycle and truck races and rallies have the potential to greatly increase short-term fugitive dust emissions from traffic on unpaved roads. While fugitive dust from roadways can be a nuisance and affect air quality locally, it does not typically affect regional air quality. Fugitive dust emissions are a function of vehicle weight and speed; and emissions increase dramatically with higher speeds even from smaller, lighter vehicles. Impacts from recreational events would be controlled by limiting the number of events and the routes allowed. Special Recreation Permit Areas where off-highway vehicle race events would be held are subject to individual permitting actions where all impacts, including dust emissions, would be evaluated. Permit conditions would be attached as appropriate.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario, would be disturbed throughout the planning area. Minerals exploration, development, construction, and operations may increase heavy and light vehicle use on paved and unpaved roads within the planning area. Dust would be controlled during construction, operations, and maintenance activities by using dust abatement techniques in accordance with applicable Nevada regulations. Water sprays or chemicals would reduce emissions on roads by as much as 90 percent. Gravel on high use roads would reduce fugitive dust emissions by reducing the silt content of the surface material.

Fire Management. The Ely Fire Management Plan would be implemented. This would result in the use of fire (prescribed throughout the planning area and wildland fire use on approximately 8.9 million acres) as a tool to the greatest extent possible. In the short term, this could result in more smoke emissions from larger and more frequent wildfires. However, in the long term, smoke emission would be lessened due to smaller and fewer major wildfires. In addition, adherence to air quality regulations during specific project implementation would minimize air quality impacts.

The Simple Approach Smoke Estimation Model was used to assess the impacts of wildland fire and management-ignited prescribed fire smoke on air quality within the planning area. Estimates were made of the effects of particulate matter emitted from wildland fires on health standards and visibility, and from management-ignited prescribed fire that could result from the land management alternatives under consideration for the Proposed RMP and Final EIS. Wildland fires and prescribed fires are compared because of the belief that aggressive fuel treatment can substantially reduce the likelihood of large damaging wildland fires, and because prescribed fire is proposed as a fuel treatment alternative in the planning area. The belief that fuel treatment can reduce the impacts of wildland fires has been common among fire managers for years, has been witnessed in the field, and has been demonstrated by a study completed in northeast Oregon (Schaaf 1996).

The prescribed fire modeling scenarios contain two estimates of current types and levels of prescribed fire activity. The wildland fire modeling scenarios also contain two estimates of impacts and were based on average acres burned in actual wildland fire occurrence scenarios. An analysis of specific levels of prescribed fire proposed in each alternative could not be conducted.

Particulate emissions and heat release rates were calculated for prescribed fires and wildland fires in pinyon-juniper and sagebrush/grassland vegetation areas using the Simple Approach Smoke Estimation Model. A total of four fire scenarios were modeled. The modeled concentration estimates were compared to the 24-hour National Ambient Air Quality Standards for particulate matter (for both PM_{10} and $PM_{2.5}$) developed under the Clean Air Act. The 24-hour National Ambient Air Quality Standards for PM_{10} is 150 micrograms per cubic meter. National Ambient Air Quality Standards for $PM_{2.5}$ has been established at a 24-hour value of 65 micrograms per cubic meter. Threshold values equivalent to these two concentrations were used to evaluate air quality impacts of the prescribed burning and wildland fire emissions. Model predictions do not represent worst-case scenarios and are not cumulative impacts of all sources (e.g., mines, power plants, and area sources such as automobiles, trucks, and off-highway vehicles); rather, this modeling analysis evaluated relative impacts of wildland fires and management-ignited prescribed fires

on a local scale. While this approach is appropriate for an RMP/EIS, it cannot be used to assess impacts of burning on attaining the National Ambient Air Quality Standards at any individual location.

The modeling effort used meteorological data that was representative of the prescribed fire and wildland fire seasons. The analysis assumed that prescribed fires would be ignited at 11:00 a.m., which would result in the release of the bulk of the emissions during the unstable daytime hours when vertical mixing would be enhanced and the smoke plume likely would be diluted relatively quickly. Some prescribed fires are active during the stable nighttime hours and have the potential to produce higher ground-level impacts due to lower plume heights and less favorable dispersion conditions. It also was assumed that the size of the source area is equal to the acreage burned, which may tend to over estimate the local dilution of pollutants, particularly during the early portion of the fire. It is thus possible that this analysis under-estimates the amount of particulate matter and subsequent air quality impacts associated with each prescribed burning scenario.

Model outputs include tables showing maximum concentrations of particulates for each scenario. **Table 4.2-1** depicts the relative impacts for several different stability and wind speed categories and compares the predicted concentrations to the National Ambient Air Quality Standards for PM_{10} (150 micrograms per cubic meter). **Table 4.2-2** depicts the relative impacts for several different stability and wind speed categories for $PM_{2.5}$ and compares the predicted concentrations to the National Ambient Air Quality Standards of 65 micrograms per cubic meter. Caution must be used in interpreting these results, since the concentrations only can be compared on a relative basis for each of the defined scenarios.

The predicted concentrations of particulate matter for the prescribed fire scenarios are substantially lower than the wildland fire scenarios for several reasons: 1) higher fuel moisture levels during management-ignited prescribed fires compared to wildland fires generally result in less fuel consumed per acre of prescribed fire than per acre of wildland fire; 2) smoke dispersion conditions during the spring and fall prescribed burn episodes are better; and 3) prescribed fires are dispersed across the landscape, rather than being concentrated in a few locations. Although a compensating factor is the larger buoyancy and potentially higher plume rise of the wildland fire plumes compared to the smaller prescribed fire plumes, the wildland fire plumes eventually mix down to the ground and result in higher ground-level concentrations of particulate matter.

Ozone is a byproduct of prescribed burning, but these fires are generally spatially and temporally dispersed, so potential ozone exposures from prescribed fire are infrequent (Sandberg and Dost 1990). Carbon monoxide is rapidly diluted at short distances from a prescribed burn and poses little or no risk to community health (Sandberg and Dost 1990). Other non-criteria, but potentially toxic, pollutants (e.g., polynuclear aromatic hydrocarbons and aldehydes) are emitted by prescribed burning. These criteria pollutants are not likely to have an impact on public health because of the small levels produced and the rapid dilution or modification of these substances within relatively short time frames. Ozone and carbon monoxide also are produced by wildland fire.

Table 4.2-1
Model Results Showing Relative PM_{10} Projected Concentrations for Prescribed Fires and Wildland Fires in Pinyon-juniper and Sagebrush/grassland Burn Areas[1]

Stability	Wind Speed (miles per hour)	Maximum Concentration (micrograms per cubic meter)			
		Pinyon-juniper Prescribed Fire	Pinyon-juniper Wildland Fire	Sagebrush/ grassland Prescribed Fire	Sagebrush/ grassland Wildland Fire
Excellent	1.0	43.4	139.6	88.3	231.9
Excellent	2.0	43.4	142.9	94.2	126.2
Excellent	3.0	43.4	116.3	81.7	86.7
Excellent	4.0	43.4	94.2	68.1	65.7
Excellent	5.0	44.7	78.2	57.3	52.8
Good	2.0	43.3	142.1	88.5	214.6
Good	3.0	43.3	148.9	94.8	146.8
Good	4.0	43.3	136.8	92.0	113.8
Good	5.0	43.4	121.5	84.6	92.5
Good	6.0	43.4	107.5	76.5	77.7
Good	7.0	43.5	95.7	69.0	66.9
Good	8.0	43.5	85.8	62.5	58.8
Good	9.0	44.8	77.6	56.9	52.4
Good	10.0	46.0	70.7	52.1	47.2
Fair	4.0	43.4	144.0	90.0	213.9
Fair	5.0	46.6	149.4	91.4	183.2
Fair	6.0	46.6	149.3	94.6	149.4
Fair	7.0	43.3	144.7	94.6	130.7
Fair	8.0	43.3	138.0	92.5	115.9
Fair	9.0	43.3	130.5	89.2	104.0
Fair	10.0	43.3	123.0	85.4	94.2
Poor	1.0	332.2	479.9	334.5	483.1
Poor	2.0	210.1	302.3	210.7	304.3
Poor	3.0	160.3	230.7	149.4	232.3
Poor	4.0	122.8	190.4	124.8	191.7
Poor	5.0	105.8	164.1	108.5	165.2

[1]The particulate matter (10 microns or less) standard used is 150 micrograms per cubic meter.

Effects on visibility resulting from smoke production by the various prescribed fire and wildland fire scenarios also were assessed using the Simple Approach Smoke Estimation Model. Results indicate that these modeled scenarios would have little impact on visibility at distances of 50 and 100 miles. At lesser distances, increased haziness (a reduction in viewing distance and ability to detect finer features on the landscape) likely would result from the increases in prescribed burning. Large wildland fires likely would result in more of the planning area affected by haze. It can be inferred that the higher concentrations of emissions associated with these wildland fires would reduce visibility in affected areas more so than the highest levels of prescribed fire.

Table 4.2-2
Model Results Showing Relative $PM_{2.5}$ Projected Concentrations for Prescribed Fires and Wildland Fires in Pinyon-juniper and Sagebrush/Grassland Burn Areas[1]

Stability	Wind Speed (miles per hour)	Maximum Concentration (micrograms per cubic meter)			
		Pinyon-juniper Prescribed Fire	Pinyon-juniper Wildland Fire	Sagebrush/ grassland Prescribed Fire	Sagebrush/ grassland Wildland Fire
Excellent	1.0	36.6	126.8	78.3	191.3
Excellent	2.0	36.6	124.6	78.3	115.4
Excellent	3.0	36.6	105.7	71.4	79.9
Excellent	4.0	36.6	87.2	56.2	54.2
Excellent	5.0	37.7	73.1	47.3	43.6
Good	2.0	36.6	126.8	78.3	177.0
Good	3.0	36.6	126.8	78.3	131.4
Good	4.0	36.6	120.1	77.5	102.6
Good	5.0	36.6	108.6	72.8	83.6
Good	6.0	36.7	97.2	63.1	64.1
Good	7.0	36.7	87.2	56.9	55.2
Good	8.0	36.8	78.6	51.6	48.5
Good	9.0	37.9	71.3	46.9	43.2
Good	10.0	38.9	59.8	43.0	38.9
Fair	4.0	36.6	126.8	78.3	176.5
Fair	5.0	39.4	126.8	78.3	151.2
Fair	6.0	39.4	126.8	78.3	130.9
Fair	7.0	36.6	124.5	78.3	114.9
Fair	8.0	36.6	119.9	77.5	102.1
Fair	9.0	36.6	114.3	75.4	91.8
Fair	10.0	36.6	108.3	72.7	83.2
Poor	1.0	280.8	405.5	276.0	398.6
Poor	2.0	177.5	255.5	173.8	251.1
Poor	3.0	135.5	195.0	132.7	191.6
Poor	4.0	111.8	160.9	109.5	158.1
Poor	5.0	96.4	138.7	94.4	136.3

[1]The particulate matter (2.5 microns or less) standard used is 65 micrograms per cubic meter.

Conclusion. Under the Proposed RMP, as watershed analyses are completed and projects are implemented to meet or maintain rangeland health standards, fire management would expand as a tool in vegetation management to approximately 8.9 million acres. In the long term, this approach likely would result in more small fires and fewer major fires producing fewer emissions in the planning area compared to recent historic (last 30 years) levels. Short-term impacts could include larger and more frequent fires plus increased fugitive dust from recreational events impacting air quality. Mitigation measures would be applied where appropriate to help maintain air quality. In the long term, the Proposed RMP would meet the goal of the air resources program and maintain compliance with federal and state air quality standards.

Alternative A

Impacts from Air Resources Management Actions. Air quality impacts would be the same as discussed for the Proposed RMP.

Impacts from Other Programs. Air quality impacts associated with lands and realty, and renewable energy would be generally similar to those under the Proposed RMP.

Vegetation. Vegetation treatments would be conducted at substantially lower rates and over a smaller area than in the Proposed RMP. Thus, effects to air quality would be reduced in comparison with the Proposed RMP.

Travel Management and Off-highway Vehicle Use. Impacts from travel management and off-highway vehicle use would be similar to the Proposed RMP except that generation of fugitive dust emissions would continue over widespread areas of the planning area, since travel would not be restricted to designated roads and trails.

Recreation. This alternative would involve a single special recreation management area (Loneliest Highway Special Recreation Management Area) of approximately 750,000 acres providing both motorized and non-motorized recreational opportunities. Impacts to air quality (dust emissions) from recreation on this area and from permitted off-highway vehicle events would be relatively similar to that of the Proposed RMP.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres presently are available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP. The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Fire Management. The Ely Fire Management Plan, which incorporates the Ely Managed Natural and Prescribed Fire Plan, would continue to be implemented. This would result in the use of fire (prescribed throughout the planning area and wildland fire use on approximately 3.6 million acres) as a tool on a more limited basis than the Proposed RMP. In the short-term, this could result in more smoke emissions from larger and more frequent wildfires. However, in the long-term, smoke emission would likely be greater than in the Proposed RMP due to areas still being vulnerable to larger and more frequent wildfires.

Conclusion. Short-term impacts of fugitive dust from recreational events and smoke emissions from larger and more frequent wildfires would impact air quality. In the long-term, implementation of the existing Ely Fire Management Plan, which incorporates the Ely Managed Natural and Prescribed Fire Plan, would not reduce the smoke emissions from wildfires as much as in the Proposed RMP. Alternative A would meet the goal of the climate and air quality program in the short term, but would not meet the goal over the long term.

Alternative B

Impacts from Air Resources Management Actions. Air quality impacts would be the same as discussed for the Proposed RMP.

Impacts from Other Programs. Air quality impacts associated with vegetation, lands and realty, renewable energy, travel management and off-highway vehicle use, geology and mineral extraction activities, and fire management would be similar to those described for the Proposed RMP.

Recreation. Three of the nine proposed special recreation management areas in this alternative would emphasize off-highway vehicle use in a total area of approximately 844,000 acres. This is a greater acreage involving such use than under the Proposed RMP and would likely contribute to greater dust emissions on these areas.

Conclusion. This alternative would likely result in the same impacts as the Proposed RMP. Alternative B would meet the goal of the climate and air quality program.

Alternative C

Impacts from Air Resources Management Actions. Air quality impacts would be the same as discussed for the Proposed RMP.

Impacts from Other Programs. Air quality impacts associated with vegetation, lands and realty, renewable energy, travel management and off-highway vehicle use, and geology and mineral extraction would be similar to those described for the Proposed RMP.

Recreation. Four of the nine proposed special recreation management areas in this alternative would emphasize off-highway vehicle use in a total area of approximately 1.1 million acres. This is a greater acreage involving such use than under the Proposed RMP and would likely contribute to greater dust emissions on these areas.

Fire Management. Alternative C involves emphasis on full suppression of all wildland fires. However, this approach is expected to result in increased large fuel loading, higher probabilities of large-scale fire events, and potentially major emissions associated with large fires.

Conclusion. In the short term, air quality impacts from fire could be lessened over the present. In the long term, air quality is likely to be impacted by increased recreation activity in comparison to the Proposed RMP and greater numbers of large-scale fires producing more emissions. Alternative C would not meet the goal of the climate and air quality program.

Alternative D

Impacts from Air Resources Management Actions. Air quality impacts associated with fire management would be the same as discussed for the Proposed RMP. Since no land use authorizations would be made under Alternative D, no impacts from development proposals outside the Ely Field Office are anticipated.

Impacts from Other Programs. Alternative D would prohibit all permitted, discretionary activities including lands and realty actions, renewable energy development, cross-country off-highway vehicle travel, and recreational activities requiring permits. Therefore, there would be no impacts for these other programs under this alternative.

Vegetation. Vegetation treatments would be greatly reduced in comparison to the other alternatives. Thus, direct effects on air quality would be minimal.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario. Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Fire Management. Alternative D involves emphasis on minimal suppression of fires (estimated at 2 to 5 percent) except to protect life and property. In the short and long term, this alternative would result in a greater frequency of large fires with a corresponding increase in emissions of particulate matter in relation to the other alternatives.

Conclusion. Air quality would be impacted in both the short term and long term by an increased probability for occurrence of large-scale fire events. Alternative D would not meet the goal of the climate and air quality program.

4.3 Water Resources

Impact Issues – Groundwater

Several groundwater basins within the planning area have been designated by the Nevada State Engineer for more intensive water rights administration. Demand for municipal and industrial water supplies continues to increase within the state and region. Agricultural water demand and consumption (320,000 acre-feet/ year) is anticipated to remain relatively constant through year 2020 for the combined Lincoln, Nye, and White Pine county region (Nevada Division of Water Planning 1992). Evapotranspiration consumes a substantial portion of the annual groundwater recharge in the planning area. Vegetation communities withdraw soil moisture from rangeland soils throughout the entire growing season. Evapotranspiration rates depend on the types of species involved, climatic factors, and the amounts of soil moisture available. Riparian/wetland areas have limited extent within the planning area, and form a small portion of the vegetation treatment alternatives (see Chapter 2.0, Vegetation). Upland woody plant communities also affect groundwater recharge and availability by placing large demands on soil moisture and adjoining groundwater resources. Vegetation composition, cover and spatial distribution can affect infiltration and runoff characteristics, which in turn affect groundwater recharge. Therefore, vegetation management will affect groundwater resources and stream baseflows. Groundwater quality issues are addressed in accordance with the Clean Water Act and state agency agreements as identified in Section 3.3.3.

Impact Issues – Surface Water

A consideration in watershed-oriented land management is the re-establishment of desirable surface water flow and water quality attributes. Both factors play a major role in ecological health. Stream flows vary in response to the frequency and duration of runoff from snowmelt or rainfall, withdrawals by vegetation and water rights holders, and gains from groundwater. Agricultural withdrawals remove substantial proportions of surface water flows from perennial or intermittent streams. Surface water quality is a function of: 1) discharge into streams, lakes, and wetlands from industrial and agricultural sources, 2) livestock and wildlife use of riparian/wetland areas, 3) soil and rock characteristics, and 4) topography, and 5) riparian and upland plant communities. Industrial dischargers (e.g., mines) are regulated by the Nevada Division of Environmental Protection and required to obtain a National Pollutant Discharge Elimination System permit.

On BLM-administered lands in Nevada, interagency cooperative agreements address water quality issues. A major agreement is the Memorandum of Understanding for Water Quality Management Activities between BLM and the Nevada Division of Environmental Protection, as described in Section 3.3.3. Dispersed agricultural discharges are regulated by the Nevada Division of Environmental Protection, Bureau of Water Quality Planning, under the Nonpoint Source Pollution Management Program. The Ely Field Office has water quality management responsibility (Clean Water Act §313; Executive Order 11514 as amended by Executive Order 11991) for all resource management activities carried out on public lands in the planning area in the same manner and to the same extent as any non-governmental entity. Through the implementation of best management practices (Proposed RMP) and standard operating procedures (Alternatives A through D), the Ely Field Office prevents or controls, to the maximum extent practicable, nonpoint source pollution and achieves relevant state water quality requirements in the planning area.

Watershed analysis processes evaluate indicators associated with water quality in the evaluation and determination of Resource Advisory Council Standards and Guidelines. Where standards are not met, causal factors are identified and interdisciplinary teams make recommendations to meet the standards and conform to guidelines.

Assumptions for Analysis

- Management activities that sufficiently reduce evapotranspiration in areas conducive to groundwater recharge and discharge would encourage greater magnitudes and durations of flows at springs and adjacent stream reaches.

Interactions with Other Programs

Water resource management objectives within the planning area would be incorporated in accordance with Clean Water Act requirements (Clean Water Act §313) into all resource management programs and all proposed actions including: vegetation, wild horses, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, watershed management, fire management, noxious and invasive weed management, health and safety, and lands and realty.

Goal

The quality of water resource on public lands administered by the Ely Field Office will be suitable for the appropriate beneficial uses and will meet approved federal, state, tribal, and local requirements, guidelines, and objectives. The quantity of water on public lands administered by the Ely Field Office will be suitable to meet public land management purposes.

Northeastern Great Basin Resource Advisory Council Standard. Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

Objective

To protect the chemical, physical, and biological integrity of waters as needed to maintain healthy ecological systems and provide values that support multiple uses. Acquire and perfect sufficient water rights to meet public land management needs.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to water resources also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office

on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Water Resources Management Actions. Specific management actions applicable to the Proposed RMP are given in Section 2.4.3, Water Resources. Resource goals and activities identified in Interactions with Other Programs provide general resource management. When carried out, these management actions would maintain or enhance water resources. Additional discussion of the watershed planning framework and related guidance for water resources and related aquatic habitats or species is presented in Appendix A.

Impacts from Other Programs.

Vegetation. By achieving the desired range of conditions for vegetation under the Proposed RMP the rate of expansion of pinyon and juniper into sagebrush sites would be reduced or reversed, areas of overmature sagebrush communities would be reduced, and perennial herbaceous understory species would increase. In addition to lower transpiration demands, the desired range of conditions for vegetation would decrease surface runoff and increase infiltration rates on upland sites in the long term. In areas where treatment disturbance occurs, runoff water quality may temporarily decrease in the short term, but in the long term, water quality and quantity would increase. The selection of treatment methods best adapted to a given site, and the application of best management practices would minimize accelerated erosion and water quality deterioration in the short term. Over the long term, selected treatments also would improve water retention, slow runoff, and decrease erosion and suspended sediment. Improved water retention also would lower flood stages, reducing channel erosion and the risk of other stream channel impacts. The magnitude of these improvements would increase as the proportion of vegetation in the desired range of conditions within the planning area also increases.

The success of vegetation treatment actions in giving rise to more available water for use depends on many factors, including plant community characteristics, the characteristics of precipitation events, soil and geology characteristics, topography, management of wild horses and livestock grazing, the types of vegetation treatments and restoration activities employed, and the length of time since such activities.

Some research suggests that vegetation modifications are not likely to enhance water yield where mean annual precipitation averages less than about 450 to 500 millimeters (17.7 to 19.7 inches) (Hibbert 1983, Wilcox 2002). The arid and semi-arid portions of the planning area fall into this category, where the potential increases in available soil moisture from vegetation conversion would probably be lost to evapotranspiration. Other sources suggest that subsurface water yield may be increased in some settings by removal of both trees and sagebrush cover in arid and semi-arid areas of the Great Basin (Eddleman and Miller 1991). Increases in soil moisture and groundwater recharge may occur in portions of the planning area. These

effects would be most likely to occur in the vicinity of springs and nearby streamcourses where thin soils and shallow depths to fractured bedrock occur. This is consistent with past observations on the planning area (Medlyn 2004). Stream baseflows may be expected to increase in flow and duration in some locales. Effects on surface water would vary locally and among watershed areas. At some locations, springflows may increase, and would be likely to stabilize, preventing further spring flow degradation where it now occurs as a result of current vegetation conditions.

Removal of nonnative phreatophytic vegetation or upland species of trees and shrubs in wetlands and recharge zones would increase water available for desirable plant growth, groundwater recharge, and base flows. If conducted over the long term, tamarisk control along stream courses may reduce the phreatophytic consumption of groundwater resources. At selected sites, control efforts would mitigate the trend toward increasing site salinity that occurs under tamarisk as well. Tamarisk control along stream courses may reduce salinity levels in adjacent waters caused from overland flows during flood events, however the full extent of this is not well quantified. Tamarisk treatments for control of salinity in the Colorado River in the planning area would be small compared with all of the salinity in the river flow originating from geologic and agricultural sources outside the planning area.

Fish and Wildlife and Special Status Species. Increased emphasis on management of habitat for aquatic species, including several special status species, would result in enhanced stream and riparian ecological conditions, more stable base flows, and improved water quality.

Lands and Realty. Land disposals and subsequent development activities on approximately 75,600 acres could contribute to increased erosion. Additional municipal and residential development would place further demands on water resources. Increased need for domestic and industrial water supplies would affect the quantity of water available for other uses. The reasonably foreseeable demand for water related to land sales and subsequent development is estimated to be 1 acre-foot per year per acre of land developed. Discharges from water treatment works would be recycled. Municipal stormwater runoff would affect water quality. By concentrating rights-of-way in corridors and communication facilities at existing sites, associated construction and maintenance disturbances would be centralized to minimize impacts to water resources.

Renewable Energy. Development of renewable energy facilities will result in increased disturbance of soil surface, additional road construction, increased potential for erosion and sedimentation into streams and increased demand for water resources. Based on the reasonably foreseeable development scenario, a maximum of 4,000 acres is expected to be temporarily disturbed for construction of renewable energy facilities within the planning area during the life of this plan. This area would include several separate facilities constructed at different times. Thus, the acreage disturbed at any one time and contributing to local erosion and sedimentation would be a small fraction of this total. Development of projects would be evaluated for effects on water resources on a case-by-case basis, in accordance with NEPA. Impacts associated with these activities would be mitigated to the extent practicable thorough best management practices from the Wind Energy Programmatic EIS.

Travel Management and Off-highway Vehicle Use. Under the Proposed RMP, the restriction of off-highway vehicle use to designated roads and trails as determined through a subsequent public process

and area-specific analysis would substantially reduce the potential for degradation of water quality and quantity. The impact to vegetation and soils would be less because of the restrictions, and hydrologic function would improve on a watershed basis.

Recreation. Impacts would be minimized by existing restrictions on recreational activities near drainages, emphasizing the use of existing developed recreational facilities and by limiting motorcycle and truck events to routes subject to NEPA analysis. Dispersed recreation, particularly in southern portions of the planning area, would increase potential erosion and sedimentation. Areas designated as special recreation management areas (approximately 1.2 million acres) under the Proposed RMP are not expected to interfere with water resources.

Forest/Woodland and Other Plant Products. The harvest of forest/woodland products (pinyon pine nuts, fuelwood, native seed gathering, and Christmas trees) would have little impact to water resources. There is minimal use, and those uses that do occur are so dispersed that the impacts are mitigated by management actions and best management practices.

Wild Horses and Livestock Grazing. Water is a limiting factor for wild horses and livestock. Water usage by livestock is estimated to be 10 gallons per animal unit per day. For the planning area this equates to about 550 acre-feet per year. These animals may congregate around available water sources and contribute to streambank and shoreline degradation, erosion, sediment transport, and water quality degradation. Watershed analyses and allotment evaluation for livestock grazing would continue and would focus on areas where Resource Advisory Council standards are not being met, and current livestock management is a causal factor. Livestock grazing will continue to be authorized for approximately 424,602 animal unit months on 8.4 million acres for allotments that have been determined to be meeting or progressing toward achievement of the standards for rangeland health. These allotments will continue to be monitored and evaluated. Changes to grazing use will continue as needed to meet RMP goals and objectives including the standards for rangeland health. Current livestock grazing use will be maintained for approximately 120,665 animal unit months on 3.2 million acres until allotments have been evaluated for progress toward achievement of the standards for rangeland health. Changes to grazing use will be made as needed to meet RMP goals and objectives including the standards for rangeland health. Actions to conform to policies must occur with the start of the next grazing year. If wild horses are a causal factor, actions would occur to correct the problem by gathering to meet the appropriate management level in areas not closed to wild horses. These actions, over time and with good monitoring, would lessen the impact to water resources. These actions may include changes in the season of use for livestock, application of herding techniques, or, for both livestock and wild horses, fencing of riparian areas that are not meeting the standard. Water would be made available outside of the water source and riparian area to meet water needs and water rights. This would help mitigate impacts to water resources by minimizing the effects from livestock and wild horse grazing. In areas not available for livestock grazing (approximately 221,290 acres; see Section 2.4.16 and **Map 2.4.16-2**) and in areas no longer managed as herd management areas for wild horses (approximately 1.6 million acres; see **Tables 2.4-11 and 2.4-12**), site stability and water quality would improve at some springs and stream reaches.

Geology and Mineral Extraction. Approximately 17,100 acres (less than 0.5 percent), as estimated in the reasonably foreseeable development scenario, would be disturbed throughout the 11.5 million acres of the planning area. Water from surface and groundwater sources would be consumed by mining and drilling operations. Water quality potentially could be compromised by fuel or chemical leaks and spills or by introduction of contaminants into aquifers. Constraints on mineral entry and development may maintain water quality in local areas. The application of conditions of approvals and best management practices, such as those in the Gold Book, would further protect water resources.

Watershed Management. Forty-one high priority watersheds would be treated to achieve rangeland health standards and thereby improve water resources. The remaining twenty lower priority watersheds would wait longer to achieve rangeland health standards and water resources in these watersheds would remain in the short term as they currently exist. In the long term, however, they would improve as the low priority watersheds are treated to achieve the rangeland health standards. Overall, when standards are achieved, allocation of forage would be to first maintain standards and assure water resources are maintained in the long term.

Fire Management. In the long-term, the increased use of prescribed fire and wildland fire use (approximately 8.9 million acres available) would decrease the magnitude and frequency of wildland fires, thereby reducing water quality impacts. Evidence indicates that where prescribed fires and wildland fire use reduces trees and shrubs in shrub and grassland communities and tree canopy in woodlands, water yield also may increase under conditions favorable to groundwater recharge and discharge (Medlyn 2004; Eddleman and Miller 1991). Short-term impacts to water quality from wildland fires would be lessened through the development and implementation of emergency stabilization and rehabilitation projects following wildland fires. Best management practices for fire management are specified to minimize impacts to water resources.

Noxious and Invasive Weed Management. To minimize effects on water quality, herbicides selected for use would be applied in accordance with U.S. Environmental Protection Agency labeling and U.S. Fish and Wildlife Service biological opinion where applicable. Best management practices for herbicide applications are specified to minimize impacts to water quality. Air dispersal and prolonged residence time in soils may lead to contamination of water bodies when herbicides are used over a large area. Over time, most herbicides in soils would degrade.

Health and Safety. Chemical spills, or other hazardous materials could adversely affect water quality. The Ely Field Office has a response plan in place for containment, cleanup, and mitigation of such incidents on the public lands. Neither the probability nor the response to such incidents is expected to change substantially under the Proposed RMP.

Conclusion. Water resource conditions would be improved on a long-term basis as individual watersheds are analyzed and treated. During the short term, localized decreases of water quality may occur immediately following treatments. The potential for these effects would be minimized by the use of best management practices during the treatment process. Increases in water availability (mainly springflows and baseflows) may occur in local areas conducive to groundwater recharge and discharge. This alternative provides a

suitable management framework to achieve the goals of the water resources program, including proper functioning condition of wetlands and riparian areas, and achievement of state water quality standards.

Alternative A

Impacts from Water Resources Management Actions. Specific management direction applicable to Alternative A is given in Section 2.5.3. Additional discussion of the watershed planning framework and related guidance for water resources is presented in Appendix A. The resource goals identified in Interactions with Other Programs provide general resource management direction.

Impacts from Other Programs. Water resource impacts associated with renewable energy, recreation, livestock grazing, noxious and invasive weed management, and health and safety would be the same as the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Vegetation. The historic rate of vegetation treatment of approximately 10,000 acres per year would not be increased. The current rate of soil erosion and associated sediment load in streams may be sustained, but would be most likely to increase over the long term. The current rate of restoration would not keep pace with the loss of perennial herbaceous understory. Surface runoff would continue to accelerate erosion during major precipitation events, resulting in continued water quality degradation. At the current rate of treatment and restoration, woody species would proliferate. The surface water and groundwater available for use would continue to decline as a result of reduced infiltration and increased evapotranspiration. Reduction in plant cover following treatment would generate additional erosion temporarily, until perennial understory cover and near-surface root biomass exceed pre-treatment conditions. Erosion control measures provided in standard operating procedures and best management practices would minimize impacts to water resources following treatment or reseeding. Selective removal of trees and phreatophytic vegetation, including tamarisk, would affect water resources in a manner similar to that described for the Proposed RMP. These effects would occur over less extensive treatment areas than those described for the Proposed RMP.

Fish and Wildlife and Special Status Species. Protection would be provided as necessary on a case-by-case basis to maintain aquatic habitat for special status aquatic species.

Wild Horses. Water is a limiting factor for wild horses. It is estimated that approximately 550 acre-feet per year is used by wild horses and livestock within the planning area. Wild horses may congregate around available water sources and contribute to streambank, shoreline, and spring site degradation, erosion, sediment transport, and hence, water quality degradation. Under Alternative A, these effects would be expected to generally continue along current trends with wild horse use in 24 herd management areas. However, watershed analyses would indicate where Resource Advisory Council standards are not being met and wild horse grazing is a causal factor. If wild horses are a causal factor, then actions would occur to correct the problem by gathering to meet appropriate management levels. These actions would lessen the impact to water resources. Actions may include fencing of riparian areas that are not meeting the standard. Water would be made available outside of the water source and riparian area to meet water needs and

water rights. This would help improve water resource conditions and mitigate impacts to water resources by minimizing the effects from wild horse grazing.

Lands and Realty. Land disposals (approximately 31,900 acres in Alternative A) and subsequent development activities could contribute to increased erosion and to long-term water demands. Water resources would be affected in a manner similar to that described for the Proposed RMP.

Travel Management and Off-highway Vehicle Use. Impacts associated with transportation use are expected to increase over time. The open designations of current management would continue to decrease watershed function and decrease water quality and quantity. It is expected that important parameters of hydrologic function related to vegetation and soils would degrade substantially in the long term.

Forest/Woodland and Other Plant Products. The harvest of forest/woodland products (pinyon pine nuts, fuelwood, native seed gathering, and Christmas trees) would have little impact to water resources. There is minimal use, and those uses that do occur are so dispersed that the impacts are mitigated by standard operating procedures and best management practices.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP. The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Watershed Management. Increases in forage from restoration treatments would be allocated to livestock. Treatments would be fewer and would not keep up with increasing plant transpiration demands and the loss of perennial herbaceous understory. Water resources would remain static. Water quality and watershed health would continue to decline. In the short term, those watershed treatments that would be undertaken could affect water quality. However, implementation of standard operating procedures and best management practices associated with treatment activities would minimize the impacts on springs, surface water flows, and water quality.

Fire Management. In the long term, the limited use of prescribed fire and wildland fire use (approximately 3.6 million acres available) would not decrease the magnitude and frequency of wildland fires as much as the Proposed RMP. Neither would this alternative reduce the impacts to water quality as much as the Proposed RMP. Short-term impacts to water quality from wildland fires would be lessened through the development and implementation of emergency stabilization and rehabilitation projects following

wildland fires. Best management practices for fire management are specified to minimize impacts to water resources.

Conclusion. Since restoration currently does not keep pace with the decline in ecological trends, groundwater recharge and seasonal surface water flows would be expected to decline. Shorter term runoff events (e.g., thunderstorms, snowmelt) would continue to exhibit their current timing and volume, or may occur over shorter time scales and with somewhat larger volumes in watersheds where conditions continue to degrade. In general, water quality would continue to decline under Alternative A. Water consumption (primarily through evapotranspiration) would be expected to increase. This alternative does not provide a suitable management framework to achieve the goals stated for the water resources program, including the Resource Advisory Council Standard.

Alternative B

Impacts from Water Resources Management Actions. Specific management direction applicable to Alternative B is given in Section 2.6.3 for water resources. Resource goals and activities identified in Interactions with Other Programs provide general resource management direction.

Impacts from Other Programs. Water resource impacts associated with fish and wildlife, special status species, wild horses, lands and realty, renewable energy, travel management and off-highway vehicle use, forest/woodland and other plant products, geology and mineral extraction, watershed management, fire management, noxious and invasive weed management, and health and safety management activities would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Vegetation. The rate of vegetation treatments and proposed treatment areas under Alternative B would counteract the trend of expansion of pinyon and juniper into sagebrush sites and the loss of perennial herbaceous understory species. Extensive areas of sagebrush would be treated as well. Effects on water resources would be similar to those described for the Proposed RMP.

Recreation. As with the Proposed RMP, this alternative would restrict off-highway vehicle use to designated roads and trails, but it would create nine Special Recreation Management Areas with more than twice the acreage contained in the five to be created under the Proposed RMP. This greater acreage of concentrated recreational activity would be accompanied by increased areas subjected to soil erosion and sedimentation to nearby streams.

Livestock Grazing. Approximately 3.0 million acres of desert bighorn and Rocky Mountain bighorn sheep range and migration routes and 542,100 acres of desert tortoise habitat would be permanently unavailable for all livestock grazing under Alternative B. In general, this would help improve water resources conditions and mitigate impacts to water resources by minimizing the effects from livestock.

Conclusion. Water resource conditions would be improved on a long-term basis as individual watersheds are analyzed and treated. Major disturbance factors (i.e., grazing) would be removed over a large portion of

the planning area. Similar to the Proposed RMP, policies and standards would be applied with selected tools and techniques that would further enhance water resource conditions over the long term. Localized, short-term increases in erosion and sedimentation may occur immediately following vegetation treatments. Such effects would be minimized by the implementation of best management practices during the treatment process. The substantially larger area of livestock closures under Alternative B would increase the likelihood of water resources improvements beyond those that would occur under the Proposed RMP. This alternative provides a suitable management framework to achieve the goals stated for the water resources program, including the Resource Advisory Council Standard.

Alternative C

Impacts from Water Resources Management Actions. Specific management direction applicable to Alternative C is given in Section 2.7.3 for water resources. Resource goals and activities identified in Interactions with Other Programs provide resource management direction. When carried out, these management actions would maintain or enhance water resources. Increases in water availability (mainly springflows and baseflows) would occur in areas conducive to groundwater recharge and discharge.

Impacts from Other Programs. Impacts associated with fish and wildlife, special status species, wild horses, renewable energy, travel management and off-highway vehicle use, livestock grazing, geology and mineral extraction, watershed management, noxious and invasive weed management, and health and safety management would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Vegetation. Aggressive treatment programs for vegetation would improve long-term water resources availability for use in areas conducive to groundwater recharge and baseflow. Effects would be somewhat greater than under the Proposed RMP and Alternative B. Shorter runoff response times, greater erosion, and increased suspended sediment would result in the short term, but these impacts would be minimized by current and future site-specific mitigation measures and rehabilitation efforts.

Lands and Realty. Impacts of lands and realty actions, especially potential disposals, would be similar in nature to those discussed for the Proposed RMP, but the area of potential disposal would be considerably greater at approximately 295,200 acres.

Recreation. As with the Proposed RMP, this alternative would restrict off-highway vehicle use to designated roads and trails, but it would create nine Special Recreation Management Areas with more than twice the acreage contained in the five to be created under the Proposed RMP. This greater acreage of concentrated recreational activity would be accompanied by increased areas subjected to soil erosion and sedimentation to nearby streams.

Fire Management. In the long term, suppression of all wildland fires would encourage heavy fuel accumulations throughout the planning area. Ultimately, wildland fires with greater intensities and durations would occur under this alternative than under other alternatives creating impacts to runoff, flooding, and suspended sediment conditions. During the period of full suppression and before widespread wildland fires

remove the increasingly dense woody vegetation, it is expected that this vegetation would reduce spring discharge and surface flow in numerous locations. Short-term impacts could be lessened through development and implementation of emergency stabilization and rehabilitation projects.

Conclusion. In general, long-term improvements in water quality and water resources availability for uses would occur as a result of intensive vegetation management under Alternative C. Increases in seasonal water availability (mainly springflows and baseflows) would occur in areas conducive to groundwater recharge and discharge. Water usage and water quality degradation may occur in some areas as a result of livestock grazing and increased recreational developments. Over the long term, these effects would be combined with rapid runoff, increased flooding, and greater sediment yield encouraged by the fire suppression approach under this alternative. This alternative does not provide a suitable management framework to achieve the goals stated for the water resources program, including the Resource Advisory Council Standard.

Alternative D

Impacts from Water Resources Management Actions. Specific management direction applicable to Alternative D is given in Section 2.8.3 for water resources. Resource goals and activities identified in Interactions with Other Programs provide general resource management direction. When carried out, these management actions would maintain or enhance water resources.

Impacts from Other Programs. Water resource impacts associated with fish and wildlife, special status species, noxious and invasive weed management and health and safety management activities would be similar to those described for Alternative A. The following impacts from interrelated programs would likely result from Alternative D.

Vegetation. Treatment programs under Alternative D would be limited in comparison to the Proposed RMP or Alternatives B and C, with focus on restoration of natural communities. As depicted in Chapter 2.0, different distributions of phases or states would exist among the various plant communities. Overall, vegetation management under this alternative would create only minimal increases in the water resources available for use over both the short and long terms. In some settings conducive to groundwater recharge, additional seasonal springflow and baseflow may occur. In other forested and shrub-dominated areas, potential evapotranspiration demands would remain high or increase. This may reduce the availability of water for other uses.

Wild Horses. Wild horses would proliferate without management controls within herd management areas. Increased grazing and trampling near streams, springs, and seeps would create water quality impacts in herd management areas. Similar effects on uplands would degrade understory conditions, contributing to reduced response times during runoff events, greater erosion, and increases in suspended sediment in and near herd management areas.

Livestock Grazing. Livestock would be removed from all public lands and would not be authorized on 11.3 million acres within the planning area as identified in the Proposed RMP (see Section 2.8.16). This

would increase water quantity in the short term due to less consumption of water. Grazing and trampling near streams, springs, and seeps would be reduced, improving water quality over a wider area.

Lands and Realty. No net loss of public lands under this alternative may or may not create impacts on water resources. If lands acquired in exchanges contain areas conducive to groundwater recharge, additional springs or stream baseflows may become available for use. Similarly, if surface water features such as ponds or marshes were acquired through exchanges, water resources availability may increase. The utilization of any water resources increases would depend on allocation of water rights. If, as is most likely, acquired lands do not contain such conditions or features, then increases in water resources availability or improvements in water quality would not be anticipated.

Renewable Energy. No renewable energy projects would be approved; therefore, no impacts to water quality or quantity would result.

Travel Management and Off-highway Vehicle Use. With an extensive land area closed to travel and off-highway vehicles, water quality would improve on the planning area under this alternative. Little or no disturbance to either drainages or upland settings would help improve water resources.

Recreation. Water quality and availability of water resources for other uses would improve with closure of developed recreational sites and cessation of vehicle events under this alternative.

Forest/Woodland and Other Plant Products. Management of woodland and plant products under this alternative would have little impact on water resources. Although no fuelwood or Christmas tree harvesting would be allowed, the potential impacts on water resources of these approaches would be greatly overshadowed by other resource approaches.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario. Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP. Water quality improvements are not likely to occur from the absence of further mineral or fluid extraction activities. The potential for water quality degradation from such activities would be avoided; however, such impacts would have been limited by existing regulations. Groundwater resources would not be used for mineral extraction.

Watershed Management. Watershed analysis priorities would be the same as for the Proposed RMP. Watershed treatments to meet standards or conformance to policies would be limited to weed treatments and conversion of existing exotic plant seedings (such as crested wheatgrass). Water resources impacts would be less than the Proposed RMP in the short term and greater in the long term.

Fire Management. Under Alternative D, no suppression of wildland fire would occur except for human-caused and those that threaten life and/or property. In the short and long term, this would result in

larger and more frequent wildland fires occurring in areas where they may not be beneficial. This would result in impacts to water quality. By not developing and implementing emergency stabilization and rehabilitation projects following wildland fires, the impacts to water quality would not be lessened. In addition, by not instilling resilience through various tools in areas that need restoration before wildland fire can be reintroduced, impacts to water quality would not be reduced in the long-term.

Conclusion. In general, improvements in water quality and water resources availability for uses would not be extensive as a result of management under Alternative D. Small increases in seasonal water availability, primarily in limited areas conducive to groundwater recharge and discharge, would occur. More stable watershed conditions and water quality improvements would occur in the short term as a result of recreation and livestock management approaches. This would be offset by watershed deterioration due to heavy overuse by wild horses within the herd management areas as populations rapidly expand. Over the long term, however, these improvements would be overshadowed by the fire management approach under this alternative, which would lead to widespread major fires that ultimately encourage rapid runoff, flooding, and sediment yield. This alternative does not provide a suitable management framework to achieve the goals stated for the water resources program, including the Resource Advisory Council Standard.

4.4 Soil Resources

Impact Issues

Soil resources are fundamental to all land management programs. Soil information is a critical part of the watershed analyses. Soil – vegetation correlations are used to identify ecological site potential for management. Soils are managed to minimize erosion and compaction. Soil quality affects the states and transitions of plant communities.

Assumptions for Analysis

- Impact assessments for soil resources assume that successful restoration of vegetation from current conditions to the desired range of conditions for a specific watershed in combination with suitable tools and techniques for treatment would enhance soil quality.

Interactions with Other Programs

The soil resource management program within the planning area potentially would be affected by actions within the resource management programs for vegetation, wild horses, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, watershed management, fire management, and noxious and invasive weed management.

Goal

Maintain or improve long-term soil quality.

Northeastern Great Basin Resource Advisory Council Standard. Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and landform.

Mojave/Southern Great Basin Resource Advisory Council Standard. Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

Objective

To ensure that soils throughout the planning area exhibit infiltration and permeability appropriate to the soil type, with erosion and compaction having minimal effect on soil quality.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have

been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to soils also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Soil Management Actions. Specific management actions for soil resources are identified in Section 2.4.4 for the Proposed RMP. In addition, the resource goals and activities identified for soil resources (see Interactions with Other Programs) further guide management directions. When carried out, these management actions would conserve soil resources, minimize erosion and sedimentation, and maintain or improve long-term soil quality.

Impacts from Other Programs.

Vegetation. Under the Proposed RMP, efforts to achieve the desired range of conditions would have the potential to increase treatments substantially over current levels, resulting in substantially greater amounts of short-term ground disturbances. Where vegetation modifications interface with cheatgrass understories, herbicides may be used on a wide scale to achieve desired conditions. Other strategies may be selected for application in selected pinyon/juniper, salt desert shrub, and sagebrush communities. In the short term, reductions of vegetation canopy cover and the associated soil root mass may increase soil vulnerability to surface runoff and erosion, particularly on slopes. Best management practices would minimize potential impacts to soils. With successful treatments, the short-term risks would be offset by increased herbaceous understory and near-surface root biomass in the long term. These factors are expected to reduce erosion and improved soil quality.

For some big sagebrush and Utah juniper communities in the region, research has shown a trend of higher infiltration rates and lower sediment production for treated sites as compared to their untreated counterparts (Blackburn and Skau 1974). These results indicate that in large areas of Nevada, decades are required for a vegetation treatment to make a statistically-significant improvement in infiltration rates. Also, although general trends may improve, if the interspaces between soil and litter accumulations under grass and shrubs already have well-aggregated granular structure, a statistically-significant change in infiltration or sediment yield may not result from vegetation treatments (Blackburn and Skau 1974). The occurrence of beneficial changes would depend on initial site characteristics and the types of treatments, which would be evaluated and monitored as part of proposed treatments. Since perennial herbaceous understory cover is declining on the planning area in areas of encroaching woody species and annual invasive weeds, and since this has been linked to poorer infiltration and unstable soil surface horizons (Blackburn 1975; Blackburn and Skau 1974), selective vegetation treatments over more widespread areas under the Proposed RMP would be expected to improve overall soil quality.

Lands and Realty. Lands and realty program administers rights-of-way and special uses on the planning area, including communication sites and utility corridors. These activities affect soil to the extent that ground disturbances are involved. All permits, leases, and contracts are administered with soil conservation measures such as topsoil salvage and reclamation. Impacts associated with those activities would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Wild Horses. Under the Proposed RMP, herd management would consider the ecological health of areas having marginal or inadequate habitat to sustain wild horse herds. Emphasis would be placed on benefiting soil resources and the correlated vegetation communities. Elimination of wild horses on approximately 1.6 million acres of marginal habitat would benefit the soil resources of these areas.

Renewable Energy. Construction and access roads associated with renewable energy projects up to 4,000 acres of disturbance generally are the greatest contributor to erosion. Many roads act as berms capturing sheet flow from runoff and snowmelt and converting it into channel flow along the roads during peak flows. This causes scour in downstream areas, resulting in erosion and sedimentation. The severity of this impact is largely a function of traffic volumes, road design, surfacing, geology, vegetation, and topography. Although it may presently occur on a localized basis, increased management activity and human visitation over time could result in more widespread impacts over the long term. These effects can be minimized by application of best management practices.

Travel and Off-Highway Vehicle Use. Off-highway vehicle use would be restricted to designated roads and trails as determined through a subsequent public process and area-specific analysis on approximately 10.3 million acres. This would substantially reduce the potential for degradation of soil resources as compared to the current management. The potential effects on soil resources (notably compaction and accelerated erosion) from vehicle use would decrease from those anticipated under current trends, since the overall land use planning emphasis would be on ecological system health and resiliency. More concentrated uses of off-highway vehicles and motorcycles on designated roads and trails would increase soil compaction, erosion, and sedimentation in those designations but curtail damages that would occur in other parts of the decision area with the current open designation.

Recreation. Management of recreational activities on the planning area has the potential to concentrate and disperse public use of a large portion of eastern Nevada. Where recreation is concentrated, such as campgrounds, trails, and trailheads, soil compaction is a predictable consequence. Areas designated as special recreation management areas (approximately 1.2 million acres) under the Proposed RMP are not expected to interfere with soil resources. Use would be restricted to designated roads and trails, substantially reducing the potential for uncontrolled recreational off-highway vehicle use. Reduction in uncontrolled recreational use of roads, trails, and rangelands would reduce dispersed compaction and accelerated erosion. Motorcycle and truck race events managed through special recreation permits can have substantial impacts on soils along race courses. Such impacts would be considered and minimized as part of event-specific permit conditions.

Livestock Grazing. Management of livestock on rangelands affects soil resources by regulating the extent, intensity, and frequency of herd presence on soil surfaces. These factors strongly influence the potential for grazing to affect soil physical properties (compaction and erosion), chemical properties (near-surface soil chemistry) and biological properties (microbiology). The most noticeable impacts occur around water bodies, salt blocks, fencelines, and other areas where animals frequently congregate. In such areas, increased soil resource impacts from compaction and increased erosion losses would be expected. In contrast, dispersed distribution and periodic rotation of livestock would be expected to widen the extent of soil resource impacts, but lessen their intensity. This would be expected to decrease the overall impacts to soil resources and improve their overall resiliency to grazing effects. However, for any given livestock management approach, the degree of grazing effects on soil resources varies proportionally with the numbers of livestock involved and differs for different kinds of livestock. Livestock grazing will continue to be authorized for approximately 424,602 animal unit months on 8.4 million acres for allotments that have been determined to be meeting or progressing toward achievement of the standards for rangeland health. These will continue as needed to meet RMP goals and objectives including the standards for rangeland health. Current livestock grazing will be maintained for 120,665 animal unit months on 3.2 million acres until allotments have been evaluated for progress toward achievement of the standards for rangeland health. Changes to livestock grazing use will be made as needed to meet or progress toward achievement of the standards. These actions would lessen the impacts to the resource.

Forest/Woodland and Other Plant Products. Under the Proposed RMP, vehicle traffic associated with woodland and plant product harvesting would be limited to existing roads and trails except for site-specific approvals.. Staying on roads and trails would help lessen the impacts associated with gathering of these products.

Geology and Mineral Extraction. The Proposed RMP generally would allow mineral extraction throughout the planning area except for the closures identified in the geology and minerals extraction sections of Chapter 2.0. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario (less than 0.5 percent of the planning area), would be disturbed by mineral extraction. Mineral extraction projects involve the potential for soil compaction, erosion, excavation, and losses of soil quality in these areas. The effects of surface disturbance on soils vary based on soil type, texture, moisture content, depth, and slope. Vegetation removal for roads and well pad construction can alter existing drainage patterns and contribute to accelerated gully and rill erosion, especially on steeper slopes. Soil compaction would be expected on areas utilized by heavy equipment for oil and gas exploration, development, and production. Compaction typically is greatest when soil moisture is high and where heavy equipment activities are concentrated. Soil compaction reduces vegetation productivity because it decreases root penetration and water infiltration. Within the State of Nevada, a Memorandum of Understanding for exploration and mining reclamation exists between the BLM and the Nevada Division of Environmental Protection. Reclamation permits are supported by site-specific reclamation plans which are submitted and maintained according to an agency review and approval process. If approved, a permit defines post-project land uses, growth media salvage and replacement, seedbed amendments and erosion controls, site drainage, public safety provisions, roads, recontouring and revegetation practices, post-treatment monitoring, and other site restoration considerations according to best management practices. As a result, and given the comparatively small extent of mineral exploration and extraction

acreage in the planning area, the effects of these activities on soil resources are expected to be minimal. These impacts would be mitigated through the use of management actions and best management practices given in Appendix F, Section 1, and other conditions of approval imposed during the permitting process on a specific site-by-site basis.

Watershed Management. Watershed management actions under the Proposed RMP would restore and maintain resistance and resiliency in plant communities by processes outlined for watershed analysis, in the short term on 41 high priority watersheds. Soil quality would be maintained or enhanced through this type of approach. The short term effects of initial management actions developed through this process could cause accelerated erosion and temporary loss of soil quality. These effects would be mitigated though site-specific use of best management practices. In the long term, overall conditions would be improved with increased soil quality and reduced erosion. Current trends of soil compaction, erosion, and productivity losses would be mitigated or reversed under the Proposed RMP. Since additional forage would be allocated first to watershed maintenance, impacts to soil quality would be minimal.

Fire Management. The Proposed RMP would make extensive use of prescribed fire and wildland fire use on approximately 8.9 million acres. As a result, short-term increases in soil erosion rates would be expected, along with short-term increases in nutrient status. In locations where intense fires occur, short-term water repellency may result. Development and implementation of emergency stabilization and rehabilitation projects would reduce these impacts. The effects of fires on soil erosion would be reduced by implementation of planned fire projects and rehabilitation efforts. Long-term soil quality would improve with greater moisture infiltration as herbaceous cover is restored. As vegetation resilience is restored to aid in achieving and maintaining resilience, wildland fire use would be allowed to occur, resulting in less fire-related impacts to affected soils. Short-term soil disturbance would occur during fire suppression activities (e.g., fireline construction) from the use of hand tools and machinery. These impacts can be reduced through the development and implementation of emergency stabilization and rehabilitation projects.

Noxious and Invasive Weed Management. Chemicals used to treat weeds and undesirable brush may enter the soil and remain active for lengthy periods, or may only persist for a few days or weeks (EXTOXNET 1996). This influences the potential for offsite migration by leaching or soil blowing, as well as the potential for animal ingestion or inhalation. In addition, herbicide formulations vary in their strength of adsorption to soil mineral and organic particles (EXTOXNET 1996). This also influences environmental fates and effects, particularly the quality of surface runoff and groundwater. Once they enter a water body, herbicides vary in their persistence and toxicity to aquatic life (EXTOXNET 1996).

Removal of weeds temporarily reduces plant cover locally. This increases soil vulnerability to splash erosion and sheet flow, particularly on slopes. The potential for corresponding impacts on soil resources depends on such factors as slope, surface texture (including stoniness or gravel veneers), the amount of vegetation cover removed, and the timing of vegetation control activities.

The removal of tamarisk along streams and in riparian habitats on the planning area may affect soil conditions. Although tamarisk is a nonnative invasive and undesirable species, its root system does provide a soil stabilization role. This is particularly true of dense stands in floodprone settings. Removal of large

contiguous areas of tamarisk may contribute to soil erosion and sedimentation as the plant cover and root mass is removed. Related impacts on surface water quality, including salinity contributions, also may occur. To minimize the potential for such effects, the Ely Field Office would continue to employ best management practices in keeping with ongoing tamarisk control efforts (Medlyn 2004). Such practices include, among others, mechanical and bio-engineered streambank erosion controls; consideration of type, timing and extent of control treatments; alternative treatments for overall site stabilization and revegetation; and monitoring. Removal of tamarisk also will benefit the soil resource by reducing the amount of salt taken from the root zones and deposited on the surface with decaying foliage.

Soil environments frequently provide an exposure and migration route as well as a degradation mechanism for herbicides. Future land management may involve more widespread herbicide applications within the planning area. Thus, herbicide applications present a potential impact issue with respect to soils and secondarily, water and other resources. These potential impacts would be minimized by following U.S. Environmental Protection Agency labeling requirements, adhering to biological opinions where applicable, and implementing best management practices. Therefore, effects on soil resources from herbicide applications are expected to be minimal under the Proposed RMP.

Conclusion. Over the short term, the Proposed RMP would be expected to increase the risk of soil erosion and temporary loss of productivity on freshly treated areas. Implementation of best management practices, including restoration monitoring, would minimize these risks. Long-term reductions in erosion rates and increases in soil quality would be expected with successful widespread vegetation restoration and weed management. The Proposed RMP would achieve the stated goals for the soils program, including the Resource Advisory Council Standards.

Alternative A

Impacts from Soil Management Actions. Specific management directions for soil resources are identified in Section 2.5.4 for Alternative A. In addition, the resource goals and activities identified for soil resources (see Interactions with Other Programs) further guide management directions. When carried out, these management actions would conserve soil resources, minimize erosion and sedimentation, and maintain or improve long-term soil quality.

Impacts from Other Programs. Impacts to soils associated with noxious and invasive weed management would be the same as or similar to the Proposed RMP.

Vegetation. Effective and timely restoration of disturbed areas and achievement of proper functioning condition are both fundamental to soil conservation. The consequences of Alternative A for soils would be directly related to the effectiveness of the vegetation program in meeting its stated goals.

Vegetation restoration activities that remove existing vegetation and involve ground disturbances would result in short-term loss or damage to soil resources. Impacts to soils would vary with soil type and extent of disturbance. Impacts to soil resources that result from restoration activities are dependent upon the methods

used to manipulate vegetation. Short term effects from initial disturbances would be mitigated through standard operating procedures and best management practices.

Long-term soil erosion losses are expected under Alternative A as a result of the general trend toward increasing woody species distribution and density in the planning area. Long-term impacts would result from increasing tree densities that preclude herbaceous ground cover, which often leads to accelerated erosion. Restoration activities also would include determination of causative factors contributing to soil losses and their remediation. At best under Alternative A, the beneficial results would manifest at a low annual rate due to the low level of restoration. A more likely result is further loss of perennial herbaceous understory and near-surface root biomass on widespread areas of overmature pinyon/juniper woodlands and sagebrush stands. These effects would be likely to accelerate soil erosion.

Wild Horses. Under Alternative A, wild horse management would continue in the existing 24 herd management areas, including areas where forage resources are marginal or inadequate to sustain existing herds. Scarcity of forage in these areas contributes to resource damage and accelerated erosion by these herds. Wild horse gathers would be sporadic in nature, often not occurring with regularity to protect necessary vegetation characteristics needed to conserve soil resources. This would impact soils by increased erosion and loss of soil quality.

Lands and Realty. Impacts generally would be similar to those described for the Proposed RMP.

Renewable Energy. Soil impacts associated with renewable energy management activities would be the same as described for the Proposed RMP.

Travel Management and Off-highway Vehicle Use. Roads are generally the greatest contributor to erosion. Roads serve to drain large amounts of water from the road surface, channel it during peak flow, and scour downstream areas causing erosion and sedimentation. The severity of this impact is largely a function of traffic volumes, road design, surfacing, geology, vegetation, and topography. Under Alternative A, there are few restrictions on off-road travel (9.8 million acres classified as open). Off-road travel commonly starts as a "two track" that invites further use and eventually leads to a proliferation of roads. This proliferation causes local compaction and increased erosion. Although it may presently occur on a localized basis, increased management activity and human visitation over time could result in more widespread impacts over the long term.

Recreation. Only one special recreation management area (750,000 acres) and no special recreation permit areas are included in Alternative A. Most recreation activities would continue to be dispersed with fewer concentrated impacts on soils.

Livestock Grazing. Under Alternative A, current trends in grazing-related impacts to soil resources would continue and would be similar to those described for the Proposed RMP. Based on allotment evaluations completed since 1990 on the planning area, livestock grazing may be impacting soils in selected areas, particularly winterfat bottoms, riparian areas, aspen stands, and areas where livestock concentrate.

Forest/Woodland and Other Plant Products. Off-road activities would occur in relatively small, localized areas as people drive vehicles as close as possible to the products they harvest. This can result in ground disturbances and local compaction where vehicles are used. The fuelwood program includes permit stipulations that generally would limit impacts to existing roads and trails.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP. The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development. Impacts on these areas would be the same as those described for the Proposed RMP.

Watershed Management. Impacts to soil resources would be the same as in the Proposed RMP except for impacts associated with allocation of additional forage to livestock, wild horses, and wildlife. There would be impacts to soil from increased compaction and reduced soil cover caused by this allocation.

Fire Management. Under Alternative A, prescribed fire and wildland fire use (approximately 3.6 million acres available) would not be used as extensively as in the Proposed RMP. As a result, short-term increases in soil erosion rates would be expected, along with short-term increases in nutrient status. In locations where intense fires occur, short-term water repellency of soil surfaces may result. The development and implementation of emergency stabilization and rehabilitation projects would reduce these impacts. Long-term soil quality would improve with greater moisture infiltration as herbaceous cover is restored. However, this would occur on less acreage than the under the Proposed RMP. In the long term, less acreage would have the vegetation resilience restored and more intense wildland fires would occur. This would result in more fire-related impacts to affected soils than under the Proposed RMP. Short-term soil disturbance would occur during fire suppression activities (e.g., fireline construction) from the use of hand tools and machinery. These impacts would be reduced through the development and implementation of emergency stabilization and rehabilitation projects.

Conclusion. Current soils impacts and accelerated erosion losses primarily result from changing ecological conditions within the planning area. Such factors include reduction in perennial herbaceous understory and widely scattered minor surface disturbances such as those resulting from concentrations of grazing animals, off-highway vehicle use, and various other human activities. Under Alternative A, the effects of accelerated erosion on soil resources would continue their current trends, and this alternative would fail to achieve the goals for the soils program, including the Resource Advisory Council Standards.

Alternative B

Impacts from Soil Management Actions. Specific management directions for soil resources are identified in Section 2.6.4 for Alternative B. In addition, the resource goals and activities identified for soil resources (see Interactions with Other Programs) further guide management. When carried out, these management actions would conserve soil resources, minimize erosion and sedimentation, and maintain or improve long-term soil quality.

Impacts from Other Programs. Soil impacts associated with vegetation, wild horses, lands and realty, renewable energy, travel and off-highway vehicle use, forest/woodland and other plant products, geology and mineral extraction, watershed management, and fire management would be the same as or similar to those described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Recreation. The potential effects on soil resources from recreation would be similar to those described under the Proposed RMP, since overall land planning would involve constraints on recreation. Potential impacts associated with special recreation management areas would involve approximately twice the acreage (2.7 million acres) involved under the Proposed RMP. Constraints on off-road travel and areas for race events would decrease overall impacts to soils from compaction and erosion.

Livestock Grazing. Under Alternative B, livestock grazing would be constrained to a greater degree than under the Proposed RMP, further reducing the level of impacts to soils. Approximately 3.0 million acres in desert bighorn and Rocky Mountain bighorn sheep ranges and 542,100 acres of desert tortoise habitat would be unavailable for livestock grazing.

Noxious and Invasive Weed Management. Alternative B would increase the rate of weed treatments and herbicide applications, including those used to control tamarisk. As a result, there would be increases in short-term soil erosion and sedimentation. These effects would be minimized by the application of best management practices. Over the long term, soil erosion would be reduced by improvements in perennial plant cover and greater density and extent of near-surface root biomass. The trend of increasing soil salinity in areas invaded by tamarisk would be reduced, and soil salinity in such areas would gradually begin to be mitigated by leaching.

Conclusion. Under Alternative B, the scale of vegetation treatment would increase the short-term risk for accelerated erosion in the event of extensive soil disturbance or delays in restoration success. However, the implementation of best management practices, including restoration monitoring, would minimize this impact. On a long-term basis, the erosion potential of restored areas would be diminished, soil quality would be enhanced, and activities contributing to accelerated erosion and sedimentation would be reduced over much of the planning area. Restoration of vegetation resilience and return to historical fire regimes would result in reduced impacts to soils when fires occur. Alternative B would achieve the goals for the soils program, including the Resource Advisory Council Standards.

Alternative C

Impacts from Soil Management Actions. Specific management directions for soil resources are identified in Section 2.7.4 for Alternative C. In addition, the resource goals and activities identified for Soil Resources (see Interactions with Other Programs) further guide management. When carried out, these management actions would conserve soil resources, minimize erosion and sedimentation, and maintain or improve long-term soil quality.

Impacts from Other Programs. Soil impacts associated with vegetation, wild horses, lands and realty, renewable energy, travel and off-highway vehicle use, livestock grazing, geology and mineral extraction, watershed management, and noxious and invasive weed management activities would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Recreation. The potential effects on soil resources from recreation would be similar to those described under the Proposed RMP, since overall land planning would involve constraints on recreational use of off-highway vehicles. Potential impacts associated with special recreation management areas would involve about twice the acreage (2.6 million acres) involved under the Proposed RMP. Constraints on off-road travel and backcountry use would decrease overall impacts to soils from compaction and erosion.

Forest/Woodland and Other Plant Products. The impacts associated with implementing Alternative C would result in management for more forest/woodland products. Soil disturbances caused by harvesting products would increase in size and intensity in forest/woodland areas. Traffic could increase in forest/woodland areas due to the increased availability of desirable products, thereby creating soils impacts. These would be most likely to occur near communities. Permit stipulations would help minimize such impacts by requiring traffic to stay on existing roads and trails.

Fire Management. Under Alternative C, all wildland fires would be suppressed. Over the short term, resulting impacts on soil quality would be relatively limited. Over the long term, however, the risk of widespread, uncontrolled, and possibly high-intensity wildland fires would dramatically increase. After such events occurred, soil nutrient status would increase and accelerated soil erosion would dramatically increase, with a net reduction in soil quality.

Conclusion. Alternative C would involve substantial increases in terms of vegetation treatment. Thus, it would involve short-term erosion risk, but long-term improvement to soil stability and quality. Short-term impacts from management of vegetation and other resources would be minimized by best management practices. Long-term reductions in accelerated erosion may be limited by the emphasis on commodity production. Alternative C would likely achieve the goals for the soils program over major portions of the planning area but may not sustain that achievement in the event of a major wildland fire. Thus, Resource Advisory Council Standards may not be met.

Alternative D

Impacts from Soil Management Actions. Specific management directions for soil resources are identified in Section 2.8.4 for Alternative D. In addition, the resource goals and activities identified for soil resources (see Interactions with Other Programs) further guide management. When carried out, these management actions would conserve soil resources, minimize erosion and sedimentation, and maintain or improve long-term soil quality.

Impacts from Other Programs.

Vegetation. Under Alternative D, vegetation would be managed primarily to treat invasive annuals or undesirable exotic species. In the pinyon/juniper woodlands, emphasis would be placed on allowing natural processes to continue on the majority of the acreage, with treatment to limit annual weed occurrence on selected acreage. Protection or management to maintain natural function and prevent expansion of annual weeds would be priorities on salt desert shrub and sagebrush communities. Under Alternative D, overall vegetation treatments would be conducted on less acreage than under Alternative A. In the majority of areas where natural processes are allowed to continue, current trends of erosion and sedimentation and ongoing losses of soil quality are likely to continue although at somewhat reduced rates due to the absence of livestock grazing and other discretionary uses. In many areas erosion, sedimentation, and loss of soil quality could continue at current rates, could diminish with livestock removal, or could increase with greater large-scale fire occurrence. Overall, beneficial effects on soil quality would not be as extensive as under Alternatives B or C.

Wild Horses. Potential effects on soil resources under Alternative D would increase beyond those of other alternatives, primarily as a result of the large number of herd management areas and the absence of population management in wild horse herds within this alternative. Because horse populations would be allowed to increase without constraints in herd management areas under Alternative D, additional impacts to soil resources would be expected to occur.

Lands and Realty. Minimal soil impacts would be associated with the exclusion of lands and realty actions.

Renewable Energy. Minimal soil impacts would be associated with the exclusion of renewable energy development activities.

Travel and Off-highway Vehicle Use. Impacts to soil resources would diminish as a result of less travel and off-highway vehicle use (11.1 million acres classified as closed) and the exclusion of all permitted, discretionary uses.

Recreation. Soil-related impacts from recreation uses would decrease under Alternative D, due to the elimination of special recreation management areas and special recreation permit areas.

Livestock Grazing. Soil-related impacts from livestock uses would decrease under Alternative D, due to the exclusion of such activities.

Forest/Woodland and Other Plant Products. Soil-related impacts from harvesting forest/woodland and other plant products would decrease under Alternative D, due to the exclusion of most activities within this program.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario. Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Watershed Management. Allocation of additional forage provided to wildlife, wild horses, and watershed maintenance would help mitigate other types of impacts (e.g., fire) to soil resources in this alternative.

Fire Management. Alternative D would allow most wildland fires to burn with minimal fire suppression except for human-caused fires and those that threaten life or property. This would allow wildland fire to occur in areas that may not have the resiliency to benefit from a fire. In the long-term, this would result in damage to the soils through increased erosion rates. In the short and long term, depleted soil resources and the lack of emergency fire stabilization and rehabilitation could result in establishment of invasive species that would further impact the soil resource. Cheatgrass would likely proliferate under this alternative.

Noxious and Invasive Weed Management. Effect on soil resources under Alternative D would be similar in nature, but more extensive, than those described for the Proposed RMP.

Conclusion. Alternative D would involve some increases in rates of vegetation treatment, but with a limited approach and treatment scale. It also would involve limited fire suppression. Thus, Alternative D would create long-term erosion risk, limit long-term benefits to soil quality from vegetation treatments, and enhance erosion risk from major fire events. Erosion-generating human activities such as off-highway vehicle use would be substantially reduced over much of the planning area, but benefits from limiting these more concentrated activities would likely be offset by more widespread increases in accelerated erosion from major wildland fires. Overall, this alternative is not expected to achieve the program goals in a sustained manner over the long term, including the Resource Advisory Council Standards.

4.5 Vegetation Resources

Impact Issues

Vegetation is a cornerstone of watershed health that is inventoried and correlated with edaphic (soils) characteristics in order to classify ecologically meaningful units for watershed management. With respect to the planning decisions within this document, a desired range of conditions has been established for each major vegetation type that incorporates restoration of degraded ecological systems and management of currently healthy ecological systems that are in jeopardy of becoming degraded. A non-functioning watershed, where desired range of vegetation conditions are not being met, may cause a decrease in water yield of 25 to 40 millimeter for each 10 percent increase in tree cover (Jackson et al. 2000). These ecological systems are characterized by highly complex inter-relationships between physical (e.g., air, soil, and water) and biological (e.g., vegetation, wildlife, and fish) dimensions. Within all alternatives, vegetation would be managed in accordance with state and transition models and LANDFIRE Biophysical Setting models to attain the desired vegetation states and phases for each vegetation community (see Appendix C).

Assumptions for Analysis

- The recent patterns of climatic characteristics, including annual variability and directional change (trend toward warmer and drier conditions), would continue over the next several decades.

- Currently available treatment tools and methodologies would continue to be the primary mechanisms for achieving the desired vegetation states (see Appendix G).

- Management recommendations from Natural Resources Conservation Service ecological site descriptions, state and transition ecological models, and LANDFIRE Biophysical Setting models will be used.

- Sufficient commercial seed sources of the desired species would not always be available to meet the needs of the restoration program. It is recognized that seed of several desired species may not be available every year and that contingency plans for alternate species may need to be factored into individual watershed treatment plans. (The Ely Field Office would work with appropriate vendors to ensure that they are aware of the expected market demands.)

- Response to treatment is expected to vary with soil type, availability of natural and artificial seed sources (for both desirable and invasive species), and damage to seedlings by grazing or other disturbances. Thus, drought conditions or unplanned grazing damage before seedlings are well established could reduce success and create the need for repeated treatment on the same area. The following typical success rates for fire rehabilitation treatments by vegetation type are used by the Ely Field Office for planning purposes and are used herein for impact analysis:

  - Shadscale 30 percent
  - Winterfat 30 percent

- Black sagebrush 50 percent
- Wyoming sagebrush 50 percent
- Mountain sagebrush 70 percent
- Mountain mahogany 70 percent
- Pinyon-juniper woodland 70 percent

Interactions with Other Programs

The vegetation management program within the planning area potentially would be affected by actions within soils, fish and wildlife, special status species, wild horses, visual resources, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing, woodlands and native plant products, geology and mineral extraction, watershed management, fire management, noxious and invasive weed management, and special designations components of the plan. The alternatives have the potential to affect vegetation in terms of the relative abundance of species within communities, the relative distribution of plant communities, and the relative occurrence of vegetation states of those communities. However, implementation of any alternative would not result in the complete elimination of a plant species or plant community. Management actions would not intentionally eliminate a special status plant species.

Goal

Manage vegetation resources to achieve or maintain resistant and resilient ecological conditions while providing for sustainable multiple uses and options for the future across the landscape.

Objective

To manage for resistant and resilient ecological conditions including healthy, productive, and diverse populations of native or desirable nonnative plant species appropriate to the site characteristics.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to vegetation also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. Mitigation measures were considered within the following impact analysis section in response to anticipated impacts. Additional "proposed mitigation" for vegetation is identified in Section 4.29, Proposed Mitigation and Potential Effectiveness. In order to be carried forward as part of the Approved RMP, these "proposed mitigation measures" would have to be incorporated into the final decision documented in the Record of Decision. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis.

These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Vegetation Management Actions.

Parameter – General Vegetation Management

Under the Proposed RMP, the ecological conditions for all major vegetation types would improve through vegetation manipulation and resource management systems. Many vegetation communities would progress toward a reduced dominance by woody species and increased mosaic of multiple-aged shrubs, forbs, and perennial grasses. There is general agreement that true restoration requires not only reestablishment of more desirable structure or composition, but of the processes needed to sustain them for the long term (McIver and Starr 2001). Long-term vigor and health of the vegetation communities, which include maintenance of soil stability and cycling of energy, nutrients, and water, would be managed across the landscape. The desired range of conditions as expressed in the various vegetation states would increase the ability of the community to be resistant and resilient to change and reduce the risk of catastrophic wild fires. **Table 4.5-1** shows the relative percentages of each vegetation community that would be treated to attain the desired range of conditions. The vegetation manipulation units would be designed and evaluated on a case-by case basis as the Ely Field Office completes each watershed analysis.

Table 4.5-1
Percentages of Vegetation Communities to be Treated or Maintained to Attain Desired Range of Conditions (Proposed RMP)

Vegetation Community	Total Area (acres)	Percent Treated	Percent Maintained
Pinyon-juniper woodland	3,593,400	77	23
Aspen woodland	7,000	59	41
High elevation conifer[1]	47,000	47	53
Salt desert shrub	1,221,000	18	82
Sagebrush	5,619,500	70	30
Mountain mahogany	46,000	35	65
Mojave Desert – creosotebush/bursage	365,500	15	85
Mojave Desert – blackbrush	382,500	10	90
Riparian/wetlands	3,100	0	100
Non-native seedings	269,500	30	70

[1] Not including approximately 9,000 acres of ponderosa pine managed separately.

Management would be designed to maintain or establish diversity, mosaics, and connectivity of vegetation communities at the watershed and project level scale. The overall goal of the Proposed RMP would be to emphasize plant and animal community health at landscape levels. To achieve the desired range of conditions, management would include a variety of methods to increase or decrease the vegetation overstory and remove invasive species. Where existing conditions are within the desired range of conditions, vegetation would be managed in a manner to maintain that status.

Application of treatments to the acreages discussed under the Proposed RMP would result in impacts to vegetation communities, both in the short term (where some temporary effects such as increased temporary risk of weed invasion may hamper restoration) and in the long term (where the treatments are expected to result in increased resiliency and improved ecological health). The short-term impacts associated with restoration efforts would include temporary reduction in vegetation cover and productivity, which could impact other resource programs. Moving these communities to an earlier vegetation phase, however, would provide long-term benefits to other resources and users. Implementation of the best management practices would reduce or eliminate some of the impacts to vegetation communities. For example, the highest return on efforts is anticipated by treating areas that have not crossed a threshold and where the desired plant community is still present but approaching a threshold (see Appendix C).

Within the Great Basin ecological system, the greatest threats to the sagebrush communities are the spread of cheatgrass and pinyon/juniper expansion into sagebrush (Rowland and Wisdom 2005) (see **Maps 4.5-1** and **4.5-2**). Where invasive species, primarily cheatgrass, dominate the understory, the invasive species would be removed to the extent practicable and replaced with perennial herbaceous species. Effective suppression of cheatgrass is normally impractical with any single treatment approach, including herbicides. Thus, a combination of treatments and tools over a period of several years would be necessary. Along with providing the intended effect of suppressing various invasive species, these treatments may have inadvertent somewhat unfavorable effects on selected desirable species within the plant community.

Management within the Mojave Desert and salt desert shrub vegetation types would focus on restoration of healthy ecological systems primarily through application of herbicides on sites infested with annual invasive species and through changes in grazing management to maximize opportunities for natural recovery and minimize the risk of introduction and spread of invasive species. The rate and type of vegetation response in these areas would be expected to vary according to the current ecological state. Without treatment, areas with perennial native grasses and forbs present would have greater recovery potential from disturbance than those that are dominated by annual brome grasses and other invasive species. Prescribed fire would be used minimally in these vegetation types; however, all available tools, techniques, or combinations thereof would be used where appropriate. To the extent possible, tools would be selected to control or reduce invasive species while minimizing impacts to the desired native perennial vegetation.

Impacts to vegetation in untreated areas outside the desired range of conditions would remain similar to those of current management with potential continued decline of ecological health and accumulation of woody fuels that may later contribute to wildland fire problems. Such untreated areas, however, would diminish at a more rapid rate than under current management and the Proposed RMP offers greater flexibility for applying treatment to such areas before they constitute major fire hazards.

Revegetation success typically is higher in the more mesic, higher elevation vegetation types (e.g., pinyon-juniper, mountain mahogany, and mountain sagebrush). These are some of the types that tend to have a higher relative abundance in the typical small watershed described in Chapter 3.0. On the other hand, the typical larger watersheds tend to include a higher proportion of low elevation vegetation types such as shadscale and Wyoming sagebrush where soils are drier and revegetation success is less

probable. In these vegetation types with the lowest probabilities for successful revegetation (e.g., shadscale and winterfat), treatment techniques such as changes in livestock grazing, mechanical mowing, herbicide application, or biological control may be the preferred tools. Other tools may be used as determined by site-specific analyses.

Parameter – Pinyon-Juniper Woodlands

In terms of potentially treated acreage, the pinyon-juniper woodland vegetation type is one of the two most heavily affected communities through vegetation treatments with some 77 percent or over 2.7 million acres of the community estimated to need treatment (see **Map 4.5-3**). Treatments in the pinyon-juniper woodland type are expected to include all tools, techniques, or combinations thereof and to result in substantial changes in community composition and age classes for dominant species. Both of these changes will noticeably affect the character of the treated vegetation community while improving vegetation resilience.

Parameter – Aspen

Actions implemented to maintain or improve woodland and forest health, develop and maintain old growth characteristics within forest stands, stimulate new growth within quaking aspen communities, or reduce the dominance of pinyon and juniper would have positive benefit to understory vegetation communities by releasing resources for development of vigorous and diverse multilayered vegetation structure. Treatments in the aspen community would focus on decreasing invasive tree species while increasing age variation of aspen to the greatest extent possible. Treatments would include all tools, techniques, or combinations thereof. Thus, treatments would be expected to dramatically change the character of the treated sites over the long term.

Parameter – High Elevation Conifer Species

Actions implemented to maintain or improve forest health, develop and maintain old growth characteristics within forest stands, stimulate new growth within high elevation conifer communities, or reduce the stand density in overmature phases would have positive benefit to understory vegetation communities by releasing resources for development of vigorous and diverse multilayered vegetation structure. Treatments in the high elevation conifer forest type would focus on all available tools, techniques, or combinations thereof to prevent stands crossed threshold into undesired phases or before invasive species become established. Such treatments are not expected to dramatically change the character of the treated sites (e.g., herbicide application to invasive species and selective tree thinning) or would be restricted to small areas of larger stands (prescribed fire and commercial tree harvest).

Parameter – Salt Desert Shrub

Major emphasis for restoration of the salt desert shrub type would be the control of the spread of invasive and noxious weeds. This emphasis would involve all tools, techniques, or combinations thereof. Although this type is extensive within the planning area, only a small percentage of the area (18 percent) is designated for treatment. The treatment approaches involved may affect the overall salt desert shrub communities.

Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

Sagebrush communities represent the largest overall vegetation type within the planning area and, with approximately 70 percent of the type estimated to need treatment. It also represents the largest component of the planning area at over 5.6 million acres. All tools, techniques, or combinations thereof may be applied to achieve desired vegetation conditions. As new tools and techniques become available, they also could be used. Treatment within this type would change the character of the treated areas from shrub-dominated to herbaceous-dominated communities.

Parameter – Mountain Mahogany

Actions implemented to maintain or improve mountain mahogany sites, stimulate new growth, or reduce the stand density in overmature phases would have positive benefit to understory vegetation communities by releasing resources for development of vigorous and diverse multilayered vegetation structure. Treatments in mountain mahogany communities could involve all available tools, techniques, or combinations thereof before stands crossed threshold into undesired phases or before invasive species become established. Such treatments are not expected to dramatically change the character of the treated sites (e.g., herbicide application to invasive species and selective woodcutting) or would be restricted to small areas of larger stands (e.g., prescribed fire). This vegetation type covering approximately 46,000 acres represents less than 0.5 percent of the planning area, and only 35 percent of the type (16,100 acres) would be subject to potential treatment.

Parameter – Mojave Desert Vegetation (creosotebush/bursage and blackbrush)

Major emphasis for restoration of the Mojave Desert vegetation type would be the control of the spread of invasive and noxious weeds. This emphasis would involve use of all available tools, techniques, or combinations thereof. Selection of appropriate tools for a specific management situation would be critical with this ecological system. Unintended consequences, if any, of management actions would be long lasting and impacts to vegetation would be long term.

The large acreage of Mojave Desert vegetation burned in the South Desert Complex Fires of 2005 demonstrated that different vegetation types within the Mojave Desert have differential natural recovery potentials following fire. Some vegetation types, such as scrub-oak, thrive with fire and recover relatively quickly through re-sprouting. Other types, such as blackbrush-dominated communities, are not fire resilient, and are expected to convert to invasive annual grasslands in the absence of intervention and rehabilitation efforts. The creosote bush-white bursage type is intermediate in nature with the dominant species having moderate potential for re-sprouting after fire.

Parameter – Riparian/Wetlands

Treatment effects related to wetlands and riparian areas would be more substantial under the Proposed RMP than current management with wetland management and restoration being thoroughly integrated into the watershed analysis and restoration program. Management actions would focus on achievement of specific desired range of conditions, including related wildlife usage, rather than on just achievement of proper functioning condition. All available tools, techniques, or combinations thereof would be used in

selected areas. These treatments may have short-term impacts in terms of surface disturbance, but would be expected to result in long-term benefits to these areas.

Parameter – Nonnative Seedings

All available tools, techniques, or combinations thereof would be used in the reduction of less desirable shrub species (e.g., rabbitbrush) and enhancement of perennial herbaceous cover. Impacts from such treatments would be expected to be short-term with rapid recovery of the herbaceous state on these sites.

Impacts from Other Programs.

Soil Resources. Management actions related to topsoil protection and reclamation procedures for disturbed surfaces would help ensure effective revegetation on disturbed areas and restoration of native species within these areas, thus minimizing impacts of such disturbances to local vegetation communities.

Fish and Wildlife. The Proposed RMP would include the designation of specific wildlife habitat needs such as vegetation species, percent cover, timing of treatment activities, and maintenance of vegetation corridors for movement as described in desired range of conditions for vegetation in Chapter 2. Together with livestock and wild horses, wildlife presence can affect the success of restoration efforts, particularly if the restoration effort involves a small area. Damage also may reach problem levels for certain types of vegetation restoration and wildlife (e.g., big game herbivory on aspen restoration areas).

Special Status Species. The direct impacts of special status species management on vegetation and the vegetation treatment program would be the constraints imposed by local policies on the restoration of habitats for greater sage-grouse and other sagebrush obligate species. The Proposed RMP would include the designation of specific wildlife habitat needs such as vegetation species, percent cover, timing of treatment activities, and maintenance of vegetation corridors for movement. This emphasis, in the short term, may impact prioritization of vegetation treatments.

Wild Horses. The elimination of marginal quality herd management areas encompassing 1.6 million acres would reduce potential wild horse impacts to treated areas in the former herd management areas. Periodic evaluation of wild horse impacts to resource values and adjustments of wild horse populations would limit long-term impacts on vegetation and soil resources. Treatments also may be timed to coincide with the normal cycle of periodic gathers to take advantage of low points in the population cycle for a given herd management area. Fencing of individual vegetation treatment areas also may be conducted, where necessary.

Visual Resources. Visual Resource Management Classes I and II (about 3.5 million acres) may constrain types and extents of vegetation treatments implemented in various portions of the decision area. With substantially more acres in Class II and more planned treatments under the Proposed RMP than under current management, this modification is expected to become more of a factor in treatment planning.

Lands and Realty. Additional possible land disposal designations proposed under the Proposed RMP would total approximately 75,600 acres, of which approximately 60 percent would be shrubland. Land

disposals could affect vegetation treatments and management on surrounding public lands through increased probability for introduction of weeds from disturbance areas associated with development activities, constraints on use of certain vegetation treatments (e.g., fire) in adjoining lands, and changes in priority of areas to be treated. Potential land disposals would not affect vegetation treatments and vegetation management on the remainder of the planning area. Rights-of-way and special uses on the planning area, including communication sites and utility corridors, affect vegetation to the extent that ground disturbances are involved. Consolidation of major rights-of-way into corridors would limit the amount of surface disturbance and disturbance to vegetation communities. All permits, leases, and contracts are administered with conservation measures such as topsoil salvage and reclamation of all vegetation disturbed or removed. Thus, most impacts associated with these activities are short term and would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Renewable Energy. The Proposed RMP would allow wind energy, biomass energy, and solar energy development. The reasonably foreseeable development for renewable energy within the planning area involves a total area of approximately 40,000 acres. Development of such facilities may constrain vegetation treatment decisions in the vicinity or may impose other priorities regarding potential treatments. Constraints of renewable energy development on planned vegetation treatments would be localized and of little consequence in relation to the overall vegetation restoration efforts. In terms of direct impact to vegetation from such activities, the extent of actual soil and vegetation disturbance associated with installation and maintenance of wind energy facilities is relatively small (4,000 acres), even though the overall facilities may extend over a large area (40,000 acres). These direct impacts would be related primarily to tower construction sites, access roads, and utility rights-of-way. Introduction of noxious or invasive species on these disturbed areas also is a potential impact to vegetation. Impacts associated with these activities would be mitigated to the extent practicable through management practices from the Wind Energy Programmatic EIS. The reasonably foreseeable development scenario for renewable energy (see Section 4.13) has not assumed surface disturbance specific to biomass and solar energy development; however, vegetation treatment could provide feedstock for a biomass project.

Travel Management and Off-highway Vehicle Use. The restriction of off-highway vehicle use on 10.3 million acres to designated roads and trails as determined through a subsequent public process and area-specific analysis would substantially reduce the potential for continued wide-spread degradation of vegetation and soils on a watershed basis due to unrestricted vehicle travel. This restriction of off-highway travel would contribute positively to the achievement of vegetation restoration goals.

Recreation. Areas designated as special recreation management areas (approximately 1.2 million acres) and special recreation permit areas (approximately 1.3 million acres) under the Proposed RMP involve a variety of vegetation types throughout the decision area. These designations are not expected to interfere with vegetation treatment and management, but would be expected to potentially affect the types of treatments involved and the priorities for implementing such actions. Recreational usage of these areas would be one of the factors considered in the planning of vegetation treatments within the designated areas. These effects would be inconsequential in relation to the overall vegetation restoration efforts.

Livestock Grazing. Livestock grazing would continue to be authorized for approximately 424,602 animal unit months on 8.4 million acres for allotments that have been determined to be meeting or progressing toward achievement of the standards for rangeland health. These would continue as needed to meet RMP goals and objectives including the standards for rangeland health. Current livestock grazing would be maintained for 120,665 animal unit months on 3.2 million acres until allotments have been evaluated for progress toward achievement of the standards for rangeland health. Changes to livestock grazing use would be made as needed to meet or progress toward achievement of the standards. These actions would lessen the impacts to the resource. A total area of approximately 203,670 acres would be unavailable for grazing in conjunction with the designation of ACECs.

Under proper grazing management, timing, intensity, duration, and frequency can successfully manage vegetation to maintain desired vegetation states. Livestock also can be used to change a vegetation state as long as it has not passed a threshold state. Impacts of various intensities, season, and duration of grazing use would be minimized as site-specific management consistent with meeting objectives is implemented. Grazing can stimulate growth in some plants, aid in the control of some invasive weeds, and sometimes be used to change community composition, structure, and function. Vegetation treatments would improve rangeland health and soil stability where undesirable annual and shrub/annual vegetation communities dominate. Nutrient cycling consistent with standards for land health would be maintained, although adjacent to water sources and other areas of heavy livestock use, nutrient concentration would occur. Fence construction to protect riparian concentration areas would increase localized impact to upland vegetation resources. Other rangeland projects could allow access to forage previously not utilized and increase impacts to vegetation resources. At times, following vegetation treatments, livestock may be excluded to allow for recovery of soil and vegetation resources. It is current agency policy that livestock be excluded on freshly seeded areas for the first two growing seasons or until objectives are met. When, and as necessary, livestock levels would continue to be adjusted in response to unusual conditions such as drought or fire to protect the vegetation resource.

Forest/Woodland and Other Plant Products. Implementation of the forest/woodland products program could result in continued off-highway activities in relatively small, localized areas as people drive vehicles as close as possible to the products they harvest. This can result in ground disturbances and local compaction where vehicles are used. The mostly open fuelwood cutting policy could indirectly assist with achieving healthy ecological conditions in certain small areas (e.g., woodland areas near roads and close to communities, where demand is greatest). However, the open policy reduces the efficiency and effectiveness of using harvest as a means of achieving vegetation objectives in more remote locations since more effort would be required to access them.

The collection of cactus and succulent plants would remain limited to salvage operations where habitat disturbances are planned. This aspect of the vegetation products program would remain at a low level of activity and have minimal impact to local flora.

Since manual seed collection would be encouraged under the Proposed RMP, the potential to impact vegetation resources from over-collection would be minimized. Local shrub seed collection would generally help ensure the availability of suitable adapted shrub seed supplies for planned treatment efforts.

Geology and Mineral Extraction. The majority of the planning area would remain open to mineral extraction. Based on the best available information, the reasonably foreseeable development scenario for the planning area anticipates surface disturbance of approximately 17,100 acres for mineral development and extraction. Therefore, anticipated impacts to vegetation resulting from mineral development would not likely exceed 17,100 non-contiguous acres. At least one large (greater than 3,000 acres) mine is foreseeable, which could have substantial impacts that would be evaluated on a site-specific basis. Most of the impacts would be temporary during the life of the operations with most areas of disturbance being reclaimed following closure of operations. Exploration drilling and mining activities involve ground disturbances that would require revegetation. Areas of soil compaction that result from mineral exploration, development, and production with heavy machinery can inhibit plant vigor and hamper reclamation. Potential impacts associated with mineral development would be minimized or eliminated through application of the best management practices presented in Appendix F, Section 1.

Watershed Management. Watershed analyses would occur on 41 high priority watershed management units. In the short term, these 41 watershed units would exhibit reduction of woody cover while the herbaceous understory would increase. Long-term impacts would be the attainment of the desired range of conditions in vegetation communities and improvement of watershed function for high priority watershed management units. The allocation of additional forage produced on treated areas would be in a balanced approach to watershed maintenance, wildlife, livestock, and wild horses. Low priority analyses would provide for achievement of desired vegetation conditions on those areas after the high priority areas are treated.

Fire Management. Prescribed fire and wildland fire use (approximately 8.9 million acres available) along with other techniques (manual, mechanical, and herbicide) would be used to the greatest extent practical as tools in implementation of vegetation treatments. In the short term, this would result in a disturbance of the vegetation communities resulting in impacts to vegetation cover and forage production. These impacts would be reduced through rehabilitation of the project sites if necessary. However, in the long term, the vegetation communities would be more resilient, occur in greater mosaics, and be returned to historical fire regimes and condition classes. This would reduce the impacts during future fire events. During fire suppression activities, vegetation would be impacted in the short term by removal during fireline construction involving the use of handtools or machinery. These short-term impacts could be reduced with the development and implementation of emergency stabilization and rehabilitation projects.

Noxious and Invasive Weed Management. Integrated weed management actions would slow the spread of established stands of noxious weeds and reduce the establishments of new infestations. Management to remove, reduce, and prevent noxious weeds includes the use of chemical, mechanical, biological, and cultural methods. Implementation of the best management practices would reduce or eliminate some of the impacts to vegetation by spread of noxious and invasive weeds. The effects of herbicide use vary with the selectivity of the herbicide used, the application rate, and the proximity of non-target plants to targeted ones. The use of biological agents (e.g., insects, sheep, and goats) to manage noxious weeds would affect native and desirable plants to the degree that non-target species are present in

the treatment area and are palatable to animals. Based on implementation of best management practices, these short-term effects are not expected to interfere with the accomplishment of long-term restoration.

The treatment and subsequent removal of noxious weeds contribute to long-term restoration but can require short-term rehabilitation if substantial bare areas result. Herbicides with persistence in soils can adversely affect revegetation success for several years if young plants are vulnerable to the chemicals present. Where weed management fails to keep up with the establishment and spread of noxious and invasive species, they quickly contribute to the deterioration of rangeland health.

Special Designations. Under the Proposed RMP, 20 ACECs and several other special designations would be authorized. Designation of these areas could impact desired range of conditions for vegetation through constraints on vegetation treatments within or adjacent to each ACEC, depending on the type of resource being protected through the designation. Vegetation treatment in designated wilderness and wilderness study areas would have to be consistent with wilderness management objectives.

Conclusion. The Proposed RMP would generally reduce dominance by woody species and increase the diversity of vegetation communities over the long term, providing vegetation communities with structure, multiple-aged shrubs, forbs, and perennial grasses. This would result in greater productivity, improved wildlife habitat, and improved natural functions and watershed stability. Livestock grazing management could be used to maintain vegetation communities which currently meet the desired range of conditions and allow improvement of remaining vegetation communities to the desired range of conditions over the short and long term. It also would increase the return of plant litter to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities with maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained across the landscape through the use of numerous tools. This alternative would achieve the program goal.

Alternative A

Impacts from Vegetation Management Actions.

Parameter – General Vegetation Management

The desired range of conditions for vegetation communities and watershed improvement would continue to be implemented at rates somewhat above the historic rates of approximately 10,000 acres of watershed manipulation per year. The majority of treatment activity would continue to be seeding following wildland fires but all available tools, techniques, or combinations thereof may be used as appropriate. Watershed restoration treatments would continue to be diverse and varied, including mechanical and chemical vegetation treatments to reduce tree and shrub cover.

Potential treatment in Alternative A is approximately 2.9 million acres or about 25 percent of the total area occupied by those vegetation communities subject to treatment. **Table 4.5-2** shows the relative percentages of each vegetation community that would be treated to attain the desired range of conditions under Alternative A.

Table 4.5-2
Percentages of Vegetation Communities to be Treated or Maintained to Attain Desired Range of Conditions (Alternative A)

Vegetation Community	Total Area (acres)	Percent Treated	Percent Maintained
Pinyon-juniper woodland	3,593,400	32	68
Aspen woodland	7,000	20	80
High elevation conifer[1]	47,000	17	83
Salt desert shrub	1,221,000	18	82
Sagebrush	5,619,500	24	76
Mountain mahogany	46,000	15	85
Mojave Desert – creosotebush/bursage	365,500	15	85
Mojave Desert – blackbrush	382,500	10	90
Riparian/wetlands	3,100	0	100
Non-native seedings	269,500	17	83

[1] Not including approximately 9,000 acres of ponderosa pine managed separately.

Parameter – Pinyon-Juniper Woodlands

A much smaller portion of this type (approximately 1.1 million acres total) would be subjected to treatment under Alternative A than in the Proposed RMP, with emphasis placed on wildland urban interface areas. Total treatment impacts and ultimate treatment benefits would be correspondingly less than with the Proposed RMP. Long-term impacts of the treatment approach would likely be that the scale would be inadequate to achieve the program goals within this vegetation type.

Parameter – Aspen

Only a small portion (20 percent) of this type would be subject to treatment. Similar actions to the Proposed RMP to implement or maintain forest health, develop and maintain old growth characteristics within forest stands, stimulate new growth within quaking aspen communities, or reduce the dominance of pinyon and juniper would have positive benefit to understory vegetation communities by releasing resources for development of vigorous and diverse multilayered structure. Because these actions would occur at a reduced scale, impacts would be slight.

Parameter – High Elevation Conifer Species

Management of the high elevation conifer woodland/forest type in Alternative A could involve vegetation treatments on a small percentage of the area (17 percent). These treatments are not expected to dramatically change the character of the treated sites and are expected to result in only minimal impacts to these communities.

Parameter – Salt Desert Shrub

Management within the salt desert shrub vegetation type would be similar under Alternative A and the Proposed RMP, and resultant impacts would be similar. Management would focus on restoration of healthy ecological systems primarily through changes in grazing management to maximize opportunities for natural recovery. The rate and type of vegetation response in these areas would be expected to vary according to current ecological state. Without restoration treatment, areas with perennial native grasses and forbs

present would have greater recovery potential from disturbance than those that are dominated by annual brome grasses and other invasive species.

Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

This alternative would involve treatment of substantially less area (total of approximately 1.3 million acres) than under the Proposed RMP due to the differences in desired range of conditions. Impacts associated with specific treated areas would be similar to those under the Proposed RMP since the treatment tools and methods would be similar. Long-term impacts of the treatment approach would likely be that the scale would be inadequate to achieve the program goals within this vegetation type.

Parameter – Mountain Mahogany

Alternative A would involve minimal management and treatment of mountain mahogany with the primary treatment occurring as limited fuelwood cutting in dense stands of the species. Anticipated impacts would be minimal.

Parameter – Mojave Desert Vegetation

Management within the Mojave Desert vegetation type would be essentially the same as the Proposed RMP and impacts would be correspondingly similar. Management would focus on restoration of healthy ecological systems primarily through changes in grazing management to maximize opportunities for natural recovery. The rate and type of vegetation response in these areas would be expected to vary according to current ecological state. Without treatment, areas with perennial native grasses and forbs present would have greater recovery potential from disturbance than those that are dominated by annual brome grasses and other invasive species. Overall recovery rates expected for Mojave Desert vegetation communities that are currently in poor ecological health would be very slow and it may take several decades for such areas to achieve the desired range of conditions.

Parameter – Riparian/Wetlands

Riparian and wetland areas would continue to be inventoried and assessed for functional condition as described in Section 3.5. Site-specific measures (e.g., fencing or changes in herd management) would be used on a case-by-case basis to improve riparian conditions. Although localized measures sometimes are effective for improving riparian and wetland conditions, watershed conditions at large also affect hydrologic functioning and sustainability of the wetlands and these would continue to be addressed in a somewhat limited manner as vegetation treatments occur. Thus, impacts from treatment would be minimal, but effectiveness of the treatment also would be marginal.

Parameter – Nonnative Seedings

A smaller area would be treated than under the Proposed RMP with emphasis on fire rehabilitation. Both native and nonnative species would be employed in reclamation, although native species would be used whenever available. Seed mixes would be developed based on site-specific conditions, such as soils, precipitation, major ecological system, and elevation. The use of both native and nonnative species in reclamation activities (e.g., seeding) potentially can have ecological consequences for the long-term restoration of native plant communities. Nonnative species generally are undesirable if they tend to spread

and compete with native perennial species. Desirable nonnative plants typically are species adapted to similar environmental conditions that can be used to meet specific reclamation objectives. In comparison to the Proposed RMP, treatment effects in this vegetation type may be less in the short-term due to smaller areas involved, but greater in the long-term due to persistent stands of nonnative species.

Impacts from Other Programs. Impacts to vegetation are similar and closely related to impacts to soils, wildlife, wild horses, livestock grazing, and watersheds. Factors that affect any of these resources generally affect all of them. Impacts to vegetation associated with fish and wildlife, special status species, renewable energy, and noxious and invasive weed management would be the same as under the Proposed RMP.

Wild Horses. Impacts to vegetation resources would remain constant in the short term as appropriate management levels of wild horses are maintained. Impacts to vegetation associated with this program would be the same or similar to those described for livestock grazing. Because of their herd behavior and grazing habits, wild horses are more likely than big game species to damage freshly established seedings.

Visual Resources. Approximately 1.7 million acres in Visual Resource Management Classes I and II may constrain the types and extents of vegetation treatments implemented in various portions of the decision area. For example, it may not be possible to implement large blocks of mechanical treatment in such areas in a manner consistent with the class descriptions.

Lands and Realty. Under this alternative, lands identified for potential disposal total approximately 31,900 acres, primarily within northern portions of the planning area. These potential disposals and rights-of-way would have minimal effect on the vegetation treatment and management program. Applicants for major rights-of-way would be encouraged to use existing corridors to limit disturbance. Impacts associated with these activities would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Travel Management and Off-highway Vehicle Use. Approximately 9.8 million acres of the planning area would be open to off-highway vehicle use. Off-highway travel commonly starts as "two tracks" that invite further use and eventually leads to a proliferation of unnecessary roads. Transportation management can influence vegetation restoration in a variety of ways that are discussed in other sections of this RMP/EIS. Transportation routes also are the primary mechanism for invasive plant species to arrive in an area, which then can affect the integrity of native plant communities. Although it may presently occur on a localized basis, increased human visitation over time could result in more widespread impacts to perennial vegetation.

Recreation. Impacts from recreation management actions generally would be similar to the Proposed RMP, primarily apparent at locations involving concentrated activities. A smaller area (approximately 750,000 acres) would be retained as special recreation management area. Where recreation is concentrated, such as campgrounds, trails, trailheads, off-highway vehicle routes, and motorcycle and truck race courses, localized vegetation impacts are predictable consequences.

Livestock Grazing. Impacts of livestock grazing under Alternative A would be similar to the Proposed RMP. Grazing would continue on the 120 acres proposed as unavailable within the additional ACECs under the Proposed RMP. The three existing desert tortoise ACECs totaling approximately 203,670 acres would remain unavailable for grazing.

Forest/Woodland and Other Plant Products. Fuelwood collection of dead pinyon and juniper is allowed throughout the planning area except in various restricted areas such as designated wilderness, wilderness study areas, and ACECs. Collection of live or greenwood pinyon and juniper is allowed in specific areas identified through individual forest management plans. This approach of designating specific areas for harvest of fuelwood and other products facilitates the use of harvest activities in meeting specific vegetation management objectives in the forest/woodland communities. Vehicle traffic off of existing roads and trails within designated cutting areas may contribute to impacts on understory species in these areas. Overall, the demand for pinyon and juniper trees and other products is low relative to the abundant supply within the planning area; therefore, the vegetation products program has minimal impacts to local flora, except in very localized harvest areas near communities.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be approximately the same as in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP. The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Watershed Management. Watershed management would be similar to the Proposed RMP except that treatment of high priority watersheds would occur at a reduced pace and additional forage produced on treated areas would be allocated to livestock, wild horses, and wildlife in the Schell Resource Area. Additional forage could be reserved for watershed maintenance, if appropriate, in other portions of the planning area.

Fire Management. Prescribed fire and wildland fire use (approximately 3.6 million acres available) and other techniques (manual, mechanical, and herbicide) would not be used extensively as tools in implementation of vegetation treatments. In the long term, this would result in less acreage of vegetation communities becoming more resilient, occurring in greater mosaics, and being returned to historical fire regimes and condition classes than under the Proposed RMP. This, in turn, would reduce the impacts during future fire events to vegetation communities on less acreage than the Proposed RMP. This would result in more intense wildland fires occurring in the long-term. In the short term, fire-related disturbances would result in impacts to vegetation cover and forage production. During fire suppression activities,

vegetation also would be impacted in the short term by removal during fireline construction involving the use of handtools and machinery. These impacts would be reduced through development and implementation of emergency stabilization and rehabilitation projects.

Special Designations. No new ACECs would be designated under this alternative and the current vegetation management, including reseeding constraints, would continue on the three desert tortoise ACECs. Treatments in designated wilderness would be the same as described for the Proposed RMP.

Conclusion. Existing management would lead to a moderate reduction in shrub-dominated communities and a reduction in pinyon/juniper-dominated communities over the long term. Moderate shrub reintroduction into burned sites, as part of rehabilitation efforts, would maintain diversity in the long term at a broad scale. The historic rate of treatment (largely fire rehabilitation) each year to restore desirable perennial herbaceous species and restore ecological resiliency would be increased to the extent allowed under the current fire plan. This rate, however, is not considered adequate to match the current rate of ecological deterioration, increase in woody fuel, and expansion of weedy species throughout the planning area, and substantial long-term effects are anticipated. Thus, this alternative is not likely to achieve the program goal.

Alternative B

Impacts from Vegetation Management Actions.

Parameter – General Vegetation Management

The impacts to vegetation communities would be the same as described in the Proposed RMP. The total area currently estimated for potential treatment in Alternative B is approximately 7.1 million acres or about 62 percent of the total area occupied by those vegetation communities subject to treatment. **Table 4.5-3** shows the relative percentages of each vegetation community that would be treated to attain the desired range of conditions under Alternative B.

Table 4.5-3
Percentages of Vegetation Communities to be Treated or Maintained to Attain Desired Range of Conditions (Alternative B)

Vegetation Community	Total Area (acres)	Percent Treated	Percent Maintained
Pinyon-juniper woodland	3,593,400	77	23
Aspen woodland	7,000	59	41
High elevation conifer[1]	47,000	47	53
Salt desert shrub	1,221,000	18	82
Sagebrush	5,619,500	70	30
Mountain mahogany	46,000	35	65
Mojave Desert – creosotebush/bursage	365,500	15	85
Mojave Desert – blackbrush	382,500	10	90
Riparian/wetlands	3,100	0	100
Non-native seedings	269,500	30	70

[1] Not including approximately 9,000 acres of ponderosa pine managed separately.

Management within the Mojave Desert and salt desert shrub vegetation types would focus on restoration of healthy ecological systems primarily through application of herbicides on sites infested with annual invasive species and through changes in grazing management to maximize opportunities for natural recovery and minimize the risk of introduction and spread of invasive species. The rate and type of vegetation response in these areas would be expected to vary according to current ecological state. Without treatment, areas with perennial native grasses and forbs present would have greater recovery potential from disturbance than those that are dominated by annual brome grasses and other invasive species. Prescribed fire would be used minimally in these vegetation types; however, all available tools, techniques, or combinations thereof would be used where appropriate.

Where invasive species, primarily cheatgrass, dominate the understory, the invasive species would be removed to the extent practicable and replaced with perennial herbaceous species. Effective suppression of cheatgrass is normally impractical with any single treatment approach, including herbicides. Thus, a combination of treatments including appropriate herbicides as well as prescribed fire and specific grazing management practices over a period of several years may be necessary. If treatments were to occur without concurrent efforts to remove invasive species, further proliferation of cheatgrass in the freshly treated areas would have a high probability of occurrence.

Treatments acreage for Alternative B would result in substantial impacts to vegetation communities, both in the short term (where some temporary effects such as increased temporary risk of weed invasion may hamper restoration) and in the long term (where the treatments are expected to result in increased resiliency and improved ecological health). The highest return on effort is anticipated in treating areas that have not crossed a threshold and where the desired plant community is still present but approaching a threshold (see Appendix C). The short-term impacts associated with restoration efforts would include temporary reduction in vegetation cover and productivity, which could impact other resource programs. Moving these communities to an earlier vegetation phase, however, would provide long-term benefits to other resources and users. Where existing conditions are within the desired range of conditions, vegetation would be managed in a manner to maintain that status.

Impacts to vegetation in untreated areas outside the desired range of conditions would remain similar to those of Alternative A with potential continued decline of ecological health and accumulation of woody fuels that may later contribute to wildland fire problems. Such untreated areas, however, would diminish at a more rapid rate than in Alternative A and Alternative B offers greater flexibility for applying treatment to such areas before they constitute major fire hazards.

Parameter – Pinyon-Juniper Woodlands
Vegetation treatment methods, acreages, and impacts would be the same as under the Proposed RMP.

Parameter – Aspen
Vegetation treatment methods, acreages, and impacts would be the same as under the Proposed RMP.

Parameter – High Elevation Conifer Species
Vegetation treatment methods, acreages, and impacts would be the same as under the Proposed RMP.

Parameter – Salt Desert Shrub
Vegetation treatment methods, acreages, and impacts would be the same as under the Proposed RMP.

Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)
Vegetation treatment methods, acreages, and impacts would be the same as under the Proposed RMP.

Parameter – Mountain Mahogany
Vegetation treatment methods, acreages, and impacts would be the same as under the Proposed RMP.

Parameter – Mojave Desert Vegetation
Vegetation treatment methods and acreages would be the same as under the Proposed RMP except that livestock grazing would be eliminated on the remainder of the Mojave Desert. Thus, the impacts associated with this management approach would be slightly different. In some cases, the absence of grazing may contribute to accumulation of fine fuels and enhanced fire risk on certain areas. However, the absence of grazing may accelerate the recovery of various desirable perennial species following earlier disturbances including fire.

Parameter – Riparian/Wetlands
Vegetation treatment methods, acreages, and impacts would be the same as under the Proposed RMP.

Parameter – Nonnative Seedings
Vegetation treatment methods, acreages, and impacts would be the same as under the Proposed RMP.

Impacts from Other Programs. Vegetation effects associated with fish and wildlife, special status species, wild horses, visual resources, lands and realty, renewable energy, travel management and off-highway vehicle use, forest/woodland and other plant products, geology and mineral extraction, fire management, noxious and invasive weed management, and special designations would be similar to those described for the Proposed RMP. Impacts to vegetation would be similar and closely related to impacts to soils, wildlife, wild horses, livestock grazing, and watersheds. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Recreation. Impacts from recreation on vegetation under Alternative B would be similar to the Proposed RMP, except that the area involved in the nine special recreation management areas is greater, affecting an additional 2.7 million acres. This additional area would primarily lie within the pinyon-juniper and sagebrush vegetation types. This greater area designated for recreation would tend to disperse some of the usage and may reduce the concentration of impacts in localized areas.

Livestock Grazing. Livestock grazing would be discontinued on approximately 3.6 million additional acres in comparison to the Proposed RMP. Approximately 542,100 acres of desert tortoise habitat in the

Mojave Desert would be unavailable for grazing. The entire Mojave Desert area generally would be allowed to recover ecological health through natural processes rather than through restoration treatment measures. The removal of grazing over much of this area would help restore habitat for desert tortoise. The closure of over 3 million acres of current and historic bighorn sheep habitat would involve several vegetation types scattered throughout the planning area. Maintenance of the existing livestock grazing program throughout the watershed/vegetation treatment and restoration process may affect the design and scheduling of treatment areas to minimize impacts to individual permittees.

Watershed Management. The level of restoration activities would be increased to the limits of available funding/resources and focused on priority areas identified through the watershed analysis process. Additional forage resulting on areas successfully restored would not be allocated to livestock or wild horses and, thus, could help in further improvement of ecological health beyond meeting the standards for rangeland health.

Conclusion. Alternative B would generally reduce dominance by woody species and increase the diversity of vegetation communities over the long term, providing structure with multiple-aged shrubs, forbs, and perennial grasses. This would result in greater productivity and improved natural functions and watershed stability. Sustained or slightly reduced levels of livestock grazing would maintain vegetation communities which currently meet the desired range of conditions and allow improvement of remaining vegetation communities to the desired range of conditions over the short and long term. It also would increase the return of plant litter to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities, which includes maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained across the landscape, expect at small localized areas of soil disturbing activities. This alternative would achieve the program goal.

Alternative C

Impacts from Vegetation Management Actions.

Parameter – General Vegetation Management

Specific vegetation communities and conditions to be treated would be similar to the Proposed RMP, except for the differences in desired range of conditions identified in Section 2.7.5. This approach would require more frequent future treatments or increased management effort to maintain these more useful communities. The total area currently estimated for potential treatment in Alternative C is approximately 7.7 million acres or about 66 percent of the total area occupied by those vegetation communities subject to treatment. **Table 4.5-4** shows the relative percentages of each vegetation community that would be treated to attain the desired range of conditions under Alternative C.

Table 4.5-4
Percentages of Vegetation Communities to be Treated or Maintained to Attain Desired Range of Conditions (Alternative C)

Vegetation Community	Total Area (acres)	Percent Treated	Percent Maintained
Pinyon-juniper woodland	3,593,400	77	23
Aspen woodland	7,000	69	31
High elevation conifer[1]	47,000	79	21
Salt desert shrub	1,221,000	32	68
Sagebrush	5,619,500	75	25
Mountain mahogany	46,000	79	21
Mojave Desert – creosotebush/bursage	365,500	15	85
Mojave Desert – blackbrush	382,500	10	90
Riparian/wetlands	3,100	0	100
Non-native seedings	269,500	50	50

[1] Not including approximately 9,000 acres of ponderosa pine managed separately.

Slightly over 90 percent of this potential treatment area occurs in the pinyon-juniper and sagebrush vegetation types. The primary difference in restoration approach between Alternative C and the Proposed RMP is that Alternative C would focus on establishment and maintenance of vegetation communities in a narrower desired range of conditions conducive to the commodity (livestock, forest/woodland products, and big game) emphasis of this alternative. Achievement and maintenance of this desired range of conditions would require greater initial effort and more frequent future treatments.

Vegetation impacts resulting from implementing the vegetation treatments of Alternative C would be generally similar to those described for the Proposed RMP, especially in the short term. However, this alternative would involve only limited use of prescribed fire and would rely on more expensive mechanical and chemical approaches for most treatments. Thus, the area successfully treated within comparable budgets would probably be less in Alternative C, eventually leading to substantial differences between the two alternatives over the long term.

Parameter – Pinyon-Juniper Woodlands
Although the emphasis of treatment methods would be different between this alternative and the Proposed RMP (greater emphasis here on commercial harvest of forest/woodland products as a treatment tool), the overall areas to be treated and range to treatment methods would be similar. Therefore, impacts for Alternative C within this vegetation type are expected to be similar to the Proposed RMP.

Parameter – Aspen
The emphasis of treatment methods would be different between this alternative and the Proposed RMP (greater emphasis here on commercial harvest of forest/woodland products as a treatment tool), and the overall aspen area to be treated in Alternative C is slightly greater. The total aspen area to be treated, however, would be very small relative to the overall planning area. Therefore, impacts for Alternative C within this vegetation type are expected to be similar in nature and magnitude to the Proposed RMP.

Parameter – High Elevation Conifer Species

The emphasis of treatment methods would be different between this alternative and the Proposed RMP (greater emphasis here on commercial harvest of forest/woodland products as a treatment tool), and the relative portion of the high elevation conifer vegetation type to be treated in Alternative C is substantially greater. This substantial increase in percentage of type to be treated, however, represents a change in acreage from about 26,000 to 44,000, still less than 0.5 percent of the planning area. Therefore, impacts for Alternative C within this vegetation type are expected to be substantially greater in magnitude than the Proposed RMP, but still minor relative to the planning area.

Parameter – Salt Desert Shrub

Under Alternative C, a greater area of salt desert shrub would be subject to treatment than under the Proposed RMP. Management within the salt desert shrub vegetation type would focus on restoration of healthy ecological systems primarily through application of herbicides on sites infested with annual invasive species and through changes in grazing management to maximize opportunities for natural recovery. Prescribed fire would not be used in this vegetation types. Effects associated with this treatment would be similar in nature to those of the Proposed RMP, but would extend over a greater area. Impacts to the vegetation type from such treatments are expected to be small.

Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

The total area of sagebrush communities subject to treatment under Alternative C would be only slightly greater (75 percent versus 70 percent of the type) than under the Proposed RMP, but the treatment methods would focus heavily on enhancement of forage production while maintaining and enhancing ecological health. Thus, in this alternative, greater areas would be seeded to increase herbaceous production. Impacts associated with this management approach would include greater areas of surface disturbance, increased risk of invasive species establishment, limited plant community structure and diversity is seeded areas, and reduced wildlife habitat values.

Parameter – Mountain Mahogany

Management of the mountain mahogany type under this alternative would focus on the establishment of the herbaceous state to provide forage for livestock and big game. The total area subject to treatment would be more than twice as large as under the Proposed RMP, however, this community represents less than 0.5 percent of the planning area so the total acreage involved (approximately 36,000 acres) is relatively small. Commercial woodcutting followed by seeding of disturbed areas would be a common treatment approach. Treatment impacts from disturbance, therefore, generally would be short-term in nature, but the impacts to the vegetation community and indirectly to other resources from conversion to the herbaceous state would tend to be long-term.

Parameter – Mojave Desert Vegetation

Vegetation treatment methods and acreages would be similar to those described for the Proposed RMP. Thus, the impacts associated with this management approach would be similar to the Proposed RMP. Management would focus on restoration of healthy ecological systems primarily through application of herbicides on sites infested with annual invasive species and through changes in grazing management to

maximize opportunities for natural recovery. Prescribed fire would be used in these vegetation types in limited situations.

Parameter – Riparian/Wetlands
Management of riparian/wetlands under Alternative C would be similar to that described for the Proposed RMP, except that maintenance of commodity production would be emphasized. Thus, treatments to enhance or restore plant community structure and composition would typically be implemented while maintaining multiple uses of the area or with minimal temporary protection from grazing impacts on seedings or plantings. Impacts associated with this management approach would be similar to the Proposed RMP, but site recovery/enhancement may be prolonged.

Parameter – Nonnative Seedings
Management of the nonnative seedings under this alternative would focus on the establishment or maintenance of the herbaceous state to provide forage for livestock and big game. Approximately 50 percent of the total area occupied by this type would be subject to treatment to reduce shrub density and seed perennial herbaceous species. Treatment impacts from new disturbance within the seeded areas would be greater than in the Proposed RMP, but total area occupied by the vegetation type would remain unchanged.

Impacts from Other Programs. Impacts associated with soils, fish and wildlife, special status species, wild horses, visual resources, renewable energy, geology and mineral extraction, noxious and invasive weed management, and special designations would be the same as or similar to those described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Lands and Realty. Areas identified for potential disposal under Alternative C are almost three times as extensive as the areas identified under the Proposed RMP. These possible land disposal areas are primarily shrubland. Effects on lands adjacent to the disposal areas likely would be minimal. Possible land disposals would not affect vegetation treatments and management on the remainder of the planning area. Applicants for communication sites and rights-of-way would be encouraged to use existing facilities and corridors to limit disturbance. Impacts associated with these activities would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Travel Management and Off-highway Vehicle Use. Impacts to vegetation under this alternative would involve five off-highway vehicle use emphasis areas with substantially greater total acreage than in Alternative B. Impacts to vegetation on any individual area designated for this use still would be less than those described in Alternative A because off-highway vehicle use would be restricted to designated roads and trails.

Recreation. Impacts from recreation on vegetation under Alternative C would be similar to the Proposed RMP, except that the area involved in the nine special recreation management areas is greater, affecting an additional 2.6 million acres. This additional area would primarily lie within the pinyon-juniper and sagebrush vegetation types. This greater area designated for recreation would tend to disperse some of the usage and may reduce the concentration of impacts in localized areas.

Livestock Grazing. Impacts of livestock grazing to vegetation would be generally similar to the Proposed RMP, but the focus on commodity production would involve more intensive vegetation management and more frequent treatments than in the Proposed RMP.

Forest/Woodland and Other Plant Products. Under this alternative, commercial and personal collections of cactus could occur throughout the planning area without being limited to salvage operations, subject to constraints of Nevada state laws. This policy would invite increased levels of collection for a variety of purposes. The most accessible plant populations would become the most heavily collected, eventually removing an integral part of the local flora commensurate with the areas affected. This increased removal of cactus also could result in increased erosion and probability for invasive weed establishment.

Watershed Management. The allocation of additional forage available on restored areas after meeting the Standards for Rangeland Health to livestock could potentially reduce the availability of seed for natural plant propagation in relation to other alternatives where the excess forage may be allocated to wildlife and to enhance watershed maintenance (e.g., Alternative B).

Fire Management. Under this alternative, fire would be used in a limited context as a vegetation management tool, and wildland fires would be suppressed to the extent practical. Thus, planned vegetation treatments would involve primarily herbicide applications and mechanical approaches. Due to the greater expense of these methods in comparison to managed natural wildland fires, areas treated each year in Alternative C would likely be less than in the Proposed RMP and may not exceed the levels achieved under Alternative A. The fire suppression approach would lead to continued accumulation of heavy fuels in the untreated areas until these areas eventually burned in uncontrolled wildland fires. Such fires typically would be hot enough to kill any remaining perennial understory vegetation as well as the woody overstory species. Thus, impacts from fire management could be substantial over the long term.

Conclusion. Implementation of this alternative would reduce dominance of woody and exotic annuals species and increase dominance of herbaceous perennials in the long term. Greater productivity for allocation to consumptive uses would result. Limited shrub reintroduction into some burns would maintain diversity at a broad scale. However, the narrower range of desired conditions (with greater emphasis on the herbaceous state) in this alternative as compared to the Proposed RMP would require more effort and more frequent treatments to achieve and maintain. The higher probability for widespread fire over the long term also would necessitate greater efforts for fire suppression and rehabilitation as opposed to planned treatments. As a result of optimizing livestock use of available forage, the benefits of returning vegetation material to the soil would be minimized. Long-term vigor and health of vegetation communities would be maintained across the landscape, except at localized areas of concentrated activity. This alternative has a high potential for achieving the program goal over the short term, but the sustainability of resilient ecological conditions over the long term is questionable.

Alternative D

Impacts from Vegetation Management Actions.

Parameter – General Vegetation Management

To accomplish the desired range of conditions for this alternative as described in Section 2.8.5, the total area currently estimated for potential treatment in Alternative D is approximately 3,726,500 acres or about 32 percent of the total area occupied by those vegetation communities subject to treatment. **Table 4.5-5** shows the relative percentages of each vegetation community that would be treated to attain the desired range of conditions under Alternative D.

Table 4.5-5
Percentages of Vegetation Communities to be Treated or Maintained to Attain Desired Range of Conditions (Alternative D)

Vegetation Community	Total Area (acres)	Percent Treated	Percent Maintained
Pinyon-juniper woodland	3,593,400	52	48
Aspen woodland	7,000	35	65
High elevation conifer[1]	47,000	50	50
Salt desert shrub	1,221,000	18	82
Sagebrush	5,619,500	26	74
Mountain mahogany	46,000	55	45
Mojave Desert – creosotebush/bursage	365,500	15	85
Mojave Desert – blackbrush	382,500	10	90
Riparian/wetlands	3,100	0	100
Non-native seedings	269,500	11	89

[1] Not including approximately 9,000 acres of ponderosa pine managed separately.

Approximately 89 percent of this potential treatment area occurs within the pinyon-juniper and sagebrush vegetation types, primarily where the understories of these types are dominated by invasive annual species. Alternative D would emphasize minimum management and disturbance of vegetation communities with restoration of historic vegetation such that pinyon and juniper communities and sagebrush communities would be re-established on all sites where they were previously known to occur. Areas where sagebrush has been removed would be revegetated with sagebrush, and similarly, pinyon and juniper would be restored on sites where these species have been removed. Nonnative seedings would be returned to either sagebrush or pinyon-juniper communities.

This approach would attempt to manage public land to achieve no net loss of native communities, where they currently exist or existed in about 1950. The implementation of this alternative would not be consistent with current agency policies and contemporary science regarding ecological processes in the Intermountain West. This management prescription would result in continued proliferation of woody species such as pinyon and juniper within historic sagebrush and grassland dominated sites on the planning area. It also would result in the continued accumulation of heavy fuels in overmature shrub and tree communities until such areas burn through natural fires.

Although this alternative may not result in substantial short-term impacts, the long-term impacts would be substantial with much of the planning area that is currently occupied by pinyon-juniper and sagebrush being burned and subsequently converted to the herbaceous state or an altered state dominated by invasive annual vegetation.

Parameter – Pinyon-Juniper Woodlands

Although approximately 52 percent of the pinyon-juniper woodland vegetation type is identified for treatment under Alternative D, the limited treatment methods available under this alternative would make it difficult to implement the scale and nature of treatments necessary to achieve the program goal relative to this vegetation type.

Parameter – Aspen

Treatment methods such as elimination of grazing and other discretionary uses would be the primary management approach of this alternative. This could be coupled with limited use of selected herbicides in aspen stands where invasive species are present. Although these methods will encourage additional aspen regeneration and growth of understory species, they may be inadequate to restore the desired conditions in this vegetation type.

Parameter – High Elevation Conifer Species

Treatment methods such as elimination of grazing and other discretionary uses would be the primary management approach of this alternative. This could be coupled with limited use of selected herbicides in high elevation conifer stands where invasive species are present. Although these methods will encourage additional growth of understory species, they may be inadequate to restore the desired conditions and community structure in this vegetation type.

Parameter – Salt Desert Shrub

Treatment methods such as elimination of grazing and other discretionary uses would be the primary management approach of this alternative. This could be coupled with limited use of selected herbicides in areas where invasive species are present. These methods may be adequate to achieve the desired conditions in this vegetation type.

Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

Although some 26 percent of the area occupied by sagebrush communities has been identified as subject to treatment under Alternative D, the treatment methods involved would focus on the control of invasive species and the seeding of native species into those areas that had previously been seeded with nonnative understory species. Thus, the overall rate of change toward achieving the desired range of conditions would likely be slow. It also is expected that under this alternative most of the sagebrush vegetation type would become more vulnerable to major fires due to increased accumulation of fine fuels.

Parameter – Mountain Mahogany
Although some 55 percent of the area occupied by mountain mahogany has been identified as subject to treatment under Alternative D, the treatment methods involved would focus on the control of invasive species and the seeding of native species into areas affected by natural disturbances such as wildland fires. Thus, the overall rate of change toward achieving the desired range of conditions would likely be slow. It also is expected that under this alternative most of the mountain mahogany vegetation type would become more vulnerable to major fires due to increased accumulation of fine fuels.

Parameter – Mojave Desert Vegetation
Vegetation treatment acreages would be the same as under the Proposed RMP, but treatment methods would focus on the control of invasive species. Livestock grazing and other discretionary uses would be eliminated throughout the planning area, thus, grazing would not be an available management tool. The absence of grazing may contribute to accumulation of fine fuels and enhanced fire risk within these communities, but also may accelerate the recovery of various desirable perennial species following earlier disturbances including fire.

Parameter – Riparian/Wetlands
Treatment of riparian and wetland areas would focus on areas with invasive or exotic species, while relying on natural processes for recovery of proper functioning condition in other areas. This would be a slower process than proposed in the other alternatives, but direct impacts of the approach would be few.

Parameter – Nonnative Seedings
Treatments would be applied under this alternative to convert existing nonnative seedings to the original native plant communities. Such treatments would be applied to approximately 11 percent of the area occupied by the type. Direct impacts associated with this conversion would be minimal in terms of new surface disturbance and effects to surrounding vegetation communities.

Impacts from Other Programs. Impacts to vegetation associated with soils, fish and wildlife, special status species, and visual resources management activities would be the same as or similar to those described for the Proposed RMP. Impacts to vegetation associated with watershed management would be the same as or similar to Alternative A.

Wild Horses. Alternative D would involve the same herd management areas as Alternative A, but herd populations would not be controlled within these areas. With annual population increases ranging up to 20 percent, it is expected that most of these herds would soon exceed the habitat capacity and devastate the vegetation resources within these herd management areas. The immediately surrounding areas would be impacted as well when herds moved outside the management areas to find forage until such animals could be removed by the Ely Field Office. Impacts would be both short and long term.

Visual Resources. Approximately 11.5 million acres would be classified as Visual Resource Management Class I or II, which could affect planning of vegetation treatments.

Renewable Energy. This alternative would eliminate the potential development of renewable energy resources within the decision area.

Lands and Realty. There would be no net loss of public lands or new land use authorizations issued within the planning area. Thus, this alternative would involve fewer disturbances associated with vegetation impacts than any of the other alternatives.

Travel Management and Off-highway Vehicle Use. This alternative would eliminate almost all off-highway vehicle use and the associated impacts of such activities to vegetation. Over several years, the trails and other areas currently impacted by these activities would naturally revegetate with a combination of invasive annual species and native species from the surrounding vegetation communities.

Recreation. Organized recreational events such as motorcycle and truck races would be eliminated in this alternative and any remnant disturbed areas from past events would be allowed to naturally revegetate with a combination of invasive annual species and native species from the surrounding vegetation communities. The elimination of permits for hunting guides and outfitters in this alternative would reduce the level of backcountry activities and corresponding disturbance of vegetation.

Livestock Grazing. Alternative D includes total removal of domestic livestock from the entire planning area. While this would contribute to the recovery of vegetation in situations where improper grazing practices are or have been a primary contributing factor to degradation of vegetation communities, the absence of grazing also would remove one of the important management tools often used for vegetation manipulation, including weed control. Courtois et al. (2004) found that 65 years of protection from grazing on 16 exclosures at different locations across Nevada resulted in relatively few differences between vegetation inside the exclosures and that exposed to moderate grazing outside the exclosures. Where differences occurred, total vegetation cover was greater inside the exclosures while density was greater outside the exclosures. Protection from grazing failed to prevent expansion of cheatgrass into the exclosures.

During the short term, removal of grazing may facilitate recovery of perennial understory species in those communities where they are abundant enough to provide natural seed sources. Similarly, with reduced levels of herbivory, the amount of residual vegetation production and seeds would be increased with correspondingly increased ground cover (litter). These effects would facilitate seedling establishment of perennial herbaceous species, where they are present and may currently be limited by spring or summer grazing. However, allowing plants to grow without livestock herbivory can accomplish only part of what is needed to keep many areas from transitioning across a threshold to a woody dominated state with little resistance to later transitioning to a weedy state.

Forest/Woodland and Other Plant Products. All harvest of native plant products, except for American Indian collection of pinyon nuts, would be eliminated in this alternative. This action would increase seed availability for natural reseeding, increase accumulation of woody fuels in woodland types, reduce travel and off-highway vehicle use in areas currently used for harvest of plant materials, and reduce potential for spread of invasive plant species in both the short and long term.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario. Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Fire Management. Fire management would involve minimal suppression except for human-caused fires and those that threaten life or property. This alternative would lead to major widespread wildland fires, increased risk for spread of cheatgrass and other invasive species along with a corresponding increase in flashy fine fuels, and resultant increased probability for intense, large-scale wildland fires. With the combination of minimal vegetation management and minimal fire suppression in this alternative, it is expected that wildland fires would increase dramatically over the long term. Major rehabilitation efforts would be required to prevent the burned areas from becoming dominated by invasive annual grasses and forbs. As a primary result, much of the planning area that is currently occupied by pinyon-juniper and sagebrush would eventually be converted to the herbaceous state or an altered state dominated by invasive annual vegetation over the long term.

Noxious and Invasive Weed Management. The constraints on use of selected herbicides such as the sulfonylurea group under Alternative D would seriously reduce the options for control of cheatgrass on the planning area since some of the chemicals included in those groups are among the best available for this control. The constraints on herbicide use and the relative absence of fire suppression are expected to result in a substantially increased short-term and long-term risk for spread of cheatgrass and other invasive species.

Special Designations. Since all discretionary uses would be eliminated under this alternative, there would be no need for Special Designations. It is not expected that this change of status (e.g., eliminating the three existing ACECs) would, in and of itself, have any impact on vegetation, especially relative to the other major changes contained within this alternative.

Conclusion. Exclusion of livestock from all public land would allow natural succession to improve the condition of many vegetation communities currently supporting desirable species. Altered vegetation communities dominated by annual species would improve little toward the desired range of conditions over the life of the plan. Fine fuels would increase with limited utilization of herbaceous growth, resulting in increased size of wildland fire and increased occurrence and frequency of fire near frequent sites of ignition. Limited suppression of wildland fire also would increase the average fire size, resulting in more frequent impacts to affected vegetation resources. The condition of many vegetation communities currently dominated by desirable mosaics of native species would be maintained or improved in those areas not subject to frequent fire. Frequent wildland fires in healthy, native communities, would cause a decline in vegetation diversity and health, leading to decline in natural levels of nutrient, water, and energy cycling. This alternative would result in continued proliferation of tree species into historic sagebrush-dominated sites with minimal prospects for restoration of resiliency. Therefore, this alternative would fail to achieve the program goal.

4.6 Fish and Wildlife

Impact Issues

For aquatic species and their habitats, the primary mechanisms through which management activities could affect aquatic habitat and aquatic biota include habitat alteration or loss, sedimentation due to soil disturbance and vegetation removal, water quality changes, and reductions in surface water quantity. The focus of the analysis was on surface water habitat (i.e., perennial streams, springs, wetlands, reservoirs, or lakes) with persistent year-round flow or water availability.

The primary impact issues to wildlife as they relate to resource conflicts with other management programs on the planning area include direct loss of wildlife, loss or fragmentation of habitat, alteration of vegetation cover and composition, and water availability. Generally, anything that affects vegetation or watersheds also would affect wildlife habitat and, potentially, wildlife populations.

Table 4.6-1 provides an analysis of the relative degree of overlap between several types of priority wildlife habitats and potential land disposals, designated corridors, special recreation management areas, and ACECs for each of the alternatives.

Assumptions for Analysis

- The Nevada Department of Wildlife would manage populations of big game (i.e., mule deer, elk, pronghorn antelope, and bighorn sheep) commensurate with available forage and with consideration of other multiple uses.

General Impacts from Wildlife Treatments Tools and Techniques

Treatment tools for wildlife are summarized in Appendix G along with the tools used in conjunction with various other resource programs. The following paragraphs provide a general overview of the impacts anticipated from the use of major wildlife treatment tools.

Water escape ramps. Escape ramps such as bird ladders or other devices would minimize potential impacts to small mammals, birds, and herptiles from becoming trapped in water troughs and storage tanks.

Elk passes. Elk passes and other similar devices would minimize potential impacts to big game species by allowing daily or seasonal (e.g., migration) movements of big game species across fences that would otherwise prohibit the movement of big game species, cause injury to wildlife, or cause damage to the fence.

Table 4.6-1
Overlap of Management Actions with Priority Wildlife Habitats

Priority Wildlife Habitats[1]	Proposed RMP Affected Area		Alternative A Affected Area		Alternative B Affected Area		Alternative C Affected Area		Alternative D Affected Area	
	Acres	%[2]	Acres	%[2]	Acres	%[2]	Acres	%[2]	Acres	%[2]
Overlap of Potential Land Disposal Areas										
Desert Bighorn Sheep Occupied Habitat	641	0	24	0	896	0	4,483	0	0	0
Rocky Mountain Bighorn Sheep Occupied Habitat	0	0	0	0	0	0	0	0	0	0
Elk Crucial Summer Habitat	0	0	0	0	0	0	2,160	1	0	0
Mule Deer Crucial Summer Habitat	12,202	1	1,046	0	3,065	0	24,136	2	18	0
Mule Deer Crucial Winter Habitat	298	0	0	0	5,105	1	19,990	3	0	0
Pronghorn Crucial Winter Habitat	0	0	0	0	0	0	0	0	0	0
Overlap of Designated Corridors										
Desert Bighorn Sheep Occupied Habitat	9,106	1	8,690	1	9,280	1	19,645	2	8,690	1
Rocky Mountain Bighorn Sheep Occupied Habitat	106	0	106	0	393	1	2,011	3	106	0
Elk Crucial Summer Habitat	895	0	895	0	1,742	1	4,414	2	895	0
Mule Deer Crucial Summer Habitat	9,882	1	9,565	1	11,551	1	22,305	2	9,565	1
Mule Deer Crucial Winter Habitat	14,353	2	10,871	2	18,388	3	71,786	10	10,871	2
Pronghorn Crucial Winter Habitat	0	0	0	0	0	0	9,323	11	0	0
Overlap of Moderate and High Potential Wind Energy Areas										
Desert Bighorn Sheep Occupied Habitat	37,802	4	37,802	4	37,802	4	37,802	4	37,802	4
Rocky Mountain Bighorn Sheep Occupied Habitat	11,004	17	11,004	17	11,004	17	11,004	17	11,004	17
Elk Crucial Summer Habitat	23,215	9	23,215	9	23,215	9	23,215	9	23,215	9
Mule Deer Crucial Summer Habitat	57,015	5	57,015	5	57,015	5	57,015	5	57,015	5
Mule Deer Crucial Winter Habitat	15,732	2	15,732	2	15,732	2	15,732	2	15,732	2
Pronghorn Crucial Winter Habitat	799	1	799	1	799	1	799	1	799	1
Overlap of Moderate and High Potential Solar Energy Areas										
Desert Bighorn Sheep Occupied Habitat	248,154	27	248,154	27	248,154	27	248,154	27	248,154	27
Rocky Mountain Bighorn Sheep Occupied Habitat	3,165	5	3,165	5	3,165	5	3,165	5	3,165	5
Elk Crucial Summer Habitat	51,445	20	51,445	20	51,445	20	51,445	20	51,445	20
Mule Deer Crucial Summer Habitat	240,590	23	240,590	23	240,590	23	240,590	23	240,590	23
Mule Deer Crucial Winter Habitat	360,335	50	360,335	50	360,335	50	360,335	50	360,335	50
Pronghorn Crucial Winter Habitat	47,853	58	47,853	58	47,853	58	47,853	58	47,853	58
Overlap of Special Recreation Management Areas										
Desert Bighorn Sheep Occupied Habitat	168,075	18	NA[3]	N/A	250,350	27	250,350	27	0	0
Rocky Mountain Bighorn Sheep Occupied Habitat	3,696	6	NA[3]	N/A	5,966	9	5,966	9	0	0
Elk Crucial Summer Habitat	10,417	4	NA[3]	N/A	126,161	49	126,161	49	0	0
Mule Deer Crucial Summer Habitat	266,879	26	NA[3]	N/A	471,225	45	469,889	45	0	0
Mule Deer Crucial Winter Habitat	8,495	1	NA[3]	N/A	257,831	36	231,017	32	0	0
Pronghorn Crucial Winter Habitat	0	0	NA[3]	N/A	0	0	0	0	0	0
Overlap of Special Recreation Permit Areas										
Desert Bighorn Sheep Occupied Habitat	69,191	8	0	0	0	0	69,191	8	0	0
Rocky Mountain Bighorn Sheep Occupied Habitat	0	0	0	0	0	0	0	0	0	0
Elk Crucial Summer Habitat	15,586	6	0	0	0	0	15,586	6	0	0
Mule Deer Crucial Summer Habitat	171,144	16	0	0	83,321	8	171,144	16	0	0
Mule Deer Crucial Winter Habitat	150,007	21	0	0	56,642	8	150,007	21	0	0
Pronghorn Crucial Winter Habitat	0	0	0	0	0	0	0	0	0	0
Overlap of Areas of Critical Environmental Concern										
Desert Bighorn Sheep Occupied Habitat	73,575	8	47,254	5	83,687	9	83,687	9	0	0
Rocky Mountain Bighorn Sheep Occupied Habitat	3,476	5	0	0	6,661	11	6,661	11	0	0
Elk Crucial Summer Habitat	390	0	0	0	5,953	2	5,793	2	0	0
Mule Deer Crucial Summer Habitat	7,138	1	0	0	9,866	1	3,681	0	0	0
Mule Deer Crucial Winter Habitat	4,317	1	0	0	6,269	1	6,269	1	0	0
Pronghorn Crucial Winter Habitat	0	0	0	0	0	0	0	0	0	0
Overlap of Designated Wilderness										
Desert Bighorn Sheep Occupied Habitat	0	0	0	0	0	0	0	0	0	0
Rocky Mountain Bighorn Sheep Occupied Habitat	0	0	0	0	0	0	0	0	0	0
Elk Crucial Summer Habitat	0	0	0	0	0	0	0	0	0	0
Mule Deer Crucial Summer Habitat	0	0	0	0	0	0	0	0	0	0
Mule Deer Crucial Winter Habitat	6,837	1	6,837	1	6,837	1	6,837	1	6,837	1
Pronghorn Crucial Winter Habitat	0	0	0	0	0	0	0	0	0	0

[1] Additional types of priority habitats (e.g., fawning, calving, lambing areas) exist within the decision area but have not been mapped and are not included in this analysis.

[2] Percentage of a priority wildlife habitat that overlap management actions is based on the priority habitat of that type within the decision area.

[3] Specific geographic boundaries for the Loneliest Highway Special Recreation Management Area have not been defined.

Temporal Restrictions. In many cases, temporal restrictions are used to restrict recreation, development, treatment, and other permitted activities during sensitive breeding and seasonal periods for wildlife. Temporal restrictions would minimize potential impacts to wildlife from direct disturbance of habitat and indirect effects from increased noise and human presence.

Livestock fencing. Livestock fencing is commonly used to control livestock distribution and to exclude livestock from important seasonal wildlife habitats (e.g., riparian zones, seasonal big game winter habitats). Wildlife generally would benefit from the exclusion of livestock by increasing available forage and water resources, improving seasonal habitats, and reducing habitat degradation. However, livestock fencing also could impede seasonal movements of big game and restrict big game from important forage and water resources.

Prescribed fire and wildland fire use. Prescribed fire and wildland fire use would be applied along with other treatment methods (e.g., mechanical, chemical, and biological) to reduce heavy fuel loading and improve habitat to desired ranges of vegetation conditions. In the short term, localized fire prescriptions would generally benefit some wildlife species by increasing quantity and quality of herbaceous forage and ground cover. In the long term, various other species would be benefited by improved seasonal habitats. For example, elk would generally benefit soon after the vegetation treatments, while mule deer and greater sage-grouse may not benefit until 20 to 30 years later.

Water developments. Water developments are generally used to increase the distribution and availability of water for wildlife and could be used to mitigate multiple-use impacts to wildlife species from loss of habitat or reduction of natural waters. Although wildlife would generally benefit from water developments, it is expected that some species (e.g., elk and pronghorn) would benefit more than others and expand their distributions into previously unoccupied ranges.

Telemetry. Radio-telemetry is a common tool used to acquire detailed data on many aspects of wildlife biology including habitat use, home range size, mortality and survivorship, and migration timing and routes. Since many wildlife species are secretive and difficult to observe, radio-telemetry provides a valuable tool to learn more about a species' life-history. Because of the invasive nature of telemetry projects, impacts can occur if animals are unduly stressed or influenced by the capture technique, or if the behavior of the animal wearing the radio tag is not representative of normal behavior for the species.

Interactions with Other Programs

The fish and wildlife management program within the planning area potentially would be affected by actions within the resource management programs for water resources, vegetation, wild horses, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, watershed management, fire management, noxious and invasive weed management, and special designations.

Goal

Provide habitat for wildlife (i.e., forage, water, cover, and space) and fisheries that is of sufficient quality and quantity to support productive and diverse wildlife and fish populations, in a manner consistent with the principles of multi-use management, and to sustain the ecological, economic, and social values necessary for all species.

Northeastern Great Basin Resource Advisory Council Standard. Habitats exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

Mojave/Southern Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Objective

To manage suitable habitat for aquatic species, priority wildlife species, and migratory birds in a manner that will benefit wildlife species directly or indirectly and minimize conflicts among species and wildlife or habitat losses from permitted activities. Priority species for terrestrial wildlife habitat management are elk, mule deer, pronghorn antelope, Rocky Mountain bighorn sheep, desert bighorn sheep, and migratory birds; because these species cover the entire Ely RMP planning area. Priority habitats include calving/fawning/kidding/lambing grounds, crucial summer range, crucial winter range, and occupied desert bighorn sheep habitat.

To use wildlife water developments, both natural and artificial, to improve the condition of wildlife habitat, and to use artificial wildlife water developments to mitigate impacts to wildlife species from loss of natural water sources or loss of habitat.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to fish and wildlife also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. Mitigation measures were considered within the following impact analysis section in response to anticipated impacts. Additional "proposed mitigation" for fish and wildlife is identified in Section 4.29, Proposed Mitigation and Potential Effectiveness. In order to be carried forward as part of the Approved RMP, these "proposed mitigation measures" would have to be incorporated into the final decision documented in the Record of Decision. After completion and approval of the RMP, during project

implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Fish and Wildlife Management Actions.

Parameter – General Wildlife Habitat Management (Aquatic and Terrestrial)

As a result of the Ely Field Office's emphasis to manage priority habitat for priority species, habitat quality would remain at current levels or improve selected parameters such as streambank stability and riparian vegetation development. Improvements could involve revegetation in riparian areas, adding rip-rap or other bank stabilization material, or placement of structures in streams for additional cover. The impacts of enhancement actions could be improvements in the amount of streamside cover and instream structure and reductions in sediment input as a result of more stable streambanks and lesser amounts of surface disturbance in areas adjacent to waterbodies. If the waterbody contains aquatic species that are considered special status species, emphasis would be placed on habitat requirements for these species. Input would be requested from the U.S. Fish and Wildlife Service in situations where federally listed species are present or could be established through recovery efforts. Habitat improvements would provide additional habitat for aquatic species and could affect decisions by the Nevada Department of Wildlife regarding future stocking efforts.

The Proposed RMP would strive to mitigate all discretionary permitted activities that disturb priority habitat by improving 2 acres of comparable habitat for every 1 acre of disturbance on a project-by-project basis. The impact of this management action would be a two-fold increase in the quality of available priority habitat in relation to the area affected by a specific project.

Beyond management of priority habitat for priority species, management in the remainder of the area would emphasize the conservation and maintenance of healthy, resilient, and functional vegetation communities. This habitat management approach would serve the needs of most wildlife species occurring within the planning area. The desired range of vegetation conditions to meet wildlife habitat requirements would be achieved through treatments identified in the vegetation section. On a watershed and landscape level, wildlife numbers and diversity would increase as habitat is improved.

Adhering to the standards in Manual 1745 and the Memorandum of Understanding between the BLM and the Nevada Department of Wildlife would balance species numbers with available habitat.

Management of habitat in the vicinity of national wildlife refuges would be conducted in a manner compatible with the objectives of the refuge, thereby enhancing overall habitat and movement opportunities for wildlife populations in and around the refuges.

The mitigation goal of 2 acres of comparable habitat for each 1 acre of disturbance would increase the quality of priority habitat for priority species.

Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitat
Priority habitats, including primary limiting habitat types for elk, mule deer, pronghorn, Rocky Mountain bighorn sheep, and migratory birds, would be managed to support species populations equal to or greater than those that currently exist while maintaining balance with other wildlife habitat objectives. Conflicting resource uses may be restricted in some of these habitats during critical periods such as calving/fawning/kidding/lambing season or winter. These restrictions would reduce wildlife stress and mortality during such periods. On a watershed basis, implementation of restoration activities and management actions to achieve desired ranges of vegetation conditions would promote increased shrub, browse, and forb forage production; increased escape and thermal cover; a reduction in habitat competition; and improved breeding and seasonal habitats and migration corridors for wildlife including mule deer and pronghorn. On a landscape level, restoration and habitat management to achieve desired ranges of vegetation conditions would impact wildlife within the Great Basin ecological system by reducing habitat degradation and fragmentation, and promoting ecological health and vegetation resiliency.

Removal of sheep and goat grazing within occupied Rocky Mountain bighorn habitat as grazing permits are considered for any changes would reduce the potential for the transmission of disease to native sheep.

Based on the assumption that Nevada Department of Wildlife would manage big game populations in line with available forage, there would be no competition with other wildlife species.

Parameter – Desert Bighorn Sheep Habitat
Priority habitats, including primary limiting habitat types for desert bighorn sheep would be managed to support species populations equal to or greater than those that currently exist while maintaining balance with other wildlife habitat objectives. Conflicting resource uses may be restricted in some of these habitats during critical periods such as lambing season or winter. These restrictions would reduce wildlife stress and mortality during such periods. Implementation of restoration activities and habitat management to achieve appropriate ranges of vegetation conditions within Mojave Desert mountain and desert scrub habitats would increase available forage and cover, structure, and breeding and seasonal habitats for desert bighorn sheep in the long term. On a landscape level, restoration and habitat management would benefit desert bighorn sheep by reducing habitat degradation and fragmentation, and promoting ecological health and vegetation resiliency. Overall habitat quality for desert bighorn sheep also would be improved through the adherence to current policies.

Parameter – Migratory Bird Habitat

On a very local level, migratory bird species would be impacted differently depending on the specific restoration action implemented. On a watershed and landscape level, most migratory bird species would benefit from the mosaic of vegetation created under the proposed RMP. Implementation of the Migratory Bird Best Management Practices for the Sagebrush Biome may aid in protection of these species and enhancement of their habitats.

Parameter – Wildlife Water Developments

Implementation of the Proposed RMP would increase water availability and improve habitat quality for both game and nongame species within the planning area. Implementing riparian restoration actions would improve riparian community health and resiliency which would benefit both riparian dependent species and upland species. Installing water developments would improve the distribution of wildlife species, especially big game. Water development could be installed to mitigate loss or fragmentation of habitat and/or address resource conflicts. This also could lead to increased populations.

Impacts from Other Programs.

Water Resources. Actions that could occur as part of water resource development include water rights acquisitions and water supply. These actions would assist in providing stable water supplies for fish and wildlife.

Vegetation. Since vegetation treatments would increase as part of this alternative, potential short-term erosion could occur in the disturbed areas. If treatment sites are located within the drainage area of a perennial stream, sediment could enter the water body during runoff. Water temperature increases also could occur in stream segments where riparian canopy is removed. Any effect on fish habitat is expected to be short-term in duration and localized in terms of the affected area. Following the best management practices for application of herbicides near aquatic habitats would minimize the impacts to fisheries. In the long-term, additional vegetation treatments could improve fish habitat conditions through soil and water retention, stream bank stability, and overhanging cover from riparian vegetation.

In the short term, some terrestrial wildlife would be temporarily displaced from areas being treated, and mortality for some less mobile creatures may occur. In the long term, the quality of wildlife habitat would be enhanced through increased forage, improved perennial vegetation cover and composition, and better community structure. On a watershed and landscape level, restoration actions would create a mosaic of different vegetation phases and states, which would provide habitat for a greater diversity of wildlife species.

Management and restoration of Mojave Desert vegetation would affect wildlife species by controlling annual invasive species (e.g., red brome), and improving perennial vegetation cover and composition in the short-term. This would improve overall habitat quality in the long-term.

Wild Horses. Potential impacts to aquatic habitat and fish species, which overlap with one or more perennial stream segments, could occur. Surface disturbance and loss of vegetation would be anticipated where horses concentrate near water sources. Horses could directly affect aquatic habitat by disturbing

stream substrates and bank vegetation. Fish could be affected due to habitat alteration, removal or reduction of riparian vegetation, and localized increased sediment. Potential impacts to creeks would be eliminated due to the elimination of herd management areas.

Wildlife habitat would be improved on 1.6 million acres that would no longer be managed as herd management areas and where the wild horses would be removed under the proposed RMP. With wild horse populations managed at appropriate management levels for the 3.7 million acres remaining in herd management areas, there would be no long-term impact to wildlife habitat. Areas where wild horses tend to concentrate (e.g., around springs) may be avoided by wildlife; however, these areas would be evaluated, and corrective actions (e.g., fencing to exclude wild horses from spring sources) could be implemented during the watershed analysis process.

Lands and Realty. Two streams (Duck Creek in White Pine County and Clover Creek in Lincoln County) are located within possible land disposal areas for the Proposed RMP. Game fish species that occur in these streams include rainbow trout in Clover Creek and rainbow trout, brown trout, and brook trout in Duck Creek. In addition, several other disposal areas are adjacent to aquatic habitat. Potential impacts on aquatic habitat depend on the type of activity proposed for the land. If new surface activities occurred on the land, aquatic habitat could be directly altered or indirectly affected due to increased sedimentation and contamination in runoff. Permit requirements under the Clean Water Act would minimize potential impacts to perennial streams by implementing erosion control, storm water runoff, discharge, and spill control measures. Land activities could require the use of water from a perennial stream, which could reduce the amount of habitat available for fish. The magnitude of the impact would depend upon the volume of water withdrawn. Implementation of a management action to retain all springs and creeks that contain fisheries in federal ownership would help maintain existing and future fish populations.

Land use authorizations (i.e., rights-of-way, permits, leases, and easements) could impact aquatic habitat through increased sedimentation during construction, operation, and maintenance if these projects are located adjacent to lakes and streams. Utility corridors are located near the White River or cross other drainages throughout the planning area. These other drainages generally are unnamed ephemeral streams. Rights-of-way development within these corridors could result in short-term sedimentation or riparian disturbance. Development of projects would be evaluated for effects on aquatic habitat and fisheries, and mitigated as needed, on a case-by-case basis in accordance with NEPA. These impacts would be reduced if multiple rights-of-way are co-located within designated corridors.

Under the Proposed RMP, approximately 75,600 acres of land would be available for possible land disposal. Potential land disposals would be evaluated for effects on wildlife and its habitat on a case-by-case basis, in accordance with NEPA. Since most land disposals are anticipated to be adjacent to existing communities, habitat fragmentation would be minimized. As shown in **Table 4.6-1**, lands identified for disposal generally overlap less than 1 percent of each of the types of priority habitat mapped within the decision area.

Designation of corridors in the Proposed RMP would have minimal impact to wildlife and wildlife habitat, other than the fact that such designation would concentrate the location of future rights-of-way in these

areas. It is primarily the issuance of rights-of-way within the corridor that would have an impact. These actions would be subject to an additional level of NEPA analysis at that time. Potential impacts to wildlife would include the direct loss of habitat, and the added effect from habitat fragmentation. These impacts would be minimized if multiple rights-of-way are co-located within designated corridors. As shown in **Table 4.6-1**, designated corridors overlap 2 percent or less of any given type of priority wildlife habitat mapped within the decision area. Short-term impacts from all rights-of-way and communication sites would result from increased noise and human presence during construction. These effects are anticipated to occur incrementally over time and at scattered locations over the planning area. Potential impacts would include limited mortalities of smaller, less mobile species of wildlife (e.g., small mammals and reptiles) and the displacement of more mobile species into adjacent habitats. Displacement also could result in some local reductions in wildlife populations if adjacent habitats are already at carrying capacity. In areas where potential development intersects or approaches priority wildlife habitat (e.g., crucial seasonal ranges and breeding areas), resulting effects may require project-specific mitigation measures in order to minimize potential impacts. Development of utility projects and communication sites would be evaluated for effects on wildlife and wildlife habitat, and mitigated as needed, on a case-by-case basis, in accordance with NEPA.

Renewable Energy. The development of wind or solar energy resources could result in surface disturbance and sediment input to streams or reservoirs, if the projects or access rights-of-way are located in the drainage area and near the water bodies. Development of projects would be evaluated for effects on aquatic habitat and fisheries, and mitigated as needed, on a case-by-case basis in accordance with NEPA.

Potential impacts to the terrestrial wildlife from the development of renewable energy could occur throughout the entire planning area. High and moderate potential areas available for the development of wind and solar facilities consist of approximately 273,300 acres (2.3 percent of the planning area) and 7,216,400 acres (63.0 percent of the planning area), respectively (see **Maps 2.4.13-1** and **2.4.13-2**). Approximately 145,600 acres of the moderate to high wind energy potential area and 951,500 acres of the moderate to high solar energy potential area occur within priority habitat.

Conflicts from renewable energy development would likely have localized effects to terrestrial wildlife species and their habitats. Long-term impacts would result from habitat loss and increased habitat fragmentation until reclamation is completed and native vegetation has become reestablished. Short-term impacts would result from increased noise and human presence. These effects are anticipated to occur incrementally over time and at scattered locations over a large geographic area within the planning area. Potential impacts would include limited mortalities of smaller, less mobile species of wildlife, such as small mammals and reptiles, during construction activities; the displacement of more mobile species into adjacent habitats; and mortality of birds and bats by wind turbines. Based on observed mortalities at existing wind energy facilities, Erickson et al. (2001) estimate overall midrange levels of passerine species fatalities at 1.2 to 1.8 birds per turbine per year. Mortality rates vary among species and tend to be highest for nocturnal migrants. Mortality rates are affected by population densities, location and surrounding habitat, turbine design, and various other factors. Indirect impacts would include additional surface disturbances affecting habitat, increased noise and human presence, and increased habitat fragmentation. Raptors and waterfowl typically make up small percentages of the overall bird mortalities at wind energy developments. Bat

mortality rates vary widely, depending on the location, species present, and population densities, but are generally in comparable ranges to observed bird mortalities.

Displacement also could result in some local reductions in wildlife populations if adjacent habitats are at carrying capacity. In areas where potential development intersects or approaches important wildlife habitat (e.g., seasonal ranges and breeding areas) and important flyways for migrating birds, resulting effects may require project-specific mitigation measures to minimize potential impacts. On a landscape scale, potential wildlife conflicts would result in long-term effects from increased habitat degradation and fragmentation. Development of renewable energy would be evaluated for effects on wildlife and wildlife habitat on a case-by-case basis, in accordance with NEPA.

Travel Management and Off-highway Vehicle Use. Effects of travel management on aquatic and fisheries habitat (e.g., sedimentation, vegetation loss, channel disturbance, etc.) would be reduced because off-highway vehicle use would be limited to designated roads and trails as determined through a subsequent public process and area-specific analysis. The maintenance and possible upgrade of existing roads near water bodies could result in sediment input due to surface disturbance. By implementing required erosion control measures during construction, sediment impacts to streams would be minimal. The restriction of off-highway vehicle use to designated roads and trails also would enhance terrestrial wildlife habitat and reduce disturbance to wildlife on over 10.3 million acres of the planning area.

Closure of approximately 400,000 additional acres of wilderness study areas and ACECs to all motorized travel also would benefit wildlife.

Recreation. Recreation activities could result in vehicle traffic and hiking near perennial streams containing fish. Vehicle use could result in localized sediment input to streams, as described for travel management. Recreational fishing also would occur in streams with game fish species (mainly trout). Concentrated recreation activities under the Proposed RMP would increase with the designation of five special recreation management areas. Dispersed recreation could result in surface disturbance and additional fishing pressure on perennial game fish streams and reservoirs.

Disturbance of terrestrial wildlife would increase within the five special recreation management areas and within the four special recreation permit areas established for competitive motorcycle events. The degree of disturbance would depend on how much use is made of these areas and how frequently the areas are used for recreation.

These special recreation management areas overlap substantially with various types of priority wildlife habitat, especially desert bighorn sheep occupied habitat and mule deer crucial summer habitat (see **Table 4.6-1**). The four special recreation permit areas for competitive motorcycle and truck events also overlay approximately 405,900 acres of priority wildlife habitats, including approximately 18 percent of the desert bighorn sheep occupied habitat and 26 percent of the mule deer crucial summer habitat.

Livestock Grazing. All perennial stream segments containing fisheries occur within grazing allotments. In most instances, only one perennial stream segment is located within a particular grazing allotment.

However, four allotments (Cherry Creek, Smith Creek, Baker Creek, and Geyser Ranch) contain two or three perennial segments within the allotment boundaries. The types of impacts resulting from grazing activities on fish and their habitat include erosion and sedimentation due to surface disturbance. Grazing activities potentially could affect all perennial streams, since grazing allotments encompass the entire planning area. Because grazing management must meet standards for riparian health (see Resource Advisory Council Standards and Guidelines, Appendix B), the effects of grazing on riparian vegetation would logically diminish as individual watersheds are analyzed and treatment plans, including any grazing adjustments, are implemented.

Wildlife conflicts with livestock grazing could include continued competition for forage, cover, and water resources within approximately 11.3 million acres throughout the planning area. Where livestock use is managed in line with available forage and wildlife populations are managed consistent with available habitat, this competition would be minimal. If livestock grazing is identified as a causal factor for nonattainment of the standards for rangeland health, corrective management actions would occur, which should improve wildlife habitat.

Livestock grazing will continue to be authorized for approximately 424,602 animal unit months on 8.4 million acres for allotments that have been determined to be meeting or progressing toward achievement of the standards for rangeland health. These will continue as needed to meet RMP goals and objectives including the standards for rangeland health. Current livestock grazing will be maintained for 120,665 animal unit months on 3.2 million acres until allotments have been evaluated for progress toward achievement of the standards for rangeland health. Changes to livestock grazing use will be made as needed to meet or progress toward achievement of the standards.

Conflicts between Rocky Mountain bighorn sheep and domestic sheep grazing would continue on three allotments with occupied habitat in and around the mountain ranges in the northern portion of the planning area until changes in those grazing permits are considered. Expansion of Rocky Mountain bighorn sheep would continue to be limited because of domestic sheep grazing on 27 allotments (see **Table 4.6-2**) in unoccupied habitat. Overall habitat quality for desert bighorn sheep also would be improved through adherence to current policy for management of domestic sheep and goats in native wild sheep habitats as changes to grazing permits are considered. Until such changes occur, conflicts between desert bighorn sheep and domestic sheep would continue on nine allotments with occupied habitat. Expansion of desert bighorn populations may be limited because of domestic sheep grazing on these and 29 other allotments with unoccupied desert bighorn habitat. Overlap of desert bighorn sheep occupied and unoccupied habitat with domestic sheep grazing allotments is shown in **Table 4.6-3**.

Table 4.6-2
Occupied and Unoccupied Rocky Mountain Bighorn Sheep Habitat within Domestic Sheep Allotments

Domestic Sheep Allotment Name	Potentially Affected Habitat Acreage	
	Unoccupied	Occupied
Badger Spring	6,523	--
Becky Creek	4,058	--
Becky Springs	3,393	--
Chin Creek	25,825	--
Cold Creek	14,928	--
Copper Flat	9,038	--
Devils Gate	8,670	--
Duckcreek	2,748	--
Giroux Wash	690	--
Gold Canyon	17,999	--
Goshute Basin	9,911	--
Hamblin Valley	2,981	2,155
Indian George	14,180	--
Majors Allotment	9,651	2,050
Mallory Springs	7,835	--
Medicine Butte	103,991	--
Newark	42,336	--
North Steptoe	5,960	--
Railroad Pass	12,280	--
Red Hills	7,323	--
Sampson Creek	4,503	--
Second Creek	297	--
South Spring Valley	1,726	73
Taft Creek	1	--
Tippett	96,037	--
Tippett Pass	32,283	--
West Schell Bench	4,561	--

Adjustments to domestic sheep grazing will be subject to review in allotments overlapping bighorn sheep habitat when changes to grazing permits are considered. Field inspections will be conducted to evaluate effectiveness of natural barriers and topographic features in relation to current grazing use and the recommended buffer zone between species. Evaluations also will include a determination regarding moving grazing use to other areas or converting the kind of livestock from domestic sheep and goats to cattle use. This conversion to other kinds of livestock would substantially reduce the potential for transmission of disease from domestic sheep and goats to bighorn sheep populations. As a result, proposed management actions will result in increased population health and reduction of potential disease transfer to bighorn sheep. Long-term effects would include potential bighorn sheep expansion into unoccupied ranges and improved overall health of bighorn sheep populations.

Table 4.6-3
Occupied and Unoccupied Desert Bighorn Sheep Habitat within Domestic Sheep Allotments

Domestic Sheep Allotment Name	Use Area	Potentially Affected Habitat Acreage	
		Unoccupied	Occupied
Batterman Wash		225	--
Bennett Spring		26,211	--
Black Bluff		23,855	--
Black Canyon		5,983	--
Chimney Rock		25,248	--
Coal Valley Lake		41,197	--
Cold Spring		3,847	--
Crescent N-4		20,752	5,716
Crescent N-5		21,345	--
Dark Peak		1,668	--
Dry Farm		4,351	--
Duckwater		165,204	23,306
Forest Moon		7,247	--
Fox Mountain		9,620	11,456
Hamblin Valley		11,430	--
Highland Peak		16,998	--
Irish Mountain		44,089	4,791
Klondike		1,399	--
Lake Area		17,668	--
Little White Rock		15,760	--
Majors Allotment		7,335	--
Murphy Gap		11,281	--
Narrows		627	4,003
Needles		33,371	--
Shadow Wells		2,617	--
South Coal Valley		3,265	--
South Spring Valley		10,622	--
Timber Mountain		25,360	--
West Timber Mountain		6,887	--
Worthington Mountain		34,470	--
Wilson Creek	Atlanta	5,042	--
Wilson Creek	Deadman	223	22,739
Wilson Creek	Dry Lake Valley	16,115	2,812
Wilson Creek	Hamblin	69	--
Wilson Creek	Miller	4,857	--
Wilson Creek	Muleshoe/Maloy	2,914	18,401
Wilson Creek	Pioche Bench	4,691	--
Wilson Creek	Thorley	--	2,539

Forest/Woodland and Other Plant Products. The harvest of vegetation products for public and commercial use could result in impacts to aquatic resources, if activities occur close to streams containing fish. The types of impacts that could result from firewood cutting, post and pole harvest, Christmas tree removal, and pinyon pine nut harvesting include increased short-term sedimentation and fuel spill risks. Removal of riparian canopy above streams also could result in increased water temperatures. The

magnitude of potential impacts would depend upon the proximity of the harvest area to the perennial stream, extent of surface disturbance, and drainage characteristics such as gradient and extent of vegetation cover. Overall, these impacts are expected to be localized and of short duration. In the long term, harvest as part of the vegetation treatment program is expected to contribute to enhanced stream flows and stability.

Management of forest/woodland and other plant products uses would result in short-term seasonal effects on terrestrial wildlife from increased noise and human presence. These effects would be most apparent within priority wildlife habitats. Because of the low demand for forest/woodland and other plant products, there would be no long-term impact to wildlife habitat within the planning area. Implementation of best management practices would reduce potential impacts to wildlife. In the long term, harvest as part of the vegetation treatment program is expected to increase vegetation diversity and enhance wildlife habitat in these communities.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario would be disturbed throughout the 11.5 million acres of the planning area. Potential short term impacts include vegetation loss, habitat fragmentation, wildlife displacement, and increased noise and human presence. Long term impacts could include irretrievable loss of habitat, change in vegetation composition, and continuing habitat fragmentation and wildlife displacement. All proposed mineral actions would be evaluated on a case-by-case basis with specific recommended mitigations and best management practices. Closed areas and oil-and-gas stipulations will provide further protection and mitigation of potential disturbances to wildlife and wildlife habitat.

Based on comparison of the high potential oil and gas resources to game fish streams, the following streams overlap with high potential fluid minerals: White Pine County (Huntington, Duck, Tailings, South Fork Willow, North, Geyser, Willard, Silver, Baker, and Big Springs creeks), Lincoln County (Meadow Valley Wash), and Nye County (Cherry, South Fork Cottonwood, Forest Home, and Pine creeks). Of these streams, development of fluid minerals would be closed in areas surrounding Baker, Geyser, Duck, and North creeks in White Pine County. Potential oil and gas development could occur within active lease areas, which overlap with four game fish streams (Duck, Illipah, Huntington, and East creeks) and one reservoir (Illipah) in White Pine County. No fish streams overlap with active leases in Lincoln or Nye counties. Development of mineral materials and locatable minerals also could occur in areas with potential mineral resources. The following drainages would be closed to development of solid, locatable, and mineral materials: Baker, Cleve, Duck, Geyser, Goshute, Hendry's, Illipah, North, and South Fork Willow creeks in White Pine County and Clover Creek in Lincoln County.

If future development occurred in the drainages that are open to mineral development, potential effects on nonnative fish and their habitat could occur. Surface disturbance activities associated with mineral development could include construction of access roads and site facilities and operation of the mine or wells. Impacts could include increased sedimentation, water withdrawals, and water quality contamination due to leaks or spills of fuel or other chemicals used during operation. Water quantity also could be affected if water is withdrawn from surface water sources. Potential impacts to fish from these activities could include loss or alteration of habitat, changes in water quality, and removal of riparian vegetation. Potential impacts

would be minimized by implementing lease stipulations and best management practices that protect water quality and quantity and associated habitat conditions.

Fish habitat also could be affected by geothermal development. Potential impacts to fish habitat could include surface disturbance and increased sedimentation for construction of roads and production facilities. Geothermal development also could reduce surface flows.

Watershed Management. The process establishes procedures for determining the current physical and biological conditions of a watershed, which in turn evaluates its ecological health. To date, nine watershed analyses (Antelope Valley, North Antelope, Clover Creek South, Gleason Creek, North Spring Valley, Smith Valley, South Steptoe, Spring Valley, and Steptoe A) are in progress with completion scheduled for 2006. Other watershed analyses are scheduled for completion in the next 10 years. As these assessments are completed, various adjustments in resource management would be implemented to ensure that appropriate watershed, vegetation, and water quality standards are met. It has been speculated that continuation of the historic management in watersheds could result in reduced water quality and quantity and degradation of riparian zones (Perryman et al. 2003). In the long term, the watershed analyses and restoration treatments would help to improve aquatic habitat by improving stream condition and riparian vegetation. Numerous standard operating procedures are part of the watershed restoration program to protect surface water quality in terms of sedimentation and possible contamination from various activities. The types of factors affecting aquatic habitat and species are discussed in the various interrelated programs. Restoration of all identified treatment areas would take many decades under this alternative. In the short term, the watershed analyses would identify management actions and treatments to improve fish and wildlife habitat on the 41 high priority watersheds. Collectively, these priority watersheds include 653 miles of perennial streams. The rate of completion of watershed analyses, evaluations, and implementation of watershed restoration strategies would be substantially increased. In the long term, all watersheds would be analyzed, and after standards for rangeland health have been met at the watershed level, all wildlife would benefit. The additional forage resulting from vegetation treatments would be managed in a balanced approach with reservation for watershed maintenance and wildlife and allocations to livestock and wild horses.

Fire Management. Prescribed fire, wildland fire use (approximately 8.9 million acres available), and other tools would be used to the greatest extent practical under the Proposed RMP. It is expected that a greater total area (and more streams) would be affected by fire than under current management. Short-term erosion and sedimentation would likely occur following wildland fires, wildland fire use, and, to a lesser extent, following prescribed fire and application of other tools (e.g., mechanical or herbicide). To reduce these impacts, emergency stabilization and rehabilitation projects could be developed and implemented. In the long-term, vegetation would recover and provide cover attributes with a lower fire risk.

Prescribed fire, wildland fire use (approximately 8.9 million acres available), and other tools would be used to the greatest extent practical under the Proposed RMP. In the short term, it is anticipated that treatment areas would result in increased herbaceous forage and ground cover for wildlife species. In the long term, on a landscape level, restoration and habitat management would impact wildlife by improving ecological health, vegetation resiliency, and overall habitat quality. Return to historical fire regimes and condition classes would reduce the impacts to fish and wildlife when fires occur.

Fuels treatment activities would be conducted in various wildland urban interface areas to reduce fire risk to communities and homes. These activities would affect limited acreages of wildlife habitat by reducing shrub and tree density and creating herbaceous firebreaks around such areas. Overall effects to wildlife populations would be evaluated in site-specific NEPA analyses but would be generally localized and of limited consequences.

Fire suppression activities also may impact wildlife in terms of water withdrawal from local streams and waterbodies, increased human activity and traffic on access routes, and potential spills of fuel and chemicals. These effects would generally be localized and of short duration in comparison to the long-lasting effects of habitat alteration on the burned areas.

Noxious and Invasive Weed Management. Noxious and invasive weed management activities would result in varying effects on aquatic habitat depending upon the type of activity. In terms of chemical treatment, potential toxic effects on aquatic species would be avoided by following label instructions regarding selection and application of herbicides. Potential toxic effects could occur if an accidental chemical or fuel spill or leak entered a water body containing fish species (BLM 2000d). The mechanical removal of weeds would result in soil disturbance, which could contribute increased sediment input into water bodies during runoff events. Increased sediment could alter fish habitat by covering bottom substrates and reducing spawning habitat or adversely affecting macroinvertebrate food sources for fish. The duration of sediment-related effects would be short-term in duration (i.e., several months to several years until new vegetation is established). Over the long term, removal of invasive weeds and re-establishment of native riparian vegetation would benefit the aquatic resources present.

The eradication of tamarisk along streams would remove overhanging cover that provides shade and streamside structure. Removal of tamarisk also could result in localized sediment increases due to reduced bank stability. After new vegetation is established in several years, cover and bank stability would be replaced along the stream. Removal of tamarisk would potentially increase water quantity in streams. Tamarisk consumes relatively high amounts of water compared to other herbaceous or non-riparian species. It also contributes to the salt content of soils through the decay of salt-laden foliage.

Management of noxious weeds may cause some temporary and localized impacts to terrestrial wildlife species as a result of noxious weed eradication techniques (e.g., use of herbicides or mowing) within the planning area. Impacts to wildlife species would not be expected to cause population level effects. Treatments designed to decrease or eliminate noxious weeds would benefit wildlife habitats in the long term by reducing or eliminating the chances for dominance of plant species with limited forage or cover values, such as cheatgrass and tamarisk.

Special Designations. The designation of additional ACECs under the Proposed RMP (e.g., Condor Canyon and Lower Meadow Valley Wash) would reduce impacts to streams and fish as a result of restricted activities in stream channels. Surface disturbance to the watershed would be reduced by limiting or eliminating new rights-of-way, off-highway vehicles, road maintenance, and new roads in ACECs and designated wilderness. These impacts would be long term, since it would take at least several years or

longer to improve habitat conditions. Establishment of the additional ACECs, with their prescriptions for limited resource use, also would benefit terrestrial wildlife species in these areas by enhancing forage availability and reducing conflicts associated with other uses (see **Table 4.6-1**).

Conclusion. Aquatic habitat management would include habitat enhancement for existing aquatic species. Vegetation treatments could result in increased short-term impacts from erosion and sedimentation immediately after treatment. These impacts would be minimized through implementation of management actions that would provide mitigation during the treatment process. Changes in grazing management in riparian areas and restoration of vegetation resilience in nearby riparian and upland areas would improve habitat conditions over the long term. By implementing the various management actions associated with the wildlife and fisheries management direction and mitigation actions associated with other programs, the goal and objective for fisheries would be achieved.

There would be a loss of wildlife habitat on less than 5 percent of the planning area. Direct loss of habitat would occur as a result of land disposals and construction activities associated with energy production and mineral development. Indirect losses would occur through fragmentation of habitat and avoidance of areas adjacent to project sites during construction and operation activities. Mitigation of discretionary permitted activities that result in losses of aquatic habitat and priority wildlife habitat would occur by improving 2 acres of comparable habitat for every 1 acre disturbed as determined on a project-by-project basis.

The quality of wildlife habitat, both aquatic and terrestrial, on the remaining 95 percent of the planning area would improve as a result of wildlife habitat management, wild horse management, livestock grazing management, off-highway vehicle management, vegetation management, watershed management, fire management, and noxious and invasive weed management.

Over the long term, the Proposed RMP would achieve the goal for the fish and wildlife management program. Because of the time required to implement the necessary vegetation treatments and other management actions, achievement of the goal for the entire area in the short term may not occur in the first few years. Site-specific locations may achieve the goals sooner due to the prioritization of treatments.

Alternative A

Impacts from Fish and Wildlife Habitat Management Actions.

Parameter – General Wildlife Habitat Management (Aquatic and Terrestrial)
Aquatic habitat quality would be maintained by following Resource Advisory Council standards and guidelines that protect riparian vegetation, bank stability, and channel morphology (Appendix B). No management action involving mitigation on a 2 to 1 ratio for aquatic habitat disturbance would be part of this alternative resulting in the potential for greater effects from disturbance compared to the Proposed RMP.

Implementation of this alternative would include restoration activities that would be managed to achieve desired range of conditions for vegetation communities (see Section 2.5.5, Vegetation). The historic restoration rate of approximately 10,000 acres per year is not considered an adequate rate of habitat

restoration to achieve the desired future conditions throughout the planning area. Potential wildlife conflicts would continue to result in long-term landscape level effects from increased habitat degradation and fragmentation, and a reduction in ecological health and vegetation resiliency.

Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitat
Alternative A would promote more suitable habitat conditions for various big game species (elk, mule deer, pronghorn) within the Great Basin ecological system. However, as compared to the Proposed RMP, watershed level effects would continue to result in the reduction in available forage, cover, and overall suitability of shrubland habitats for wildlife species in the long term. On a landscape scale, shrubland habitats would continue to exhibit a reduction in overall habitat quality, ecological health, and vegetation resiliency in the long term.

Management of Rocky Mountain bighorn sheep habitat would be similar to the Proposed RMP, except that no areas would be unavailable for domestic sheep and goat grazing. Restoration and management activities within seasonal habitats would occur only at a small-scale (i.e., allotment, project, or portion of a watershed). As a result, landscape level effects to bighorn sheep habitat would continue to occur from habitat degradation and fragmentation effects associated with restrictive barriers that limit migration between seasonal habitats and other populations. However, habitat quality for this species would likely be improved through the adherence to current policies for management of domestic sheep and goats in native wild sheep habitats.

Parameter – Desert Bighorn Sheep Habitat
Within Mojave Desert mountain and desert scrub habitats, restoration and management activities within seasonal habitats would occur only at a small-scale (i.e., allotment, project, or portion of a watershed). As a result, landscape level effects to bighorn sheep habitat would continue to occur from habitat degradation and fragmentation effects associated with restrictive barriers that limit migration between seasonal habitats and other populations. However, habitat quality for this species likely would be improved through the adherence to current policies for management of domestic sheep and goats in native wild sheep habitats.

Parameter – Migratory Bird Habitat
Under current management direction, best management practices (Appendix F, Section 3) provide measures that would reduce potential impacts to migratory bird species resulting from management programs (e.g., grazing, recreation, and mineral and energy development). In addition, vegetation management would consider the biological needs of migratory bird species as they pertain to specific habitat communities (e.g., sagebrush, pinyon-juniper, riparian) in order to identify appropriate mosaics for the restoration and conservation of migratory bird habitat on a case-by-case basis. Habitat goals for migratory bird species would be consistent with the desired range of conditions for vegetation communities (see Section 2.5.5, Vegetation). Measures to protect breeding migratory birds would include blanket restrictions on surface disturbing activities and implementation of breeding bird surveys as outlined in Ely Field Office policy. No long term management actions or projects to promote or restore habitat quality for migratory birds would be implemented under Alternative A. As a result, long-term, landscape level habitat degradation and fragmentation, and reduction in ecological health and vegetation resiliency would continue to affect migratory birds and wildlife in general.

Parameter – Wildlife Water Developments
Artificial water developments could potentially cause some species (e.g., elk and pronghorn) to expand their distributions into previously unoccupied ranges. Potential wildlife conflicts from localized water developments would result in population expansion of some wildlife species, changes in species composition, and increased competition for available habitat resources (e.g., forage and cover).

Impacts from Other Programs. Effects to terrestrial wildlife associated with water resources, forest/woodland and other plant products, and noxious and invasive weed management would be the same as described for the Proposed RMP. Other effects from interacting programs are described below.

Vegetation. Vegetation treatments conducted on the planning area from 1990 through 2003 mainly involved fire rehabilitation seeding and limited mechanical and prescribed fire treatment on an average of approximately 10,000 acres per year. Vegetation treatments could result in soil disturbance and localized erosion. If the treatment site is located within the drainage area of a perennial stream, sediment could enter the water body during runoff. Any effect on aquatic habitat is expected to be short-term in duration and localized in terms of the affected area. Long-term improvements to aquatic habitat would occur as understory shrubs and grasses recover in the treated area and provide overhanging cover along streams. Seeding is not expected to affect fish species and their habitat. The effects of burning are discussed in this section under fire management.

Treatment and maintenance activities would occur primarily in pinyon-juniper and sagebrush communities although less extensive treatments would occur within each of the Great Basin vegetation types, as compared to the Proposed RMP. Although the effects on wildlife from restoration activities (i.e., removal or thinning of woodland and shrubland) would be similar to those discussed for the Proposed RMP, the levels of treatment within various vegetation communities under Alternative A are not expected to keep up with the ongoing decline of ecological health in these same communities. Vegetation communities would continue to exhibit ongoing habitat transitions (e.g., aspen to conifer and establishment of pinyon and juniper trees in sagebrush shrubland), increased tree density and canopy cover, and a reduction of native herbaceous understory (e.g., grasses and forbs) in untreated areas. Thus, although localized restoration activities to achieve the desired range of conditions would generally improve habitats for wildlife in localized areas, landscape level effects would continue to result in a reduction in ecological system health and ecological resiliency, and an overall reduction in habitat quality in the long term.

Management of the Mojave Desert ecological system would be similar to the Proposed RMP except that this alternative would focus on maintaining or improving vegetation health and resiliency through management of various uses (e.g., livestock grazing, recreation, and wild horse herds) and the localized treatment of noxious weeds and exotic woody species (e.g., red brome and tamarisk). As a result, the levels of treatment under this alternative are not expected to keep up with the ongoing spread of invasive species. Thus, landscape level effects would continue to result in increased habitat degradation and a reduction in overall habitat quality in the long term.

Wild Horses. Six herd management areas overlap with one or more perennial stream segments containing game fish species. These include Buck and Bald Herd Management Area (Huntington Creek), Cherry Creek Herd Management Area (Goshute Creek and Paris Creek), Butte Herd Management Area (Cherry Creek and Egan Creek), Seaman Herd Management Area (Forest Home Creek), Wilson Creek Herd Management Area (upper Meadow Valley Wash) and the Clover Mountains and Clover Creek herd management areas (Clover Creek). Surface disturbance and loss of vegetation could occur in these areas, especially as horses concentrate near water sources. Horses could directly affect aquatic habitat by disturbing stream substrates and bank vegetation. Fish could be affected due to habitat alteration, removal or reduction of riparian vegetation, and localized increased sediment. The level of impacts is expected to continue at present levels under Alternative A.

Management of wild horses would have the greater effects (e.g., competition for forage, cover, and water resources) on terrestrial wildlife than described under the Proposed RMP since approximately 1.6 million more acres would be managed as wild horse herd management areas.

Lands and Realty. Under Alternative A, possible land acquisitions and disposals would continue to occur for a variety of management purposes. Examples include the Lincoln County land sale and lands subject to the Federal Lands Transaction Facilitation Act (Baca Bill). Potential impacts on aquatic habitat depend on the type of activity proposed for the land. If new surface activities occurred on the land, aquatic habitat could be directly altered or indirectly affected due to increased sedimentation and contamination in runoff. Permit requirements under the Clean Water Act would minimize potential impacts to perennial streams by implementing erosion control, storm water runoff, discharge, and spill control measures. Land activities could require the use of water from a perennial stream, which could reduce the amount of habitat available for aquatic species. The magnitude of the impact would depend upon the volume of water withdrawn.

Under this alternative, approximately 31,900 acres of land would be available for possible land disposal. Potential land disposals would be more limited than the Proposed RMP and, thus, would have less impact on wildlife. Utility right-of-way management would result in the same general effects to wildlife as described for the Proposed RMP. Development of newly proposed utility projects and communication sites would be evaluated for effects on wildlife and its habitat, on a case-by-case basis, in accordance with NEPA. Requirements that would reduce potential impacts to wildlife are presented in Appendix N of the Draft Ely RMP/EIS (July 2005). Conflicts with land use authorization would be expected to result in the long-term reduction of wildlife habitat and increased effects from habitat fragmentation. Development of new land use authorization facilities would be evaluated for effects on wildlife, in accordance with NEPA.

Renewable Energy. The development of wind or solar energy resources or utility rights-of-way would result in surface disturbance during facility construction and access to the sites. If the facilities are located in perennial drainages containing aquatic species, increased sedimentation could affect their habitat.

Under Alternative A, applications for solar or wind energy projects would be reviewed by the Ely Field Office on a case-by-case basis. The types of potential conflicts with wildlife and their habitats would be the same

as discussed for the Proposed RMP. Impacts associated with these activities would be mitigated to the extent practicable through management practices from the Wind Energy Programmatic EIS.

Travel Management and Off-highway Vehicle Use. Use of existing travel routes could result in short-term, localized sediment input to perennial stream segments containing fish species. The primary mechanism for sediment effects would involve off-highway vehicle use adjacent to or within stream channels. Soil disturbance from vehicle use could result in sediment runoff from roads into adjacent streams or springs. Impacts are expected to continue at present levels or increase under Alternative A, depending on where off-highway vehicle use increases.

Terrestrial wildlife habitat would not be enhanced, and may even deteriorate, since approximately 9.8 million acres would remain open to off-highway vehicle use. Impacts to wildlife from increased noise and human presence would be much more widespread and potentially much more disruptive, as compared to the other alternatives. Development of new trails by off-highway vehicle use within these open areas would result in increased habitat degradation and fragmentation.

Recreation. As a result of the planning area being generally open to recreational off-highway vehicle use, impacts to wildlife from noise and human presence would be much more widespread and potentially much more disruptive, as compared to the other alternatives. Organized race events would continue under the current permitting system and would affect wildlife as described under the Proposed RMP.

Livestock Grazing. Effects to wildlife from livestock grazing would be similar to those described for the Proposed RMP, except that under Alternative A, livestock utilization levels and special use restriction would continue to be implemented through existing framework plans and site-specific activity plans. These utilization levels may limit the availability of key shrubs, forbs, and grasses for wildlife use within some big game habitats (e.g., elk, pronghorn, and mule deer). Current range and livestock management also would continue to limit the availability of herbaceous cover for game birds and other wildlife species in the long term. Effects of livestock grazing on both desert and Rocky Mountain bighorn sheep would be the same as for the Proposed RMP.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres presently are available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP (see Section 4.18). The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Impacts to wildlife from mineral development activities would be the same as for the Proposed RMP, except that the Proposed RMP would have additional areas of closure, oil-and-gas stipulations, and best management practices to better protect wildlife and wildlife habitat.

Mining for metals would not be expected to affect fish habitat or fish species in the planning area. This conclusion is based on a comparison of high potential occurrence of metals to fishable stream segments. No stream segments are located within the high mineral potential areas.

Effects of mineral development on terrestrial wildlife would be similar to those discussed for the Proposed RMP except that some of the timing and use stipulations associated with the fluid minerals leasing program under the Proposed RMP would be applied only as best management practices under Alternative A. This could result in greater impacts under Alternative A to various raptor species, big game species, and desert bighorn sheep. Project-specific mitigation measures may be required to minimize potential impacts to these species.

Watershed Management. The current approach of watershed management would continue under Alternative A and impacts, with the exception of forage allocation, would be the same as for the Proposed RMP.

Following vegetation treatments, the quantity and quality of forage (i.e., herbaceous vegetation) is expected to increase within treated areas and would provide improved habitat for wildlife in the short term. In the Schell Resource area, the reservation of 30 percent of additional forage for wildlife would continue to provide an incremental increase in available forage for wildlife species. Additional forage within the Egan and Caliente Resource Areas on the planning area would continue to be allocated or reserved proportionately among all users, including wildlife, on a case-by-case basis. Although treated areas would provide additional herbaceous forage and increased habitat quality for wildlife in the short term, landscape level effects would continue to result from habitat degradation and fragmentation, reduction in ecological health, and reduction in vegetation resiliency in the long term.

Fire Management. Under Alternative A, prescribed fire, wildland fire use (approximately 3.6 million acres available) and other tools would not be used to the greatest extent practical as under the Proposed RMP. The impacts under Alternative A would be similar to those under the Proposed RMP except on a smaller scale. This, in the long-term, would result in fewer acres with improved ecological health, vegetation resilience, and overall improved habitat quality. Because fuels would continue to accumulate in untreated areas; the probability of major, uncontrollable, stand-replacing fire events would continue.

Special Designations. Management areas for two existing ACECs (Beaver Dam Slope and Kane Springs) would not overlap with perennial streams and springs. The Mormon Mesa ACEC overlaps with Meadow Valley Wash. However, there are no riparian or other stipulations that would affect habitat for fish species. No new areas would be proposed under Alternative A.

Conclusion. Aquatic species habitat management would focus on sustaining aquatic habitats by following Resource Advisory Council standards and guidelines. Other programs could continue to affect aquatic

habitat as a result of sedimentation, vegetation removal, and habitat alteration due to surface disturbance. Upland areas would continue to degrade in terms of vegetation loss and erosion, which would indirectly affect riparian areas along streams and springs. Land and realty actions (e.g., rights-of-way or disposals) could involve subsequent changes in demand for either surface or groundwater resources throughout the planning area with resultant effects to aquatic habitat as a result of flow or water level changes. The long-term degradation of riparian vegetation and increased level of sedimentation from surface disturbance could result in the goal and objective for fisheries not being achieved.

The loss of terrestrial wildlife habitat from various programs would be similar to the Proposed RMP. Improvement in the quality of wildlife habitat would not occur as quickly or to the degree it would under the Proposed RMP because fewer acres of the different vegetation types would be treated. In addition, most of the planning area would remain open to off-highway vehicle use.

This alternative has a low probability of achieving the program goal over the long term.

Alternative B

Impacts from Fish and Wildlife Habitat Management Actions.

Parameter – General Wildlife Habitat Management (Aquatic and Terrestrial)
Effects to aquatic and terrestrial wildlife habitat generally would be the same as described for the Proposed RMP.

Increased riparian community health and resiliency would benefit both riparian dependent species and upland species in the long term by implementing management actions for priority species habitat. However, existing conflicts between wildlife and other resources uses would continue to result in different types and levels of effects to various wildlife species, changes in species composition, and increased competition for available habitat resources during the short term while watershed analyses are being conducted and treatment plans are being implemented.

Adhering to the standards in Manual 1745 and the Memorandum of Understanding between the BLM and the Nevada Department of Wildlife would balance species numbers with available habitat.

The mitigation goal of 2 acres of comparable habitat for each 1 acre of disturbance would increase priority habitat for priority species.

Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitat
Habitat management for mule deer, pronghorn, and elk would be the same as the Proposed RMP. However, in areas where no conflicts occur with shrubland habitat management objectives, habitat would be actively managed to achieve a predominant early-mid phase of the herbaceous state, which would provide increased forage for elk. On a landscape level, restoration and habitat management to achieve desired ranges of vegetation conditions would benefit wildlife within the Great Basin ecological system by reducing habitat degradation and fragmentation, and promoting ecological health and vegetation resiliency.

Implementation of restoration and management actions would promote increased shrub, browse, and forb forage production; improved escape and thermal cover; and improved breeding and seasonal habitats. In addition, removal of conflicting uses (i.e., livestock grazing) in all Rocky Mountain bighorn sheep ranges and migration corridors would improve overall habitat quality and expand the distribution of Rocky Mountain bighorn sheep on the planning area.

Parameter – Desert Bighorn Sheep Habitat
Effects to desert bighorn sheep would be the same as the Proposed RMP except that the overall habitat conditions (e.g., forage and water availability, escape and thermal cover, breeding and seasonal habitats) would be improved from the removal of livestock grazing from all desert bighorn sheep ranges and migration routes, as compared to the Proposed RMP.

Parameter – Migratory Bird Habitat
Habitat management for and expected effects on migratory birds would be the same as the Proposed RMP.

Parameter – Wildlife Water Developments
Because wildlife water development in this alternative would be used primarily to mitigate multiple-use impacts from loss of habitat or loss of natural water sources, it would have little impact to increases in wildlife populations, but would help sustain existing population levels.

Impacts from Other Programs. Impacts to aquatic habitat from most other programs would be the same as described for the Proposed RMP. Livestock grazing could result in different impacts from the Proposed RMP and Alternative A on fisheries and aquatic habitat, as discussed below. Effects to wildlife associated with water resources, vegetation, wild horses, renewable energy, forest/woodland and other plant products, geology and mineral extraction, fire management, and noxious and invasive weed management would be the same as described for the Proposed RMP.

Lands and Realty. Conflicts of terrestrial wildlife habitat with lands and realty would be the same as described for the Proposed RMP, except that approximately 90,600 acres of land would be available for possible land disposal and some utility corridors would be 1 mile wide, thus affecting greater acreage of habitat (see **Table 4.6-1**).

Travel Management and Off-highway Vehicle Use and Recreation. Conflicts with travel management and off-highway vehicle use would be the same as described for the Proposed RMP, except that nine special recreation management areas totaling approximately 2.7 million acres would be designated with four being managed primarily for motorized recreation. Thus, potential impacts to wildlife by noise and human activity in these areas may be greater than under the Proposed RMP.

Livestock Grazing. Under Alternative B, livestock grazing management would be consistent with maintaining and restoring watershed function and health subject to modification associated with potential disposal actions. Intensive management of livestock also would be used as a tool to accomplish restoration on a short- and long-term basis. By removing grazing on approximately 3.8 million acres, erosion and loss of

riparian vegetation would be reduced in numerous drainages. This management approach could improve habitat conditions for fish by increasing vegetation development in riparian areas. Livestock utilization levels and special use restrictions would be enacted as baseline management for the established nonnative fisheries in the planning areas. The objective would be to identify if current livestock management is a causal factor for non-attainment of standards. Corrective actions to livestock management or exclusion of livestock use in watersheds would occur until management objectives are met.

Effects to wildlife from livestock grazing would be similar to those described for the Proposed RMP, except that there would be approximately 3.6 million fewer acres throughout the planning area that would be available for livestock grazing resulting from closure of desert tortoise habitat, bighorn sheep habitat, and some additional ACECs. Under this alternative, domestic livestock would be eliminated in approximately 3 million acres of occupied and historic Rocky Mountain and desert bighorn sheep ranges. These potential closures are shown on **Map 2.6.16-1.** As a result, conflicts between bighorn sheep and livestock within occupied and historic ranges would be greatly reduced and increased herbaceous forage and water availability would result in the short term (less than 5 years). These changes would result in improved habitat quality, expansion of bighorn populations into unoccupied ranges, and improved overall health of bighorn sheep populations in the long term.

Watershed Management. Effects to wildlife from watershed management would be similar to those effects described for the Proposed RMP, except that implementation of Alternative B would provide increased available forage and water for wildlife species in the long term.

Conclusion. Aquatic habitat management would result in maintenance and enhancement of habitat parameters involving riparian vegetation. Most of the same programs discussed in the Proposed RMP and Alternative A also could affect aquatic species habitat as a result of sedimentation, vegetation removal, or habitat alteration. Vegetation management would result in greater short-term impacts through erosion and vegetation removal as a result of increased treatment areas. On a long-term basis, these habitats would be improved from current conditions along with the improvement of vegetation resilience and ecological health in the nearby riparian and upland areas. Fish habitat could be improved in Meadow Valley Wash and Clover Creek due to the ACEC designations and elimination of wild horses, respectively. By implementing the various management actions associated with the wildlife and fisheries management direction and mitigation actions associated with other programs, the goal and objective for fisheries would be achieved.

Fewer acres of terrestrial wildlife habitat would be lost under Alternative B because fewer acres of public land would be disposed of in the planning area. Improvement in the quality of wildlife habitat would be greater than under the Proposed RMP because an additional 3.6 million acres would be unavailable livestock grazing. Wildlife habitat also would improve because the additional forage created as a result of restoration actions would not be allocated to livestock or wild horses, but reserved for watershed maintenance and wildlife.

Overall, Alternative B would achieve the program goal.

Alternative C

Impacts from Fish and Wildlife Habitat Management Actions.

Parameter – General Wildlife Habitat Management (Aquatic and Terrestrial)
Aquatic habitat fisheries habitat management activities would be similar to Alternative A. No management action involving mitigation on a 2 to 1 ratio for aquatic habitat disturbance would be part of this alternative.

Management direction in Alternative C would emphasize increased elk populations and expansion of their distribution on the planning area. Potential wildlife conflicts would include landscape level effects from a reduction of shrubland and woodland habitats, habitat degradation and fragmentation, and, in untreated areas, a continued reduction in ecological health and vegetation resiliency. Improvement in vegetation resiliency and watershed conditions in treated areas would be beneficial to numerous wildlife species, although a few other species may be adversely affected by these changes.

Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitat
Under Alternative C, big game habitats would be managed in concert with commodity production objectives to create a predominantly early phase of the herbaceous state across the landscape which would benefit various wildlife species such as elk. On a watershed basis, implementation of restoration activities and management actions would result in the reduction of shrub and browse forage, decreased escape and thermal cover, and a reduction in breeding and seasonal habitats for shrub-dependent wildlife including mule deer. In areas where no conflicts would occur with livestock or commodity oriented objectives, mule deer and pronghorn habitat would be actively managed. On a landscape scale, these changes would result in continued reduction in habitat quality for some wildlife species associated with dense sagebrush stands, while improving ecological health, vegetation resiliency, and habitat quality for other wildlife species on treated areas in the long term.

Implementation of restoration and management actions would promote increased shrub, browse, and forb production; escape and thermal cover; and improved breeding and seasonal habitats for Rocky Mountain bighorn sheep within the desired range of conditions. Overall habitat quality for this species also would be improved through the adherence of current policies for management of domestic sheep and goats in native wild sheep habitats. Based on these guidelines, additional removal of sheep and goat grazing may occur in the future within and near bighorn sheep habitat as changes in grazing permits are considered.

Parameter – Desert Bighorn Sheep Habitat
Within Mojave Desert mountain and desert scrub habitats, management of desert bighorn sheep would be similar to Alternative A. As a result, long-term degradation of desert bighorn sheep habitat would continue to occur. Restrictive barriers that limit migration between seasonal habitats and other populations would remain. However, habitat quality for this species would likely be improved through the adherence to current policies for management of domestic sheep and goats in native wild sheep habitats.

Parameter – Migratory Bird Habitat
Habitat management for and expected effects on migratory birds would be the same as described for the Proposed RMP.

Parameter – Wildlife Water Developments
Wildlife conflicts from localized water developments would be similar to those identified for Alternative A, except that the severity of impacts on wildlife would be greater under this alternative. Water developments would result in increased population expansion of some wildlife species and increased competition for habitat resources (e.g., forage and cover).

Impacts from Other Programs. Impacts to aquatic habitat and fish species associated with water resources, renewable energy, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, and noxious and invasive weed management activities would be the same as described for Alternative A. The effects associated with wild horses, lands and realty, travel management and off-highway vehicle use and special designations management activities would be the same as described for the Proposed RMP. Terrestrial wildlife effects associated with wild horses, renewable energy, forest/woodland and other plant products, geology and mineral extraction, and noxious and invasive weed management would be similar to those described for the Proposed RMP. The following interrelated programs would result in different effects as compared to Alternative A and the Proposed RMP.

Vegetation. Vegetation treatments under Alternative C would focus on somewhat greater total acreage to be treated than under the Proposed RMP, but the goals of treatment and management would focus treatments on the creation of vegetation communities that are more productive for commodity interests such as livestock and elk forage. This increased level of treatment could result in a potentially higher level of erosion during the short term throughout the planning area than under Alternative A. The increased level of treatment also could affect additional riparian vegetation. A wider area of riparian vegetation could be treated as part of the restoration under Alternative C, which would be beneficial to aquatic habitat. Under this alternative, restoration treatments would maximize herbaceous vegetation states and limit the amount of mature woodland and shrub states, as compared to other alternatives. Thus, achievement of successful restoration would generally benefit a somewhat different set of wildlife species under this alternative than under the Proposed RMP. Like the Proposed RMP, treatments would occur across all vegetation types, but the greatest area of treatments would occur in sagebrush and pinyon-juniper communities with limited applications in other communities where current conditions are not within the desired ranges of vegetation conditions.

Impacts to terrestrial wildlife from the vegetation management under Alternative C would include the short-term reduction in forage and ground cover on each treatment area until the desirable perennial species recover or become established, and the long-term conversion from dense shrub and woodland communities to open, herbaceous-dominated communities on much of the area to be treated. While this conversion would favor some wildlife species (e.g., elk and grassland birds) by creating a greater amount of herbaceous forage, a reduction of more mature and dense shrub vegetation would result in the long-term reduction of breeding and seasonal habitats for shrubland-dependent species. On a landscape scale, habitats would exhibit a reduction in overall habitat quality for numerous wildlife species in the long term.

Lands and Realty. Wildlife conflicts from possible disposal of lands would be the same as described for the Proposed RMP except that a substantially greater area would be available for possible disposal (up to approximately 295,200 acres). Utility right-of-way management would result in the same general effects to wildlife as described under the Proposed RMP, except that existing designated corridors would be increased to 3 miles in width, potentially resulting in greater fragmentation effects. Potential wildlife conflicts with the development of communications sites would be the same as described for the Proposed RMP.

Land use authorization facilities would likely result in increased habitat degradation and fragmentation effects on wildlife habitats in the long term. Development of new land use authorization facilities would be evaluated for effects on wildlife, in accordance with NEPA. Standard operating procedures that would reduce potential impacts to wildlife are present in Appendix N of the Draft Ely RMP/EIS (July 2005).

Travel Management and Off-highway Vehicle Use and Recreation. Recreation activities under Alternative C could result in increased use within the additional special recreation management areas (2.6 million acres total). However, the management approach would be to minimize effects to water bodies and wildlife habitat located within the recreation areas. Impacts from travel management and off-highway vehicle use and recreation would be similar to those for the Proposed RMP.

Livestock Grazing. Effects to wildlife from livestock grazing would be similar to those described for the Proposed RMP, except that the closure of grazing on approximately 6,400 acres of newly designated ACECs would benefit wildlife by providing additional forage and water for wildlife species.

Watershed Management. The impact of watershed management actions on aquatic and terrestrial wildlife would be to allocate additional forage produced to livestock ahead of wildlife.

Fire Management. Because Alternative C involves minimal use of prescribed burns and full suppression of wildland fires, accumulation of heavy fuels would continue throughout the untreated areas of woodland and shrub communities. The increased fuel loading from full fire suppression on the planning area would eventually lead to large fire events in untreated areas. Thus, there would likely be a higher frequency of intense fires when these dense woodlands or shrublands finally burn. Erosion and sedimentation impact to streams would be greater in such areas. Another result would be greater long-term habitat effects to wildlife species than discussed for the Proposed RMP, Alternative A, or Alternative B.

Conclusion. In general, management actions would allow greater intensity of development, which would result in higher potential for sedimentation impacts on aquatic habitat. Increased sedimentation could affect aquatic habitat in the short term as a result of vegetation treatments and in the long term as a result of fire management. Watershed management could result in long-term improved habitat conditions in treated areas with an emphasis on recreation. Stream habitats in untreated areas would be jeopardized by increased risk of intense wildland fires. The potential for increased level of sedimentation from surface disturbance could result in the goal and objective for fisheries not being achieved in some drainages that support fisheries.

Alternative C would have similar direct impacts to the quantity and quality of wildlife habitat from fish and wildlife management actions as the Proposed RMP, but impacts from other programs, particularly fire management, would differ substantially. Thus, on a long-term basis, Alternative C would probably fail to achieve the program goal.

Alternative D

Impacts from Fish and Wildlife Habitat Management Actions.

Parameter – General Wildlife Habitat Management (Aquatic and Terrestrial)
Under Alternative D, management direction would be to allow natural processes to restore game and nongame fisheries. The effects of reduced recreational fishing to local economies would be considered minimal.

Implementation of Alternative D would result in the continuation of current habitat transitions (e.g., conifer invasion of aspen stands and establishment of pinyon and juniper trees in sagebrush shrubland), increased tree density and canopy cover, and a reduction of native herbaceous understory (e.g., grasses and forbs). The increased woody fuel accumulation and woody species competition with herbaceous vegetation would cause some untreated plant communities to cross ecological thresholds. Eventually, these untreated communities would burn, resulting in hotter fires that would cause soil to be more susceptible to accelerated erosion and establishment of invasive species. These habitat changes would result in a reduction of herbaceous forage, community structure, and overall suitability of habitats for wildlife species. Increased displacement of big game by fires would affect vegetation and wild horses in adjacent areas. Localized restoration activities following fires would improve habitat conditions for wildlife species. On a landscape level, changes would continue to result in habitat degradation, reduction in ecological health and resiliency, and reduction in overall biological diversity, largely as a result of increasing numbers of large-scale fires and spread of invasive species.

Parameter – Elk, Mule Deer, Pronghorn Antelope, and Rocky Mountain Bighorn Sheep Habitat
Big game within the Great Basin ecological system (elk, mule deer, pronghorn) would benefit from the exclusion of discretionary uses (e.g., livestock grazing) of public lands. Natural processes would be allowed to function and dictate the mosiacs of wildlife habitats on a landscape scale. Under Alternative D, habitats for big game species would not be actively managed to increase species distribution or densities beyond what natural habitats and water sources would support. Active restoration would only occur where human-induced alterations have modified the natural environment. Following the exclusion of discretionary uses of public lands, all available forage would be made available for watershed maintenance, wildlife, and wild horses. However, as discussed above, because this alternative would emphasize passive restoration with limited active habitat management, implementation of this alternative would result in the continuation of natural habitat transitions (e.g., conifer invasion of aspen stands and establishment of pinyon and juniper trees in sagebrush shrubland), increased tree density and canopy cover, and a reduction of native herbaceous understory (e.g., grasses and forbs). Although localized restoration activities would improve habitat conditions for wildlife species, landscape level changes would continue to result in habitat

degradation, reduction in ecological health and resiliency, and reduction in overall biological diversity largely as a result of increasing numbers of large-scale fires and spread of invasive species.

Management of historic Rocky Mountain bighorn sheep habitats would have the same general effects as discussed in Alternative A, except that active habitat restoration would be emphasized only in areas affected by wildland fires or where invasive species dominate.

Parameter – Desert Bighorn Sheep Habitat
Desert bighorn sheep populations and their habitat would be benefited by the removal of conflicting discretionary uses, at least in the short-term. On a long-term basis, however, the passive management of these habitats would eventually lead to substantially increased fire risk and damage resulting in habitat degradation, reduction in ecological health and resiliency, increased spread of invasive species, and reduction in overall biological diversity.

Parameter – Migratory Bird Habitat
Because management of migratory bird habitat would be primarily passive and conflicting discretionary uses would be excluded, it is expected that such habitats would be enhanced, at least in the short-term.

Parameter – Wildlife Water Developments
Under Alternative D, wildlife would benefit from the increased availability of natural surface water from exclusion of discretionary commodity uses of public lands (e.g., livestock grazing). As a result, potential conflicts to wildlife from water developments would be minimal. However, some artificial water developments for livestock would cease to provide water for wildlife as they are abandoned or removed.

Impacts from Other Programs. Impacts to aquatic habitat and fish species associated with water resources, renewable energy, geology and mineral extraction, and noxious and invasive weed management activities would be the same as described for Alternative A. The effects associated with travel management and off-highway vehicle use and watershed management activities would be the same as described for Alternative B. Under Alternative D, effects to terrestrial wildlife associated with invasive and nonnative plant species would be the same as described for Alternative A. The following interrelated programs would result in different effects as compared to the previous alternatives.

Vegetation. Under Alternative D, vegetation treatment areas would be less extensive than other alternatives. This alternative also would result in the avoidance of in-channel manipulations. Therefore, Alternative D would involve less surface disturbance from treatments, and thus, would result in a lower potential erosion input to drainage during the short-term period. Herbicide use also would be constrained under this alternative, which would avoid potential toxicity concerns for fish species.

As a result of the limited approach to restoration with minimal influence from management and resource uses, degraded and fragmented habitats would be left to recover through natural processes. As discussed in Section 4.5, if such recovery occurs at all, it is expected to be very slow in this environment. Habitat management would emphasize habitat treatments of invasive vegetation species. Implementation of this alternative would result in the continuation of ongoing habitat transitions (e.g., conifer invasion of aspen

stands and establishment of pinyon and juniper trees in sagebrush shrubland), increased tree density and canopy cover, and a reduction of native herbaceous understory (e.g., grasses and forbs) in the long term. In the absence of large fires, these habitat changes would result in a reduction of herbaceous forage, community structure, and overall suitability of habitats for wildlife in the long term. However, with the accumulation of fine fuels in sagebrush (due to reduced livestock grazing) and heavy fuels in dense shrub and tree communities, increased large fire events would remove habitat from large areas of woodland and shrubland. Within the dense, overmature stands of sagebrush or pinyon-juniper woodlands, perennial understory species of grasses and forbs are commonly absent. Thus, without costly rehabilitation measures, most of these burned areas would not recover with native perennial herbaceous vegetation. Rather, the freshly burned areas would provide open niches for expansion of nonnative and weedy species including flammable annuals and non-palatable perennials. On a landscape scale, habitats would exhibit a reduction in overall habitat quality, ecological health, and vegetation resiliency in the long term.

Wild Horses. Within the 24 herd management areas, horse populations would be uncontrolled, which would reduce vegetation and contribute erosion to drainages. Five streams (Huntington, Paris, Goshute, Cherry, and Egan creeks) in White Pine County and one stream (Upper Meadow Wash) in Lincoln County occur within several of these herd management areas. As a result, fish habitat could be degraded due to wild horse grazing and physical disturbance.

Conflicts between wildlife and wild horses would be similar to those described for Alternative A, except that wild horse populations within these areas would be uncontrolled, substantially increasing the impacts to wildlife. It is expected that these uncontrolled wild horse populations would destroy the herbaceous forage and ground cover, reduce habitat structure, and diminish overall habitat quality in the long term.

Lands and Realty. Since there would be no net loss of public lands and no new land use authorizations such as rights-of-way under this alternative, fish species and their habitat would not be affected. Effects to terrestrial wildlife and habitats resulting from lands and realty actions also would be minimal.

Renewable Energy. Because there would be no new discretionary land use authorizations for wind or solar energy development under Alternative D, there would be no associated impacts to fish and wildlife.

Travel Management and Off-highway Vehicle Use and Recreation. Aquatic and terrestrial wildlife conflicts with travel management and off-highway vehicle use and recreation would be substantially reduced in this alternative because 11.1 million acres of the planning area would be closed to off-highway vehicle use, and use would be restricted to maintained roads and trails. This would greatly reduce the effects to fish and wildlife by reducing overall habitat degradation and fragmentation as compared to the other alternatives.

Livestock Grazing. No conflicts with livestock management would occur under this alternative since livestock use would not be permitted on the planning area. This aspect of Alternative D would result in higher habitat quality for wildlife, at least in the short term.

Forest/Woodland and Other Plant Products. Fish habitat would not be affected by this program, since there would be no fuelwood collection or other wood product harvests. Effects to terrestrial wildlife and

habitats resulting from forest/woodland and other plant products would be minimal since only pinyon pine nut harvesting would be permitted.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario (see Section 4.18). Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Watershed Management. Additional available forage would be reserved for watershed maintenance and wildlife and allocated to wild horses after Standards for Rangeland Health have been met at the watershed level. However, the reduced level of vegetation treatments in this alternative would slow the restoration process for watershed function and enhancement of wildlife habitat.

Fire Management. Implementation of this alternative with minimal fire suppression and limited vegetation treatments would result in wildland fire use events that would have a high likelihood of causing major impacts to shrub cover and woodland habitats in the long term. It also is expected that many of these fires would be large, intense fires burning dense fuel accumulations, resulting in substantial erosion and sedimentation impacts to streams. These impacts would be expected to occur at a large geographic scale with substantial cover losses, especially at lower elevations. Depending on shrub and woodland overstory, recovery rates, fire frequency, and reclamation success, these events could result in short- and long-term impacts. Effects would include diminished habitat productivity and diversity for entire communities of shrubland and woodland wildlife. In the event of unsuccessful fire rehabilitation, these areas could become vast monocultures of herbaceous grasslands dominated by cheatgrass and other invasive species that are of little or no value to wildlife.

Conclusion. Aquatic habitat would not be actively managed, which could involve the elimination of fish populations in some water bodies. Greater impacts to aquatic habitat could occur due to uncontrolled wild horse population increases in herd management areas, increased dispersed recreation, and fire management with minimal fire suppression. Less short-term erosion would occur from vegetation treatment, but in the long term, erosion and sedimentation would be greater due to more intense fires. The goal and objectives for fisheries may not be achieved in some drainages because fish populations could be eliminated in some water bodies and habitat could be degraded on a long-term basis from increased sedimentation.

The amount of terrestrial wildlife habitat lost as a result of lands and realty actions, renewable energy production, and mineral development under Alternative D would be minimal compared to the Proposed RMP. Improvement to wildlife habitat as a result of restoration actions would not occur except through limited fire use and weed treatment. The quality of wildlife habitat would be enhanced under Alternative D, at least in the short-term, because approximately 11.1 million acres would be closed to off-highway vehicle

use, and because livestock grazing would be eliminated throughout the entire planning area. Habitat quality would probably deteriorate over the long term due to increased fire effects throughout the planning area.

This alternative would fail to meet the program goal because the habitat management under this alternative is not consistent with the principles of multiple use management and because the habitat quality achieved in the short term would not likely be sustainable over the long term with increasing fire risks.

4.7 Special Status Species

Impact Issues

Impacts to special status species are generally similar and closely related to impacts to other resources such as vegetation, watersheds, wildlife, wild horses, and livestock.

The primary mechanisms by which management activities could affect sensitive aquatic species include habitat alteration or loss, sedimentation due to soil disturbance and vegetation removal, water quality changes, and reductions in surface water quantity. The focus of the analysis for aquatic species was on occupied or designated critical habitat (i.e., perennial streams, springs, and wetlands) with persistent year-round flow or water availability.

The effects analysis for special status wildlife species focused on those species that were identified as potentially occurring within the planning area (see Appendix E, Special Status Species). The primary impact issues to special status wildlife species as they relate to resource conflicts with other management programs include loss or alteration of native habitats, increased expansion of noxious weeds and other exotic weed species, decreased water availability, increased habitat fragmentation, changes in habitat and species composition, and direct loss of individuals. The overlap of various other management programs with key special status species habitats is shown in **Table 4.7-1** to identify the magnitude of potential effects on these habitats. Desired future conditions for each special status wildlife species would continue to be developed as data become available. These desired future conditions would be patterned after those presented for greater sage-grouse and would be consistent with the desired ranges of conditions shown for vegetation in Chapter 2.0. Desired future conditions would be used as a tool to manage special status species wildlife within the planning area.

As stated in Section 3.7.1, a total of 34 special status plants occur or are suspected to occur in the planning area, of which one species, the Ute ladies'-tresses orchid (federally listed as threatened), would be addressed in the Biological Opinion from the U.S. Fish and Wildlife Service. The following impact analyses address potential impacts to this species and potential habitat areas (i.e., vegetation types) as a result of the implementation of the various alternatives, tools and techniques, and resource management programs. Potential impacts to other special status plants (33 species) and their habitats would be addressed in a general fashion.

General threats to sensitive plant populations in the planning area include off-highway vehicle use, illegal collecting, habitat destruction and disturbance associated with resource extraction or utility and road construction, and livestock and wildlife trampling. Fire management, expansion of noxious weeds and exotic plant species, home and resort development, and livestock grazing currently are having substantial effects on native plant communities in portions of the planning area (Provencher et al. 2003). Low reproduction rates and climatic events, such as prolonged drought, also affect the continued viability of the populations (Holland 1998; Morefield 1994; Smith 1994).

Table 4.7-1
Overlap of Management Actions with Key Special Status Species Habitats[1]

Special Status Species Habitat	Proposed RMP Affected Area		Alternative A Affected Area		Alternative B Affected Area		Alternative C Affected Area		Alternative D Affected Area	
	Acres	%[2]	Acres	%[2]	Acres	%[2]	Acres	%[2]	Acres	%[2]
Overlap of Herd Management Areas										
Desert Tortoise Designated Critical Habitat Inside ACECs	0	0	0	0	0	0	0	0	0	0
Desert Tortoise Designated Critical Habitat Outside ACECs	0	0	0	0	0	0	0	0	0	0
Desert Tortoise Non-critical Habitat Outside ACECs	0	0	74,550	16	0	0	0	0	74,550	16
Southwestern Willow Flycatcher Habitat	0	0	157	24	0	0	0	0	157	24
Yellow-billed Cuckoo Habitat	0	0	80	40	0	0	0	0	80	40
Greater Sage-grouse Leks (with 0.25-mile radius)	12,854	39	13,751	42	12,854	39	12,854	39	13,751	42
Greater Sage-grouse Winter Habitat	1,317,402	34	1,727,145	45	1,317,402	34	1,317,402	34	1,727,145	45
Overlap of Proposed Disposals										
Desert Tortoise Designated Critical Habitat Inside ACECs	0	0	0	0	0	0	0	0	0	0
Desert Tortoise Designated Critical Habitat Outside ACECs	15	0	0	0	0	0	0	0	0	0
Desert Tortoise Non-critical Habitat Outside ACECs	4,870	1	1,280	0	2,873	1	15,256	3	1,280	0
Southwestern Willow Flycatcher Habitat	0	0	0	0	0	0	28	4	0	0
Yellow-billed Cuckoo Habitat	0	0	9	2	0	0	9	2	0	0
Greater Sage-grouse Leks (with 0.25-mile radius)	0	0	121	0	126	0	546	2	0	0
Greater Sage-grouse Winter Habitat	8,699	0	24,483	1	23,905	1	83,431	2	7,728	0
Overlap of Designated Corridors										
Desert Tortoise Designated Critical Habitat Inside ACECs	11,079	8	11,097	6	11,968	6	18,517	10	11,097	6
Desert Tortoise Designated Critical Habitat Outside ACECs	10,817	13	8,768	16	10,572	20	13,268	25	8,768	16
Desert Tortoise Non-critical Habitat Outside ACECs	14,823	4	14,288	3	15,111	3	19,317	4	14,288	3
Southwestern Willow Flycatcher Habitat	0	0	0	0	0	0	0	0	0	0
Yellow-billed Cuckoo Habitat	7	2	7	2	7	2	7	2	7	2
Greater Sage-grouse Leks (with 0.25-mile radius)	1,236	4	857	3	1,980	6	7,436	23	857	3
Greater Sage-grouse Winter Habitat	91,501	2	60,041	2	137,693	4	472,237	12	60,041	2
Overlap of Moderate and High Potential Wind Energy Areas										
Desert Tortoise Designated Critical Habitat Inside ACECs	1,188	1	1,188	1	1,188	1	1,188	1	1,188	1
Desert Tortoise Designated Critical Habitat Outside ACECs	119	0	119	0	119	0	119	0	119	0
Desert Tortoise Non-critical Habitat Outside ACECs	2,669	1	2,669	1	2,669	1	2,669	1	2,669	1
Southwestern Willow Flycatcher Habitat	1	0	1	0	1	0	1	0	1	0
Yellow-billed Cuckoo Habitat	1	0	1	0	1	0	1	0	1	0
Greater Sage-grouse Leks (with 0.25-mile radius)	295	1	295	1	295	1	295	1	295	1
Greater Sage-grouse Winter Habitat	51,015	1	51,015	1	51,015	1	51,015	1	51,015	1
Overlap of Moderate and High Potential Solar Energy Areas										
Desert Tortoise Designated Critical Habitat Inside ACECs	135,300	71	139,087	71	139,087	71	139,087	71	139,087	71
Desert Tortoise Designated Critical Habitat Outside ACECs	46,200	86	42,422	86	42,422	86	42,422	86	42,422	86
Desert Tortoise Non-critical Habitat Outside ACECs	303,004	58	303,151	64	303,151	64	303,151	64	303,151	64
Southwestern Willow Flycatcher Habitat	605	93	605	93	605	93	605	93	605	93
Yellow-billed Cuckoo Habitat	347	94	347	94	347	94	347	94	347	94
Greater Sage-grouse Leks (with 0.25-mile radius)	27,097	82	27,097	82	27,097	82	27,097	82	27,097	82
Greater Sage-grouse Winter Habitat	2,930,168	77	2,930,168	77	2,930,168	77	2,930,168	77	2,930,168	77
Overlap of Special Recreation Permit Areas										
Desert Tortoise Designated Critical Habitat Inside ACECs	0	0	0	0	0	0	0	0	0	0
Desert Tortoise Designated Critical Habitat Outside ACECs	0	0	0	0	0	0	0	0	0	0
Desert Tortoise Non-critical Habitat Outside ACECs	0	0	0	0	0	0	0	0	0	0
Southwestern Willow Flycatcher Habitat	0	0	0	0	0	0	0	0	0	0
Yellow-billed Cuckoo Habitat	0	0	0	0	0	0	0	0	0	0
Greater Sage-grouse Leks (with 0.25-mile radius)	2,345	7	0	0	1,671	5	2,345	7	0	0
Greater Sage-grouse Winter Habitat	132,166	3	0	0	101,053	3	132,166	3	0	0
Overlap of Special Recreation Management Areas										
Desert Tortoise Designated Critical Habitat Inside ACECs	0	0	N/A[3]	N/A	0	0	0	0	0	0
Desert Tortoise Designated Critical Habitat Outside ACECs	0	0	N/A[3]	N/A	0	0	0	0	0	0
Desert Tortoise Non-critical Habitat Outside ACECs	27,182	6	N/A[3]	N/A	33,917	7	33,917	7	0	0
Southwestern Willow Flycatcher Habitat	188	29	N/A[3]	N/A	255	39	255	39	0	0
Yellow-billed Cuckoo Habitat	202	54	N/A[3]	N/A	274	74	274	74	0	0
Greater Sage-grouse Leks (with 0.25-mile radius)	3,998	12	N/A[3]	N/A	5,826	18	6,785	21	0	0
Greater Sage-grouse Winter Habitat	314,509	8	N/A[3]	N/A	477,195	12	407,490	11	0	0

Table 4.7-1 (Continued)

Special Status Species Habitat	Proposed RMP Affected Area		Alternative A Affected Area		Alternative B Affected Area		Alternative C Affected Area		Alternative D Affected Area	
	Acres	%[2]	Acres	%[2]	Acres	%[2]	Acres	%[2]	Acres	%[2]
Overlap of Designated Wilderness										
Desert Tortoise Designated Critical Habitat Inside ACECs	60,946	31	60,946	31	60,946	31	60,946	31	60,946	31
Desert Tortoise Designated Critical Habitat Outside ACECs	2,111	4	2,111	4	2,111	4	2,111	4	2,111	4
Desert Tortoise Non-critical Habitat Outside ACECs	169,907	36	169,907	36	169,907	36	169,907	36	169,907	36
Southwestern Willow Flycatcher Habitat	4	1	4	1	4	1	4	1	4	1
Yellow-billed Cuckoo Habitat	3	1	3	1	3	1	3	1	3	1
Greater Sage-grouse Leks (with 0.25-mile radius)	1,210	4	1,210	4	1,210	4	1,210	4	1,210	4
Greater Sage-grouse Winter Habitat	74,424	2	74,424	2	74,424	2	74,424	2	74,424	2

[1] Additional types of special status species habitat exist within the decision area but have not been mapped and are not included in this analysis.
[2] Percentage of a given type of a special status species habitat that overlap management actions is based on the amount of that habitat within the decision area.

Desired future conditions for each special status plant species would continue to be developed as data become available.

Assumptions for Analysis

- Site-specific information on special status species would be collected as part of the watershed analysis process, and in support of project implementation.
- Indirect impacts to the Virgin River and Muddy River and those special status species associated with them (i.e., Yuma clapper rail, woundfin, Virgin River chub, and Moapa dace) would be addressed on a case-by-case basis through the NEPA and the Endangered Species Act Section 7 Consultation process.

Interactions with Other Programs

General Impacts from Special Status Species Treatments Tools and Techniques. Treatment tools for special status species are summarized in Appendix G along with the tools used in conjunction with various other resource programs. The following paragraphs provide a general overview of the impacts anticipated from the use of major special status wildlife species treatment tools. Best management practices that would reduce potential impacts to wildlife are presented in Appendix F, Section 1.

Bat gates. Bat gates are commonly installed at the entrance of caves and mines to protect human health and safety as well as important bat habitats and minimize potential impacts to roosting bats.

Water escape ramps. Escape ramps such as ladders or other devices would minimize potential impacts to small mammals and herptiles from becoming trapped in manmade water bodies (e.g., guzzlers).

Temporal Restrictions. In many cases, temporal restriction are used to restrict recreation, development, treatment, and other permitted activities during sensitive breeding and seasonal periods for

special status species. Temporal restriction would minimize potential impacts to special status species from direct disturbance of habitat and indirect effects from increased noise and human presence.

Livestock fencing. Livestock fencing is commonly used to control livestock distribution and to exclude livestock from important breeding or seasonal special status species habitats (e.g., riparian zones). Wildlife would generally benefit from the exclusion of livestock and the resultant increased availability of forage and water resources, improved breeding and seasonal habitats, and reduced habitat degradation.

Vegetation Treatments. Vegetation treatments may be applied on either a localized or widespread basis to achieve the desired ranges of vegetation conditions discussed in Section 2.5. These treatments could involve any of the tools identified in Appendix G, individually or in combination. Various types of tools may be applied to modify vegetation conditions in relatively small areas and improve habitat to desired ranges of vegetation conditions. In the short term, localized vegetation treatments would generally benefit special status wildlife species by increasing quantity and quality of herbaceous forage and ground cover, and improve breeding and seasonal habitats for wildlife in the long term.

Telemetry. Radio-telemetry is a common tool used to acquire detailed data on many aspects of wildlife biology, including habitat use, home range size, mortality and survivorship, and migration timing and routes. Since many wildlife species are secretive and difficult to observe, radio-telemetry provides a valuable tool to learn more about a species' life-history.

Interactions with Other Programs

The special status species wildlife management program within the planning area potentially would be affected by actions within the resource management programs for water resources, vegetation, fish and wildlife, wild horses, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, watershed management, fire management, noxious and invasive weed management, and special designations.

Goal

Manage public land to conserve, maintain, and restore special status species populations and their habitats; support the recovery of federally listed threatened and endangered species; and preclude the need to list additional species.

Northeastern Great Basin Resource Advisory Council Standard.

- Habitats exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

- Riparian and wetland areas exhibit a properly functioning condition and achieve State water quality criteria.

Mojave/Southern Great Basin Resource Advisory Council Standard.

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

- Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Objective

To manage suitable habitat for special status species in a manner that would benefit these species directly or indirectly and minimize loss of individuals or habitat from permitted activities.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to special status species also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. Mitigation measures were considered within the following impact analysis section in response to anticipated impacts. Additional "proposed mitigation" for special status species is identified in Section 4.29, Proposed Mitigation and Potential Effectiveness. In order to be carried forward as part of the Approved RMP, these "proposed mitigation measures" would have to be incorporated into the final decision documented in the Record of Decision. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Special Status Species Management Actions. Management for special status species on public lands would involve the six parameters discussed in Section 2.4.7, Special Status Species. The overall goal of these parameters is to manage public lands to conserve, maintain, and restore habitat for special status species; support the recovery of federally listed threatened and endangered species; and

preclude the need to list additional sensitive species. Direct impacts associated with these management actions are discussed for each of the parameters. In general, all of the management actions would result in beneficial impacts to special status species.

Parameter – Special Status Species Habitat

The objective of this parameter would be to manage suitable habitat for special status species in a manner that would benefit these species directly or indirectly and minimize loss of individuals or habitat from permitted activities. Actions would be prioritized based on the listing status of the species, with federal listing being the highest priority. A number of the management actions would apply to all federally listed species: 1) prioritize conservation, maintenance, and restoration for federally listed and federal candidate species; 2) implement interagency inventory and monitoring programs; 3) participate in interagency recovery implementation teams; 4) strive to mitigate disturbance for permitted activities on a 2-to-1 ratio for all species except desert tortoise; and 5) ensure that habitats for federally listed species are protected, maintained, or restored. Other actions are focused on habitat protection for a particular species or group of species such as Bonneville cutthroat trout and springsnails. The mitigation goal for permitted activities would be 2 acres of comparable habitat for every 1 acre of disturbance on a project-by-project basis. This would apply to all special status fish species and springsnails. As listed in Appendix F, Section 1, numerous best management practices also would avoid or minimize impacts to special status species. In addition, Section 7 compliance would be required for all actions on federal land to protect federally listed species. The following beneficial impacts could result from these management actions: 1) maintain or increase population numbers by implementing recovery and habitat enhancement measures; 2) improve quality and increase quantity of habitat and population numbers as a result of the 2-to-1 mitigation ratio for disturbance to habitat for sensitive species; 3) improve water quality conditions involving turbidity levels by reducing or restricting surface disturbance.

Implementation of the Proposed RMP would establish management criteria through desired future conditions of special status species to promote and restore degraded vegetation communities within the planning area and ensure that special status species are factored into the decision making process during restoration and habitat management actions. Special status species that have been identified as occurring within the planning area are presented in Appendix E, Special Status Species. On a watershed basis, implementation of restoration activities and habitat management would increase available forage and cover, structure, and breeding and seasonal habitats for special status species in the long term. On a landscape level, restoration and habitat management would benefit special status species by reducing habitat degradation and fragmentation, promoting ecological health, and improving vegetation resiliency. Overall, impacts to special status species from restoration activities would include the temporary reduction of forage and cover and the long-term reduction of woody vegetation in the treatment areas.

Under the Proposed RMP, the Ely Field Office Cave Management Plan and the Nevada Bat Conservation Plan would be utilized for guidance on implementation of proactive bat management actions, independent of the watershed analysis, while the size and spatial arrangement of other restoration actions in vegetation communities (e.g., riparian areas and pinyon and juniper woodlands), would consider the habitat needs of obligate bat species. On a watershed level, implementation of this alternative would improve roosting and

foraging habitat for bat species. On a landscape level, restoration activities to achieve the desired range of conditions for vegetation communities would benefit sensitive bat species by reducing habitat degradation and fragmentation, and promoting ecological health and vegetation resiliency. Bats would be considered relative to the planned closure of mine shafts, tunnels, or similar features.

The primary impacts to special status plant species from the management direction of this program would be increased awareness of, and protection for, populations of such species. Additional inventory and monitoring programs would be designed to identify and monitor populations of special status plant species within the planning area. These programs would help protect such species from impacts associated with other resource uses.

Management actions that would be implemented to maintain, protect, or restore habitat for particular special status species are discussed below. Except where noted, these management actions would apply to implementation of all other programs within the planning area. These management actions would provide beneficial impacts to special status species.

Parameter – Great Basin Riparian Habitat

Pahrump Poolfish. Habitat for this species would be protected by managing the refugium at Shoshone Ponds in accordance with the recovery plan. Surface disturbance and sediment input to the ponds would be minimized by expanding the fenced area around the ponds to exclude grazing and vehicle use. Management of the area around the ponds would focus on enhancing vegetation cover and reducing runoff and sedimentation into the ponds, thereby improving water quality. Additional habitat for the species also would be created by adding additional ponds at the Shoshone Ponds area.

Big Spring Spinedace, White River Spinedace, and Railroad Valley Springfish. Habitat for these species would be protected by implementing actions and strategies on public lands in accordance with recovery plans for these species. Recovery efforts would include protection of existing occupied habitat for Big Spring spinedace in Condor Canyon, White River spinedace in Ash Springs, and Railroad Valley springfish in six springs in the Railroad Valley. Beneficial impacts of these measures would be maintaining or increasing population sizes by improvements in water quality, water quantity, or habitat conditions. Public information programs also would be used to educate the public on recovery efforts and actions that could adversely affect the species. Discussions or working groups would be established with private landowners to identify measures that could be implemented to maintain or improve habitat quality and population sizes.

Bald Eagle. Protection of bald eagle would continue to occur through the implementation of management actions and coordination with state and federal agencies regarding management of suitable roosting and foraging habitat. See Section 4.5, Vegetation Resources, for impacts from management of riparian vegetation for the bald eagle. This species also would benefit from management actions to mitigate habitat disturbance from discretionary permitted activities on a 2:1 ratio, although this would have limited application since the majority of roosting and foraging habitat within the planning area occurs on non-BLM-administered lands.

Parameter – Mojave Desert and Great Basin Riparian Habitats

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. Southwestern willow flycatcher habitat would be managed by implementing actions and strategies identified in the Recovery Plan for the Southwestern Willow Flycatcher. Implementation of the actions and strategies from this recovery plan primarily would be applicable to potential habitats in Meadow Valley Wash and the Clover Creek drainage. Numerous elements of the recovery plan also would benefit the yellow-billed cuckoo in similar habitats. See Section 4.5, Vegetation Resources, for impacts from management of riparian vegetation for both species.

Both species would benefit in the long-term from management actions to mitigate habitat disturbance from discretionary permitted activities on a 2:1 ratio. Limiting livestock grazing in Clover Creek and Lower Meadow Valley Wash through terms and conditions and/or season-of-use restrictions would benefit both species in the long-term.

Ute Ladies'-tresses. Although the known habitat for this species within the planning area occurs on private land near Panaca Spring, the species would be benefited through additional interagency effort to inventory and survey areas of similar habitat on BLM-administered lands within the vicinity of the known occurrence. If such surveys result in the identification of additional populations, appropriate conservation and recovery actions would be implemented.

Other Sensitive Species on BLM-administered Land. Designation of the Lower Meadow Valley Wash ACEC and management restrictions on conflicting uses would result in increased channel stability, increased riparian vegetation, and improved habitat for a variety of additional riparian special status species (e.g., Meadow Valley Wash desert sucker, Meadow Valley Wash speckled dace and Arizona southwestern toad). On a landscape level, restoration activities to achieve desired range of conditions for vegetation communities would benefit special status wildlife species by reducing habitat degradation and fragmentation, and promoting ecological health and vegetation resiliency.

Parameter – Mojave Desert Riparian Habitat

White River Springfish. Habitat in Ash Springs would be managed by implementing actions and strategies identified in the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley and the Ash Springs Coordinated Management Plan (U.S. Fish and Wildlife Service 1998a). These conservation efforts include the development of a county-wide habitat conservation plan and discussions with private landowners to identify recovery needs for the species. Mitigation and monitoring would be implemented for Ash Springs. Beneficial impacts that would result from these efforts would include maintaining or increasing population sizes by improvements in water quality, water levels, or habitat conditions.

Hiko White River Springfish. Habitat in Hiko Spring and Crystal Spring would be managed by implementing actions and strategies identified in the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley. The conservation efforts involve the establishment of a population at the Blue Link Spring, population monitoring, development and enhancement of habitat in Pahranagat Valley, and discussions with landowners to develop conservation agreements. Beneficial impacts that would result from

these efforts would include maintaining or increasing the population size of Hiko White River springfish at existing or new sites. Habitat quality also would be improved through enhancement efforts, which likely would result in stable or increased population sizes.

Pahranagat Roundtail Chub. Habitat in Pahranagat Creek would be managed by implementing actions and strategies identified in the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley. Conservation efforts are the same as discussed for the Hiko White River springfish. A new refugium was established in the Key Pittman Wildlife Management Area in 2004. Impacts from these measures would be maintaining or increasing the population size of the Pahranagat roundtail chub.

Parameter – Mojave Desert Scrub Habitat

Desert Tortoise. Protection of desert tortoise would continue to occur through the implementation of management actions, and coordination with state and federal agencies, and desert tortoise working groups. In the short term this would reduce the injury/mortality of individuals and in the long-term this would encourage upward tortoise population trends over the life of the plan.

Habitat for this species would be improved through management actions to attain the desired range of habitat conditions within the Mojave Desert Vegetation (see Section 2.4.5, Vegetation Resources). Implementation of the Proposed RMP would increase herbaceous forage, cover, and shrub structure for special status wildlife species (e.g., desert tortoise, banded gila monster) in the Mojave Desert ecological system. Within desert scrub habitats of the Mojave Desert ecological system, livestock grazing would be excluded from the desert tortoise ACECs and managed with special use restrictions within non-ACEC desert tortoise habitats. On a watershed level, special status species in the Mojave Desert ecological system would continue to benefit from the exclusion of livestock grazing within designated desert tortoise ACECs and special use restrictions that have been developed for desert tortoise habitat outside the ACECs. This management direction would provide higher quality forage (i.e., grasses and forbs) and cover within these areas. On a landscape level, restoration activities to achieve desired range of conditions for vegetation communities would reduce habitat degradation and fragmentation, and promote ecological health and vegetation resiliency. Additional restoration and management actions and mitigation measures to protect or enhance habitats would be evaluated during the watershed analysis and habitat analyses.

Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Implementation of restoration activities to achieve appropriate ranges of vegetation conditions within desert scrub and salt desert shrub habitats would reduce habitat degradation and fragmentation, and promote ecological health and resiliency, in the long term. However short-term effects would continue to result in habitat degradation and fragmentation within suitable breeding burrowing owl habitat until habitat assessments have been completed and restoration objectives have been achieved.

Designation of the White River Valley ACEC would provide additional protection for several rare plant species including the Sunnyside green gentian.

Parameter – Great Basin Sagebrush Habitat

Under the Proposed RMP, restoration and habitat management within sagebrush habitats to achieve desired future conditions for greater sage-grouse would increase herbaceous forage, cover, and shrub structure for sagebrush-dependent special status species (e.g., greater sage-grouse and pygmy rabbit). On a landscape level, restoration activities to achieve appropriate ranges of vegetation conditions would reduce habitat degradation and fragmentation, and promote ecological health and resiliency. The Ely Field Office proposes to use greater sage-grouse habitat needs as a model or "umbrella species" when managing sagebrush wildlife species with sagebrush and sagebrush/woodlands as their primary habitat (Wisdom et al. 2005a). By using greater sage-grouse habitat requirements as a model for sagebrush management, species more strongly associated with intermingled habitat types (e.g., burrowing owls in salt desert shrub habitat) may be provided fewer benefits. Additionally, almost 50 percent of high risk habitats of sagebrush obligates such as sage sparrow and sage thrasher are outside the current geographic range of greater sage-grouse (Wisdom et al. 2005b). However, the use of greater sage-grouse as a model or umbrella species for other fauna of the sagebrush ecological system would increase efficiency in designing restoration treatments at the watershed scale (Marcot et al. 1994; Andelman and Fagan 2000; Andelman et al. 2001; Roberge and Angelstam 2004).

By using greater sage-grouse as an umbrella species at the watershed scale, performing burrowing owl habitat condition assessments in salt desert shrub communities throughout the planning area, and assessing other BLM Nevada sensitive species at the site-specific scale to refine restoration actions in consideration of their needs, ample consideration and protection for all species within the sagebrush biome would occur as part of an efficient multi-species management approach.

Impacts from Other Programs. This section describes the effects of the Proposed RMP on special status species. In total, 19 programs were considered in the analysis of the Proposed RMP. Based on activities for each program, it was concluded that the management actions for nine of these programs (air resources, water resources, soil resources, fish and wildlife, cultural resources, paleontological resources, visual resources, forest/woodland and other plant products, and watershed management) would not affect any of the special status species. Potential effects of all other programs on special status species are discussed below.

Vegetation Resources.

Vegetation treatments would be applied in both upland and riparian areas to achieve the desired ranges of conditions outlined in Section 2.4.5, Vegetation Resources. Depending on the specific situation, treatments could include herbicide application, mechanical methods such as chipping, sawing, mowing, or mulching and prescribed fire. Mechanical methods may involve the use of heavy equipment, off-highway vehicles, hand tools, broadcast seeding, and planting of live vegetation. See the discussion of tools and techniques in Appendix G.

Fish Species

Managing for desired range of conditions in the upland areas applies to all fish species as outlined in Section 2.4.5, Vegetation Resources. Vegetation treatments to achieve these desired ranges of conditions could occur in the upland areas and riparian vegetation communities. As discussed in Section 2.4.5, these management actions would protect, maintain, and restore riparian vegetation, which would help stabilize the stream banks and reduce erosion.

These activities could result in short-term surface disturbance and potential erosion in down-gradient areas. In the long term, vegetation treatments would be expected to reduce soil erosion. Chemicals used in the uplands are not expected to reach streams or other water bodies due to the distances between these habitats and the areas where the treatments would occur.

Pahrump Poolfish. Adjacent upland areas contain pinyon-juniper and sagebrush in the Great Basin ecological system. Vegetation immediately surrounding the Shoshone Ponds includes swamp cedar (Rocky Mountain juniper). No vegetation treatment would occur in the swamp cedar area.

Big Spring Spinedace. Adjacent upland areas contain pinyon-juniper vegetation in the Great Basin ecological system. Riparian vegetation along Condor Canyon (Upper Meadow Valley Wash) consists of box elders, willows, and tamarisks. Management actions involving removal of tamarisk are discussed in Section 2.4.17, Noxious and Invasive Weed Management.

White River Springfish. Upland vegetation consists of black brush and creosotebush within the Mohave Desert. Riparian vegetation surrounding Ash Springs consists of willows and cottonwood trees. No vegetation treatment would occur in the riparian area surrounding Ash Springs.

Hiko White River Springfish and Pahranagat Roundtail Chub. No vegetation treatments would occur on land immediately adjacent to Hiko Springs, Crystal Springs, or Pahranagat Ditch, since they are located on private land. Upland vegetation consists of black brush and creosotebush within the Mohave Desert. The closest BLM-administered land is located approximately 0.08 mile (400 to 500 feet) from these areas.

White River Spinedace. No vegetation treatments would occur on land immediately adjacent to Flag Springs and Sunnyside Creek, since they are located on private land. Upland vegetation consists of sagebrush and salt desert shrub. The closest BLM-administered land is approximately 264 feet from the springs.

Railroad Valley Springfish. No vegetation treatments would occur on land immediately surrounding springs occupied by Railroad Valley springfish, since they are located on private (tribal) land. Upland vegetation consists of sagebrush and salt desert shrub. The closest BLM-administered land is located approximately 0.08 to 0.2 mile (422 to 1,056 feet) from the springs.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. Vegetation management and treatments in riparian communities would emphasize protection, maintenance, and restoration of riparian habitat. As discussed in Section 2.4.5, these management actions would help stabilize the stream banks and reduce erosion.

Vegetation management activities could result in short-term surface disturbance of riparian vegetation communities. Indirect impacts to the Southwestern willow flycatcher and yellow-billed cuckoo on BLM-administered lands would result from the incremental short term loss of nesting and foraging habitat and from increased noise and human presence. Potential direct and indirect impacts to these species from site-specific restoration and maintenance activities would be minimized through implementation of management actions, and application of BLM best management practices.

In the long term, vegetation management actions would be expected to improve riparian habitats for these species. Beneficial effects from these actions within riparian/wetlands habitats in the planning area would include long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution.

Bald Eagle. Throughout the planning area, upland vegetation would be managed for the desired ranges of conditions outlined in Section 2.4.5, Vegetation Resources. These desired ranges of conditions would be achieved through integrated treatments which may include a wide array of tools and techniques. See discussion of tools and techniques in Appendix G. Management of riparian areas would focus on stabilizing streams and protecting, maintaining, and restoring riparian habitats.

The vegetation treatments may result in short-term (i.e., displacement) and long term (i.e., improved foraging habitat) impacts to bald eagles. Short term impacts (i.e., displacement) would be minimized by conducting activities when eagles are not present. Short-term impacts would result from the incremental disturbance of roosting and foraging habitat. Indirect impacts would result from increased noise and human presence in areas where eagles may be present. Because the majority of eagle roosting within the planning area occurs on private lands, impacts to roosting sites would be minimal. Long term impacts (i.e., improved roosting sites, foraging habitat, etc.) would be associated with protection and restoration of riparian habitats.

Potential direct and indirect impacts to this species from site-specific restoration and maintenance activities would be minimized through the implementation of management actions, and application of BLM best management practices. Beneficial effects from management actions within riparian/wetland and upland habitats in the planning area would include long-term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, and improved roosting and foraging habitat.

Desert Tortoise. Vegetation communities within the Mojave Desert ecosystem would be managed for the desired ranges of conditions as outlined in Section 2.4.5, Vegetation Resources. These desired

ranges of condition would be achieved through integrated treatments which may include a wide array of tools and techniques. See the tools and techniques discussion in Appendix G.

Impacts could result from herbicide application, mechanical treatments, and limited application of prescribed fire. Mechanical methods of invasive species control may involve the use of machinery, off-highway vehicles, or hand tools, broadcast seeding, and planting of live shrubs and trees. Potential impacts to the desert tortoise from restoration and maintenance activities could result from increased harassment, crushing of burrows, injury/mortality of individuals from vehicles or machinery, and disruption of behavior. Indirect impacts from noise and human presence could further reduce habitat quality in the vicinity of vegetation treatments in the short term. Potential direct and indirect impacts to the desert tortoise from site-specific restoration and maintenance activities would be minimized by implementation of management actions and BLM best management practices. In the long-term, beneficial effects from management actions would improve habitat quality.

Other Sensitive Species on BLM-administered Land. Under the Proposed RMP, vegetation treatment and habitat management would be oriented toward proactive habitat restoration to achieve the desired range of vegetation conditions described in Section 2.4.5, Vegetation Resources. Although treatment and maintenance activities would occur over the full spectrum of vegetation communities, the majority of the area to be treated occurs within the low-elevation sagebrush and pinyon-juniper vegetation communities. Restoration actions targeted to attain the desired range of conditions for sagebrush communities at the landscape scale may have short- and long-term impacts to greater sage-grouse and other sagebrush dependant species if too much vegetation is treated at any one time within a watershed. Impacts would be minimized by mitigation at the watershed or site-specific scale. Limited areas of treatment also would occur in other vegetation communities where current conditions are not within the desired range of conditions, with particular emphasis in riparian and aspen communities.

Impacts to wildlife (including special status species) from vegetation management would include the long-term loss of woody vegetation (i.e., trees, woodlands, and shrubs) and the temporary loss of forage and cover in the areas being treated until the desirable perennial species become reestablished. Incorporation of appropriate management actions and best management practices from Sage Grouse Best Management Practices (Appendix L of the Draft Ely RMP/EIS [July 2005]) and adherence to Guidelines for Management of Sage Grouse Populations and Habitats (Connelly et al. 2000) would limit the extent and severity of these impacts within greater sage-grouse habitats. It is anticipated that treated areas would result in increased herbaceous forage and ground cover in the short term, followed by the establishment of shrub vegetation in the long term that meets the desired range of conditions. On a watershed level, restoration activities would result in higher quality forage, increased vegetation cover and structure, and improved breeding and seasonal habitats for wildlife species. On a landscape level, restoration and habitat management would benefit special status species by reducing habitat degradation and fragmentation, promoting ecological health and vegetation resiliency, and improving overall habitat quality.

Plant Species

Ute Ladies'-tresses. The proposed vegetation treatment program in the planning area is not expected to directly affect the population of Ute ladies'-tresses which occurs on private lands near Panaca Spring.

Wild Horses.

Fish Species

Pahrump Poolfish, Big Spring Spinedace, White River Springfish, Hiko White River Springfish, Pahranagat Roundtail Chub, White River Spinedace, and Railroad Valley Springfish. No wild horse herd management areas overlap habitat for these fish species. Therefore, there would be no direct impact to these species. There also would be no indirect impacts from managing wild horses within herd management areas adjacent to these species' habitats because the horse herds would be managed at appropriate management levels and there are no available water sources for the animals near these aquatic habitats.

Other Sensitive Aquatic Species on BLM-administered Land. Other special status fish (Meadow Valley desert sucker, Meadow Valley speckled dace, Bonneville cutthroat trout) and springsnails could be affected by the Eagle Herd Management Area, as discussed for Big Spring spinedace. No herd management areas overlap with upper White River occupied by the White River desert sucker, White River speckled dace, and relict dace.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. No wild horse management areas would overlap with suitable Southwestern willow flycatcher habitat and potential yellow-billed cuckoo habitat (see **Map 3.7-1**). As a result, no direct or indirect impacts to Southwestern willow flycatcher and yellow-billed cuckoo would occur from the management of wild horses. In the long term, beneficial effects would occur from the reduction of approximately 157 acres of Southwestern willow flycatcher habitat and approximately 80 acres of yellow-billed cuckoo habitat as the Applewhite, Blue Nose Peak, Clover Mountain, Delamar Mountain, and Meadow Valley Mountain herd management areas are eliminated (see **Map 3.7-1**). These effects would include long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution. However, in the short-term these impacts could occur until the wild horses are removed.

Bald Eagle. No direct or indirect impacts to bald eagles would occur as a result of wild horse management actions based on the assumption that wild horse herds would be managed at appropriate management levels.

Desert Tortoise. No wild horse management areas designated in the RMP would overlap with desert tortoise habitat. Two herd management areas that previously overlapped 74,500 acres of desert tortoise habitat (see **Map 2.4.7-1**) would be eliminated. In the long term, this would benefit desert tortoise

habitat with increased forage availability and cover, and the elimination of potential trampling from wild horses. However, in the short term, these impacts could occur until the wild horses are removed. Implementation of management actions would minimize potential impacts from wild horse management actions should wild horses enter desert tortoise habitat and need to be removed.

Other Sensitive Wildlife Species on BLM-administered Land. Special status wildlife species conflicts with wild horses would include localized trampling and foraging activities over a large geographic area consisting of approximately 3.7 million acres of habitat in the long term. These effects would be most apparent within the limited riparian and wetland habitats that occur within herd management areas. Under this alternative, some other special status species (e.g., banded gila monster) would see increasing herbaceous forage and water availability, within the Mojave Desert ecological system, as a result of eliminating several existing herd management areas.

Plant Species

Ute Ladies'-tresses. This species occurs on private land not within or bordered by any proposed herd management area. Thus, impacts from wild horse management are not anticipated.

Other Sensitive Plant Species on BLM-administered Land. The management of wild horses within six herd management areas totaling approximately 3.7 million acres would reduce the potential conflicts with habitat for various special status plants. Some special status plant species (e.g., Basin waxflower and Schlesser pincushion cactus) are known to occur within herd management areas. However, wild horses are not likely to concentrate in the sites occupied by these plants and the presence of wild horses is not expected to jeopardize these populations. Known and potential habitat for special status plants located outside of these herd management areas would not be subjected to effects of wild horse grazing in the long term. Vegetation cover and native species diversity within these habitats would likely improve in the long term.

Lands and Realty.

Proposed land and realty actions related to corridors and disposals are depicted on **Maps 2.4.12-1** through **2.4.12-5**.

Approximately 75,600 acres of land would be available for possible land disposal. It would not include any designated critical habitat for threatened and endangered species. Potential land disposals would be evaluated for effects on special status species and their habitat on a case-by-case basis, in accordance with NEPA. Thus, direct impacts of land disposals on special status wildlife species are expected to be minimal, but indirect effects may be more important as these lands are developed for residential and commercial purposes with associated increases in the recreational usage of adjacent public lands.

New 0.5-mile-wide utility corridors would be designated within the planning area. Potential effects to special status species from rights-of-way within the corridors would include the incremental long-term disturbance of habitat and added effects from habitat fragmentation. Short-term impacts would result from increased noise

and human presence. These effects are anticipated to occur incrementally over time and spatially over a large portion of the planning area. Potential impacts would include limited mortalities of smaller, less mobile species (e.g., small mammals and reptiles) and the displacement of more mobile species into adjacent habitats. In areas where potential development intersects or approaches important habitat (e.g., greater sage-grouse breeding areas), resulting effects may require specific mitigation measures to minimize potential impacts. Requirements that have been developed to reduce or prevent potential impacts to special status species and their habitats from utility rights-of-way are presented in Section 2.4.12.7. Development of utility projects and communication sites would be evaluated for effects on special status species and their habitat and mitigated as needed, on a case-by-case basis, in accordance with NEPA.

Land use authorization facilities would be located and consolidated within or adjacent to existing land use authorizations, where feasible, thus minimizing overall effects to special status species. Special status species would benefit from the avoidance or exclusion of land use authorizations within ACECs (see Section 2.4.12, Lands and Realty). Development of new land use authorization facilities would be evaluated for effects on special status species and their habitat on a case-by-case basis, in accordance with NEPA.

Fish Species

Pahrump Poolfish. Lands around Shoshone Ponds would be retained in public ownership because these lands would be designated as an ACEC (see **Map 2.4.22-1**). No corridors would be designated within 5 miles of Shoshone Ponds (See **Map 2.4.12-5** and **Map 3.7-1**). Rights-of-way and other land-use authorization would not be granted within the Shoshone Ponds ACEC. Therefore, lands and realty actions would not affect the Pahrump poolfish.

Big Spring Spinedace. Lands in and around Condor Canyon would be retained in public ownership because these lands would be designated as an ACEC (**Map 2.4.22-1**). Potential land disposal areas are located downstream from Condor Canyon; therefore, no impacts would occur from these actions (see **Map 2.4.12-4**). No corridors would be designated within 3 miles of Condor Canyon (see **Map 2.4.12-5**). Condor Canyon would be an avoidance area for rights-of-ways and other land-use authorizations. Therefore, lands and realty actions would not affect the Big Spring spinedace.

White River Springfish. Retention of designated critical habitat at Ash Springs would benefit the White River springfish. No land disposal areas overlap with White River springfish habitat at Ash Springs (see **Map 2.4.12-1**). Additional protection for White River springfish would be provided by the withdrawal of an 80-acre area around Ash Springs from disposal, rights-or-way, and other land use authorizations. No designated corridors are within 5 miles of Ash Springs (see **Map 2.4.12-5** and **Map 3.7-1**). Therefore, lands and realty actions would not affect the White River springfish.

Hiko White River Springfish, Pahranagat Roundtail Chub, White River Spinedace, and Railroad Valley Springfish. There would be no direct impact to these species or their habitats from BLM land and realty actions, since they occur on private/state/tribal land. Indirect impacts may occur from construction activities in designated corridors which are within 0.5 mile of Crystal Spring (Hiko White River springfish habitat) (see **Map 2.4.12-5**). These indirect impacts would include potential sedimentation from surface

disturbances within the corridors and temporary water quality deterioration. No designated corridors occur within a mile of the habitat for the Hiko White River springfish at Hiko Spring, White River spinedace, Railroad Valley springfish, and Pahranagat roundtail chub (see **Map 2.4.12-5**). Issuance of rights-of-way and other land use authorizations adjacent to Hiko Springs, Crystal Springs, Pahranagat Ditch, Flag Spring, Sunnyside Creek, and the springs in Railroad Valley also could have indirect impacts. These indirect impacts would include potential sedimentation from surface disturbances within the corridors and temporary water quality deterioration. These impacts would be reduced through implementation of BLM's best management practices (Appendix F, Section 1).

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. Lands along Clover Creek and Lower Meadow Valley Wash would be retained in public ownership because these lands would be designated as an ACEC. No land disposal areas have been identified in other BLM-managed habitat for the Southwestern willow flycatcher or yellow-billed cuckoo outside of Clover Creek and the Lower Meadow Valley (see **Map 2.4.12-1**). Two designated corridors originate at Clover Creek and Lower Meadow Valley Wash (see **Map 2.4.12-5**). Impacts from construction activities within these corridors could include surface disturbance of riparian vegetation communities. Indirect impacts to the Southwestern willow flycatcher and yellow-billed cuckoo on BLM-administered lands would result from the incremental short term loss of nesting and foraging habitat and from increased noise and human presence. These impacts would be minimal because of the application of best management practices and they would occur only at an individual point along the habitat not following the length of the habitat. Lands around Clover Creek and Lower Meadow Valley Wash would be an avoidance area for rights-of-way and other land-use authorizations. Therefore, issuance of rights-of-way and other land-use authorizations would not affect the Southwestern willow flycatcher and yellow-billed cuckoo.

There would be no direct impact to these species or their habitats from BLM land and realty actions within Pahranagat Valley since they occur on private and state lands in this area and not on BLM-managed federal land. Indirect impacts from land disposal would include increased human presence, noise, and construction activity in the vicinity that could affect breeding and nesting behavior of these species There are two corridors designated in the vicinity of Hiko (see **Map 2.4.12-5**). Impacts from new right-of-way construction activities within these corridors would include intermittent noise and human presence that could affect breeding and nesting behavior of these species, if they are present in proximity to construction locations. Issuance of rights-of-ways and other land use authorization adjacent to Southwestern willow flycatcher and yellow-billed cuckoo habitat in Pahranagat Valley also could have similar indirect impacts. These impacts would be reduced through implementation of best management practices (Appendix F, Section 1).

Bald Eagle. Proposed land disposal areas would not overlap with known bald eagle winter roost areas (see **Maps 2.4.12-1**, **2.4.12-4**, **2.4.12-3**, and **2.4.12-2**). In general, proposed land disposals occur adjacent to communities. As a result, no direct or indirect impacts to bald eagles would occur from land disposals.

Designated utility corridors would not overlap with known bald eagle winter roost areas (see **Map 2.4.12-5**). Impacts associated with construction activities within utility corridors, rights-of-way, and other land use authorizations would include temporary surface disturbance, noise, and human presence. These impacts would be reduced through implementation of BLM best management practices such as the application of current policies and methodologies for powerline construction to minimize raptor electrocution and collision potential.

Desert Tortoise. All designated critical habitat within the planning area, including the three existing desert tortoise ACECs, would be retained in federal ownership unless the disposal results in the acquisition of land with higher quality habitat (see **Map 2.4.7-1**). These areas would be managed to assist desert tortoise recovery efforts. Since the area within the three existing desert tortoise ACECs is considered the best available habitat in the planning area, the retention of these areas plus the designated critical habitat outside the ACECs would enhance tortoise recovery efforts in the Northeastern Mojave Recovery Unit.

Under the Proposed RMP, approximately 4,870 acres of non-critical desert tortoise habitat outside of desert tortoise ACECs have been identified for possible disposal (see **Maps 2.4.12-2** and **2.4.7-1**). As a result, indirect impacts to desert tortoise habitat from land disposals could include the loss of habitat as these lands are transferred to private ownership. Development and construction activities after transfer would cause loss of vegetation and habitat, and could result in harm, harassment, and mortality of individual tortoises. Other possible indirect impacts from subsequent development activities on these lands could include the following:

- Increase in vehicle traffic and potential mortality of desert tortoises;
- Increased harassment and possible collection of desert tortoises by the public;
- Increased predation by pets and ravens;
- Increased barren areas that result in greater exposure of tortoises to predators;
- Potential effects of noise, dust, and vibration from construction activity;
- Spread of disease and subsequent disruption of established home ranges as a result of escaped or unauthorized releases of desert tortoises in the wild;
- Increased trash and litter leading to injury or mortality from ingestion;
- Exposure or ingestions of toxic materials from residential or illegal dumping sources; and
- Increased injury or mortality from falls into exposed construction excavations and trenches.

Acquisitions of land within tortoise habitat would help protect additional habitat from loss or degradation and assist in meeting the delisting criteria for the desert tortoise in the Northeastern Mojave Recovery Unit.

Portions of five corridors identified in the Proposed RMP overlap with desert tortoise habitat, designated critical habitat, or desert tortoise ACECs (see **Maps 2.4.12-5** and **3.7-1**). Approximately 41 miles of utility corridors would occur within the three existing desert tortoise ACECs, with 12.1 miles being located in the Kane Springs ACEC, 16.1 miles in Mormon Mesa ACEC, and 12.8 miles in the Beaver Dam Slope (Nevada) ACEC. Approximately 90 miles of utility corridors would occur within regular desert tortoise habitat and designated critical habitat outside of ACECs. Lands and realty actions that could occur within these corridors include but are not limited to power lines, pipelines, transmission lines, and highways. If fully

developed, approximately 25,500 acres of desert tortoise habitat could be impacted outside of the ACECs (see **Table 4.7-2**).

Table 4.7-2
Potential Disturbance from Corridors within Desert Tortoise Habitat

	Miles of Corridor	Approximate Acreage[1]
Non-critical desert tortoise habitat	48.2	14,820
Designated critical habitat outside ACECs	40.7	10,820
Designated critical habitat within ACECs	41.3	11,080
Totals	**130.2**	**36,720**

[1] Rounded to tens.

The ACECs would be considered avoidance areas for rights-of-way and other land use authorizations, but additional rights-of-way could be authorized subject to NEPA analyses and Section 7 consultation for specific right-of-way projects. Direct impacts from the authorization of additional rights-of-way within corridors in the ACECs could include the long-term incremental reduction of habitat and increased habitat fragmentation. Short-term impacts from construction, operation, and maintenance activities also could result in increased collection opportunities, crushing of burrows, injury/mortality from vehicles or equipment, and disruption of behavior. Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads could further reduce habitat quality in the vicinity of development areas. These impacts would be reduced through Section 7 consultation and implementation of management action and best management practices (Appendix F, Section 1).

Overhead power lines could provide additional perching sites for ravens along the 156 miles of designated corridors within desert tortoise habitat. By concentrating power lines in narrow rights-of-way, particularly within the ACECs, raven perching sites would be localized rather than dispersed throughout desert tortoise habitat.

Rights-of-way and other land use authorizations could be authorized in desert tortoise habitat and designated critical habitat outside of ACECs. Short-term and long-term impacts of these activities would be similar to those discussed above within the ACECs. Roads for utility rights-of-way could provide access into the three desert tortoise ACECs and increase the potential for tortoise mortalities and habitat degradation. Emphasizing co-location of communication sites would minimize the impacts to desert tortoise habitat. These impacts within all types of desert tortoise habitat would be reduced through implementation of management actions and best management practices (Appendix F, Section 1). Payment of remuneration fees would compensate for acreage of tortoise habitat disturbed.

Limiting Federal Aid Highway material site rights-of-way within a 1-mile-wide corridor along U.S. Highway 93 and Kane Springs Road within the Kane Spring ACEC and the Carp-Elgin Road within the Mormon Mesa ACEC would benefit tortoise habitat by limiting surface disturbances relating to material sites. The majority of the required mineral material pits would be located along Highway 93; the Nevada Department of

Transportation would continue to hold their existing material site rights-of-way. The Lincoln County Road Department also may have the need for additional free use pits along the Kane Springs and Carp-Elgin roads. However, material sites will be restricted to not less than 10-mile intervals over the life of the plan, and it is anticipated that no more than 500 acres of habitat loss would occur from these pits within the proposed ACECs. Implementation of management actions and best management practices (Appendix F, Section 1) would reduce the impacts.

Direct impacts from the authorization of rights-of-way within corridors, development of communication sites, and other land use authorizations within desert tortoise habitat outside of desert tortoise ACECs could include the incremental reduction of habitat and increased habitat fragmentation. Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads could further reduce habitat quality in the vicinity of development areas. Impacts from construction, operation, and maintenance activities also could result in increased collection opportunities, crushing of burrows, injury/mortality from vehicles or equipment, and disruption of behavior. The evaluation of minimal impact uses on a case-by-case basis would ensure that protective measures for the desert tortoise and habitat were included within the authorizations. If appropriate, potential impacts from the management of lands and realty would be minimized through Section 7 consultation, where required, and implementation of management actions.

Plant Species

Ute Ladies'-tresses. This species occurs on private land. Thus, impacts from lands and realty management actions are not anticipated.

Renewable Energy.

Fish Species

Pahrump Poolfish, Big Spring Spinedace, White River Springfish, White River Spinedace, Hiko White River Springfish, Pahranagat Roundtail Chub, and Railroad Valley Springfish. Although development of wind and solar energy projects could occur throughout the planning area (**Maps 2.4.13-1** and **2.4.13-2**), the topographic setting of aquatic environments discussed in this BA is not conducive to such energy development, and wind energy development would conform to BLM Wind Energy Development Policies and Best Management Practices. Therefore, the potential for wind and solar energy projects to impact fish species is considered to be negligible. As discussed in Section 2.6, Fish and Wildlife, the presence of special status species would be considered in NEPA analyses when making decisions on renewable energy land authorizations. This would apply to all federally listed fish species that also would require Section 7 consultation. Proposed projects would be subject to NEPA and Section 7 compliance, which would ensure that potential impacts to federally listed fish species would be mitigated.

Other Sensitive Aquatic Species on BLM-administered Land. Other special status species in Upper and Lower Meadow Wash (Meadow Valley Wash desert sucker, Meadow Valley Wash speckled dace) and

White River Valley (White River desert sucker, White River speckled dace, relict dace, and springsnails) could be affected by renewable energy development as discussed for the species above.

Biomass energy development would occur in relation to vegetation restoration. Impacts would be similar to those discussed for Vegetation Resources.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. Habitat for these species on BLM-administered lands occurs within the proposed Lower Meadow Valley Wash ACEC which would be closed to renewable energy development. Therefore, renewable energy development would not affect these species.

Bald Eagle. Potential impacts to the bald eagle from the development of renewable energy could occur throughout the entire planning area. High and moderate potential areas available for the development of wind and solar facilities consist of approximately 273,300 acres (2.3 percent of the planning area) and 7.2 million acres (63.0 percent of the planning area), respectively (see **Maps 2.4.13-1** and **2.4.13-2**).

Direct impacts from wind energy development would include mortality from turbine collisions, electrocutions, wire strikes, vehicle strikes, and poisoning. Based on observed mortalities at existing wind energy facilities, Erickson et al. (2001) estimate overall raptor fatalities at 0.006 per turbine per year outside of California. Mortality rates vary among raptor species and are affected by population densities, location and surrounding habitat, turbine design, and various other factors. Indirect impacts would include additional surface disturbances affecting habitat for prey species, increased noise and human presence, increased habitat fragmentation, and reduction in foraging habitat.

Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads could further reduce habitat quality in the vicinity of project areas. Potential impacts to this species and its habitat would be minimized through Section 7 consultation for specific renewable energy and the implementation of management actions and best management practices. Wind energy development within the planning area would conform to the policies and guidelines presented in Appendix F, Section 3.

Impacts associated with potential solar energy development would be similar to the impacts associated with other rights-of-way. Impacts associated with construction activities for solar development facilities and associated utility rights-of-way would include temporary surface disturbance, noise, and human presence. These impacts would be reduced through implementation of BLM best management practices.

Biomass energy development would occur in relation to vegetation restoration. Impacts would be similar to those discussed in vegetation resources.

Desert Tortoise. The three desert tortoise ACECs, totaling approximately 203,670 acres, are closed to renewable energy development. Thus no impacts are anticipated from renewable energy development. Approximately 120 acres of moderate to high potential wind areas occur within critical habitat and

2,670 acres occur on non-critical habitat outside of ACECs. In addition there are approximately 46,200 acres and 303,000 acres of high and moderate potential solar areas within designated critical habitat and non-critical habitat outside of ACECs, respectively (see **Maps 2.4.13-1** and **2.4.13-2**). However, the amounts of moderate to high potential wind and solar areas that occur within desert tortoise habitat (excluding ACECs) represent extremely small percentages of the identified moderate to high potential wind areas (approximately 273,300 acres) and solar areas (approximately 7.2 million acres) in the planning area, thus reducing the potential for renewable energy development within desert tortoise habitat. Impacts associated with renewable energy development within desert tortoise habitat would be similar to those described for rights-of-way and other land use authorizations. Desert tortoise habitat generally is unsuitable for development of biomass energy facilities.

Other Sensitive Wildlife Species on BLM-administered Land. Conflicts from renewable energy development would likely have localized effects to special status species and their habitats. Long-term impacts would result from habitat loss and increased habitat fragmentation until reclamation is completed and native vegetation has become reestablished. Short-term impacts would result from increased noise and human presence. Effects to special status species would include habitat disturbance and added effects from habitat fragmentation (e.g., increased noise and human presence). These effects are anticipated to occur incrementally over time and at scattered locations within the planning area. Potential impacts would include limited mortalities of smaller, less mobile species, such as small mammals and reptiles, and the displacement of more mobile species into adjacent habitats. In areas where potential development intersects or approaches important species habitat (e.g., greater sage-grouse breeding areas), specific mitigation measures may be required to minimize potential impacts. Development of renewable energy would be evaluated for effects on special status species and their habitats on a case-by-case basis, in accordance with NEPA. Best management practices that would reduce potential impacts to special status species are presented in Appendix F, Section 1.

Plant Species

Ute Ladies'-tresses. This species occurs on private land. Thus, impacts from renewable energy development are not anticipated.

Other Sensitive Plant Species on BLM-administered Land. Potential impacts to habitat for special status plants would be addressed on a case-by-case basis. Disturbances related to known and potential habitat for the Ute ladies'-tresses orchid or other special status plants would continue to be evaluated and mitigated, as needed, on a site-specific, case-by-case basis to minimize potential impacts to special status plants.

Travel Management and Off-highway Vehicle Use.

Fish Species

Pahrump Poolfish, Big Spring Spinedace, and White River Springfish. Off-highway vehicle use in the area surrounding Shoshone Ponds, Upper Meadow Valley Wash, and Ash Springs would be restricted

to existing roads and trails until site-specific transportation plans are developed, which would minimize sediment-related effects on habitat for these species. If new roads or trails are designated, NEPA review and Section 7 compliance would be required to identify mitigation to avoid or minimize effects on federally listed species.

Hiko White River Springfish, Pahranagat Roundtail Chub, White River Spinedace, and Railroad Valley Springfish. Road use on BLM-administered lands would not affect private land surrounding Hiko Springs, Crystal Springs, Pahranagat Ditch, Flag Springs, Sunnyside Creek, and springs in the Duckwater area. The basis for this conclusion is that the BLM-administered lands are located at least several hundred feet from these aquatic habitats. If new roads or trails are designated, NEPA review and Section 7 compliance would be required to identify mitigation to avoid or minimize effects on federally listed species.

Other Sensitive Aquatic Species on BLM-administered Land. Other special status species in Upper and Lower Meadow Wash (Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace) and White River Valley (White River desert sucker, White River speckled dace, relict dace, and springsnails) could be affected by vehicle use as discussed for Big Spring spinedace and the White River Valley fish species. Future vehicle-related impacts to Bonneville cutthroat trout habitat in Goshute Creek would be eliminated because travel would be closed in this area.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. Motorized vehicle use would be restricted to existing roads and trails until the designation process is completed and subsequently in the majority of the planning area (approximately 10.3 million acres) to designated roads and trails. Since the majority of southwestern willow flycatcher and yellow-billed cuckoo habitat within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands), these areas would not be directly impacted by BLM's management of transportation and off-highway vehicle use. Direct impacts to riparian habitats for these species on BLM-administered land (i.e., within the Lower Meadow Valley Wash ACEC [see **Map 2.4.14-1**]) from off-highway vehicle use would be limited to activities on designated roads and trails. No new roads would be constructed. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of the designated roads and trails. Potential impacts to these species and their habitats would be minimized through implementation of the Ely transportation planning process, and implementation of BLM best management practices. Beneficial effects to this species would result from 1) the closure of approximately 1.1 million acres to off-highway vehicle use, including 7 miles of southwestern willow flycatcher and yellow-billed cuckoo habitat located in the proposed Lower Meadow Valley Wash ACEC (see **Map 2.4.14-1**), and 2) the restriction of motorized vehicles to existing roads and trails until the designation process is completed and subsequently to designated roads and trails. Closure to off-highway vehicle use would result in long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution.

Bald Eagle. No direct or indirect impacts to nesting bald eagles from off-highway vehicle use would be anticipated based on the absence of bald eagle nest sites within the planning area, and the implementation of the Ely transportation planning process. Motorized vehicles would be restricted to existing roads and trails until the designation process is completed and subsequently to designated roads and trails. Direct impacts to riparian and upland vegetation from off-highway vehicle use, or the construction or maintenance of roads within the planning area could result in the incremental long-term disturbance of foraging or roosting habitat and added effects from habitat fragmentation. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of the designated roads and trails. Potential impacts to this species and its habitat would be minimized through implementation of BLM's management actions and best management practices. Beneficial effects to this species would result from the closure of approximately 1.1 million acres to off-highway vehicle use, including 7 miles of potential bald eagle riparian habitat located in the proposed Lower Meadow Valley Wash ACEC (see **Map 2.4.14-1**). Closure to off-highway vehicle use would result in long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution.

Desert Tortoise. Management of motorized vehicle use within the three desert tortoise ACECs would include limitation of off-highway vehicle use to designated roads and trails, except within designated wilderness areas, which are closed (approximately 40,160 acres in Mormon Mesa ACEC and 32,240 acres in Kane Springs ACEC). Establishment of new trails would be restricted. This limitation lessens the possibility for direct mortalities and the crushing of burrows, as a result of cross-country vehicular traffic in the 203,670 acres of the three desert tortoise ACECs. Motorized vehicle use within desert tortoise habitat outside the ACECs also would be restricted to designated roads and trails within desert tortoise habitat. Potential impacts to the desert tortoise from off-highway vehicle use or the construction or maintenance of roads within the planning area outside the ACECs could include the loss of habitat and increased habitat fragmentation. Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of the designated roads and trails. Impacts also could result from increased collection opportunities, crushing of burrows, injury/mortality from vehicles, and disruption of behavior. Potential impacts to desert tortoise would be minimized through implementation of management actions to reduce mortality on specific road segments, and application of BLM best management practices. Beneficial effects to this species would include the closure of approximately 244,480 acres of desert tortoise habitat in designated wilderness areas to off-highway vehicle use (see **Map 2.4.14-1** and **Table 4.7-3**). Limiting recreational off-highway vehicle use to designated roads and vehicle trails also would continue to minimize the proliferation of new roads trails within desert tortoise habitat and the loss or fragmentation of desert tortoise habitat. This limitation also would lessen the possibility for direct mortalities and the crushing of burrows, as a result of cross-country vehicular traffic in the 203,670 acres of the three desert tortoise ACECs.

Table 4.7-3
Closures to Off-highway Vehicle Use within Desert Tortoise Habitat

Habitat Category	Approximate Acreage[1] Closed to Off-highway Vehicle Use
Non-critical habitat outside ACECs	169,910
Designated critical habitat outside ACECs	2,110
Non-critical habitat within ACECs	11,510
Designated critical habitat within ACECs	60,950
Total Off-highway Vehicle Closures in Desert Tortoise Habitat	244,480

[1] Rounded to tens.

Other Sensitive Wildlife Species on BLM-administered Land. Development of roads and trails within the planning area would be expected to result in the incremental long-term loss of habitat and increased habitat fragmentation. Short-term impacts to special status species would result from increased noise and human presence. The greatest effects from these management programs would occur from activities that intersect or approach important species habitat (e.g., greater sage-grouse breeding areas). Development of new roads and trails within the planning area would be evaluated for effects on special status species and their habitat on a case-by-case basis, in accordance with NEPA. Best management practices that would reduce potential impacts to special status species are presented in Appendix F, Section 1.

Plant Species

Ute Ladies'-tresses. This species occurs on private land. Thus, impacts to known populations of Ute ladies'-tresses would result from the travel management of travel and off-highway vehicle use on public lands. If additional populations are found on public lands, they would receive site-specific management protection.

Other Sensitive Plant Species on BLM-administered Land. The limitation of vehicular traffic to designated roads and trails as determined through a subsequent public process and area-specific analysis on 10.3 million acres would reduce the potential for physical damage to special status plants and deterioration of habitat present in these areas in the short and long term. As part of the watershed analysis, surveys for special status plants would be conducted within potential habitat areas within the planning area. Therefore, impacts to special status plants are not anticipated to occur within off-highway vehicle emphasis areas.

Recreation.

Fish Species

Pahrump Poolfish and Big Spring Spinedace. Special recreation management areas are not planned in locations that would affect the Shoshone Ponds or Condor Canyon (see **Map 2.4.15-1**). Dispersed recreational use involving walking on trails or vehicle traffic on existing roads and trails could

result in surface disturbance. The motorcycle special recreation permit areas and motorcycle truck race routes would not affect habitat for Pahrump poolfish or Big Spring spinedace since these activities do not occur near the Shoshone Ponds or Condor Canyon.

White River Springfish. One new special recreation management area (Pahranagat Recreation Management Area) would occur in Pahranagat Valley including the Ash Springs area (see **Map 2.4.15-1**). Dispersed recreational use involving walking on trails or off-highway vehicle travel on roads and trails could result in surface disturbance. If use is limited to designated roads and trails, sediment input to the spring would be minimal. In addition, recreational swimming would continue, which could disturb bottom substrates and aquatic vegetation. The motorcycle special recreation permit areas and motorcycle truck race routes would not affect habitat for this species.

Hiko White River Springfish and Pahranagat Roundtail Chub. One new special recreation management area (Pahranagat Recreation Management Area) would occur in Pahranagat Valley, which surrounds Hiko Springs, Crystal Springs, and Pahranagat Creek (see **Map 2.4.15-1**). Recreation activities on BLM-administered land could result in surface disturbance, but these areas would be at least 400 to 1,000 feet from the waterbodies. Potential effects on habitat for Hiko White River springfish and Pahranagat roundtail chub would be considered low due to the distance from disturbance areas. The motorcycle special recreation permit areas and motorcycle truck race routes would not affect habitat for these species.

White River Spinedace and Railroad Valley Springfish. No new special recreation management areas are planned for areas surrounding the Flag Springs and Sunnyside Creek area or the Duckwater area (see **Map 2.4.15-1**). However, dispersed recreational use could occur on BLM-administered land, which is located approximately 265 feet from the White River spinedace habitat and approximately 400 to 1,000 feet from the Railroad Valley springfish habitat. Potential effects on habitat for these species would be considered low due to the distance from disturbance areas. The motorcycle special recreation permit areas and motorcycle truck race routes would not affect habitat for these species.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. As discussed above for these species, the majority of habitat for the Southwestern willow flycatcher and yellow-billed cuckoo within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands). These areas would not be directly impacted by the BLM's management of recreational use, and motorized race events (i.e., motorcycle and truck) on the public lands. However, the Pahranagat Valley Special Recreation Management Area would occur in the immediate vicinity of riparian habitat potentially used by these species (see **Map 2.4.15-1**). Direct impacts to riparian vegetation in this area from recreation use could result in the incremental long-term disturbance of breeding and foraging habitat for these species and added effects from habitat fragmentation. Direct impacts also could result in the loss of eggs or young if vehicle use is permitted in riparian habitat during the breeding season. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of recreation areas.

Potential impacts from motorized competitive race events (i.e., motorcycle and truck) would continue to result in habitat loss and fragmentation. Direct impacts also could result in the loss of eggs or young if vehicle use is permitted in riparian habitat during the breeding season. Indirect impacts would include increased noise and human presence during trail maintenance and race events. However, effects from increased human presence and noise would be minimal due to infrequent use of roads and trails for race events.

Bald Eagle. Direct impacts to riparian and upland vegetation from recreation activities and events could result in the incremental long-term disturbance of foraging or roosting habitat. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of recreation areas.

Potential impacts from motorized competitive race events (i.e., motorcycle and truck) would continue to result in periodic disturbance. Direct impacts to riparian and upland vegetation from recreation events could result in the incremental long-term disturbance of foraging habitat. Indirect impacts would include increased noise and human presence during trail maintenance and race events. However, effects from increased human presence and noise would be minimal due to infrequent use of roads and trails for race events.

Desert Tortoise. Closing the three desert tortoise ACECs to all speed competitive events has eliminated such events from 80 percent of designated critical desert tortoise habitat in the planning area. No direct tortoise mortalities would be caused by speed competitive events. Since, historically, only one of these types of events has occurred annually within the planning area, the benefits from this closure are anticipated to be minimal.

Non-speed organized events would be authorized to pass through the desert tortoise ACECs on designated routes, except during the tortoise's most active periods (March 15 – June 15, and August 15 – October 15) reducing impacts on desert tortoise and its habitat. The designation of routes would reduce the potential for course widening, additional soil compaction, and the creation of new courses. The non-speed nature of events and prohibition of events during the most active periods would minimize the potential for direct mortalities of tortoises. Impacts associated with spectators and pits would not occur, because these would not be allowed within the ACECs.

Allowing speed and non-speed events within desert tortoise habitat outside of ACECs could result in impacts to the desert tortoise and its habitat. By requiring that all future events be limited to existing roads and trails, the potential for further habitat destruction would be reduced. A potential would continue to exist for direct tortoise injury or mortalities during speed events. Based on past monitoring of these types of events in tortoise habitat, direct impacts to tortoise would be expected to be less than one tortoise every 30 years at current use levels, and less than one every 6 years based on the maximum projected levels. Other direct impacts from recreation activities also could result from increased collection opportunities, crushing of burrows, and disruption of behavior. Indirect impacts would result from increased noise and human presence during trail maintenance and race events. However, effects from increased human presence and noise would be minimal due to infrequent use of roads and trails for race events. Soil

compaction and creation of new road and trails by spectators might occur, causing the potential loss of very small amounts of habitat. The roads used for these events would remain open to all other uses; the addition of these organized events would have little, if any, effect on the condition of the roads or surrounding areas. Historically there has been about one such event per year. It is expected that from one to five events would occur per year during the life of the plan.

Non-off-highway vehicle organized and commercial events such as trail rides and commercial sightseeing only would be allowed when consistent with the recovery and delisting of the desert tortoise, creating little or no effect on the tortoise or its habitat. Demand for these types of events historically has been less than one event per year.

Potential impacts to the desert tortoise associated with recreational use of roads and trails in desert tortoise habitat would be similar to those discussed above for race events and include the incremental reduction of habitat, increased habitat fragmentation, increased noise and human presence, dispersal of noxious weeds, dust effects which further reduce habitat quality, increased collection opportunities, crushing of burrows, injury/mortality from vehicles, and disruption of behavior. Potential impacts to the desert tortoise would be minimized through management actions.

Non-motorized recreation activities generally would neither benefit nor hinder recovery and delisting of the tortoise. However, it is possible that some localized areas of tortoise habitat could be impacted through increased soil compaction and erosion, trampled vegetation, and crushed or collapsed burrows.

Non-consumptive recreation activities, such as hiking, casual horseback riding, and nature photography, could increase during the life of the plan, and the proposed Pahranagat Special Recreation Management Area includes desert tortoise habitat near the town of Alamo (see **Map 2.4.15-2**). Surface disturbances or impacts to desert tortoise could occur as a result of the increase in these types of recreational activities in desert tortoise habitat. According to the Desert Tortoise (Mojave Population) Recovery Plan, such activities are compatible with the objectives for desert tortoise recovery (U.S. Fish and Wildlife Service 1994c).

Plant Species

Ute Ladies'-tresses. No direct or indirect impacts to known populations of Ute ladies'-tresses would result from the management of recreation on public lands. If additional populations are found on public lands, they would receive site-specific management protection.

Livestock Grazing.

Fish Species

Pahrump Poolfish. Livestock grazing would continue within the 17,322-acre Scotty Meadows allotment, which contains the refugium for the Pahrump poolfish at Shoshone Ponds (see **Maps 2.4.16-1** and **3.7-1**). Season-of-use is from June 1 to September 30 with a total of 1,227 active animal unit months. Scotty Meadows allotment has not been evaluated for rangeland health standards. Current grazing

management would continue until the allotment is evaluated. The fenced area excluding livestock grazing around Shoshone Ponds would be expanded. This would protect the original pond and additional ponds where the species is located. However, grazing would continue on upland areas outside of the exclosure, but because of the larger area being protected around the ponds, livestock grazing should not impact this species and its habitat.

Big Spring Spinedace. Livestock grazing would continue within four allotments (Highland Peak, Black Hills, Condor Canyon, and N4/N5) which contain habitat for the Big Springs spinedace within Condor Canyon (see **Maps 2.4.16-1** and **3.7-1** and **Table 4.7-4**).

Table 4.7-4
Livestock Grazing Allotments Containing Habitat for Big Spring Spinedace

Allotment Name	Map Unit Number[1]	Approximate Public Acres[2]	Miles of Stream Habitat	Season of Use	Active Animal Unit Months
Black Hills	20	3,610	1.6	3/1 to 2/28	156
Condor Canyon	43	44,030	1.4	3/1 to 1/24	676
Highland Peak	93	45,450	0.4	10/16 to 5/15	3,704
N4/N5	132	43,500	0.9	3/1 to 2/28	825

[1] Map unit number refers to grazing allotments on **Map 2.4.16-1**.
[2] Rounded to tens.

The N4/N5 allotment has been evaluated and is meeting or making progress towards achieving the rangeland health standards. The other three allotments have not been evaluated.

Upon the next evaluation of these allotments, consideration would be given to adoption of recommendations contained in the Condor Canyon Habitat Management Plan (Guerrero 1989), which recommends that grazing within the canyon be limited to November 15 through March 15, with a utilization limit of 50 percent and bank trampling limit of 20 percent. This change, if implemented, would reduce impacts to the Big Spring spinedace and its habitat (Biological Opinion 1-5-87-F-61).

White River Springfish. Livestock grazing would continue within the 34,146 acre Pahranagat East allotment, which contains the designated critical habitat for this species (see **Map 2.4.16-1**). Season-of-use is from August 1 to May 31 with a total of 511 active animal unit months. This allotment has not been evaluated for rangeland health standards. Livestock are fenced out of the Ash Springs area. Although adjacent upland areas are available for livestock grazing potential sedimentation effects, would not affect this species or their habitat due to topography and distance from the spring.

Hiko White River Springfish, Pahranagat Roundtail Chub, and White River Spinedace. Habitats for these four fish species (Hiko Springs, Crystal Springs, Pahranagat Creek, Sunnyside Creek, Flag Springs, and Railroad Valley Springs) are not located within BLM-administered grazing allotments, and the waters within these habitats are not affected by grazing activities on public lands. Therefore, grazing on BLM-administered land would not affect habitat for these species.

Railroad Valley Springfish. Habitat for the Railroad Valley springfish is located on tribal and private land in the Duckwater area. Although springs occupied by this species are located on non-BLM-administered lands, these lands are managed as part of the Duckwater grazing allotment. This allotment contains 807,662 acres on public land with an active use of 23,364 animal unit months. This allotment has met or is making progress toward meeting the rangeland health standards. Grazing on adjacent BLM-administered land would not result in indirect effects on Railroad Valley springfish habitat, since this portion of the BLM-administered land does not contain surface water resources that would attract livestock.

Other Sensitive Aquatic Species on BLM-administered Land. Limitations to livestock grazing will be addressed in an ACEC management plan. Limitations would help to improve or reduce potential sediment input. Stream bank stability and riparian vegetation would be maintained. Cattle presence in Meadow Valley Wash also would be regulated through permit terms and conditions including limited seasons and intensity of use which would improve stability of bottom substrate and cover for Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace. Livestock grazing also would be reduced in upper White River, which would improve habitat conditions for the White River desert sucker, White River speckled dace, relict dace, and springsnails.

Under the Proposed RMP, approximately 11.3 million acres would be available for livestock grazing although portions of this area may be unavailable for sheep and goat grazing in occupied desert bighorn sheep habitat as the grazing permits for these allotments are considered for change. Livestock grazing will continue to be authorized for approximately 424,602 animal unit months on 8.4 million acres for allotments that have been determined to be meeting or progressing toward achievement of the standards for rangeland health. These will continue as needed to meet RMP goals and objectives including the standards for rangeland health. Current livestock grazing will be maintained for 120,665 animal unit months on 3.2 million acres until allotments have been evaluated for progress toward achievement of the standards for rangeland health. Changes to livestock grazing use will be made as needed to meet or progress toward achievement of the standards. These actions would lessen the impacts to the resource.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. The majority of habitat for the Southwestern willow flycatcher and yellow-billed cuckoo within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands). These areas would not be directly impacted by the BLM's livestock grazing program. However, the Lower Meadow Valley Wash area provides riparian habitat on public lands for these species (see **Map 2.4.16-1** and **Table 4.7-5**). Direct impacts to these species and their habitats from livestock grazing on BLM-administered lands would include localized vegetation trampling, removal of cover plants due to grazing or browsing, and erosion of stream banks. These impacts to riparian vegetation could result in the incremental long-term disturbance of breeding and foraging habitat for these species and added effects from habitat fragmentation. Direct impacts also could result in the loss of eggs or young if grazing use is permitted in riparian habitat during the breeding season. Indirect impacts from increased surface

disturbance and dispersal of noxious weeds could further reduce riparian habitat quality. Potential impacts to these species and their habitat would be minimized through restrictions on season of grazing use and other terms and conditions on the grazing permit.

Table 4.7-5
Livestock Grazing Allotments Containing Habitat for Southwestern Willow Flycatcher and Yellow-billed Cuckoo

Allotment Name	Map Unit Number[1]	Public Acres of Affected Habitat	Season of Use	Active Animal Unit Months
Applewhite	1	120	3/1 to 2/28	562
Ash Flat	2	187	5/1 to 3/24	74
Breedlove	23	209	3/1 to 2/28	698
Caliente	28	1	3/1 to 2/28	40
Cottonwood	46	11	5/1 to 10/31	1,296
Henrie Complex	91	587	11/1 to 4/30	1,380
Meadow Valley	120	135	Cattle 11/1 to 4/30 Horses 3/1 to 2/28	56
Oak Springs	141	139	3/1 to 2/28	9,268
Peck	148	7	3/1 to 2/28	397
Pennsylvania	149	97	5/1 to 10/31	588
Rainbow	157	7	3/1 to 2/28	665
Rox-Tule	164	98	Closed[2]	0
Schlarman	174	105	11/1 to 4/30	240

[1] Map unit number refers to grazing allotments on **Map 2.4.16-1.**
[2] Allotment unavailable for grazing in association with designation of desert tortoise ACECs.

The Cottonwood, Henrie Complex, and Schlarman allotments have been evaluated and are meeting or making progress towards achieving the rangeland health standards. The other nine active allotments in **Table 4.7-5** will be evaluated to determine if they are meeting or making progress toward meeting the standards for rangeland health.

Bald Eagle. No direct or indirect impacts to bald eagles would occur as a result of livestock grazing based on implementation of the management actions and best management practices identified in the Proposed RMP.

Desert Tortoise. Approximately 203,670 acres within the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs are unavailable for livestock grazing (see **Maps 2.4.16-1** and **3.7-1**). This would benefit the desert tortoise by eliminating competition with domestic livestock for forage in these areas, thereby providing a greater amount of quality forage for the desert tortoise. As native species gradually become part of the vegetation communities, tortoises would benefit from better quality forage and improved habitat conditions. Improved nutrition could reduce the susceptibility of individual tortoises to diseases, including the Upper Respiratory Tract Disease which currently impacts many wild tortoises in all age classes. The aboveground biomass of perennial grasses and forbs would increase, providing improved thermal and

protective cover for hatchlings and juvenile tortoises. With improved cover, juvenile tortoises would be less susceptible to predation. Tortoises and their burrows also would be protected from trampling by livestock

Livestock grazing would continue in 19 allotments within desert tortoise habitat outside of the ACECs (see **Maps 2.4.16-1** and **3.7-1** and **Table 4.7-6**).

Table 4.7-6
Allotments in Desert Tortoise Habitat Available for Livestock Grazing

Allotment Name	Map Unit Number[1]	Total Allotment Public Acres[2]	Acres of Designated Critical Habitat	Approximate Acres of Non-Critical Habitat[3]	Season of Use	Active Animal Unit Months
Beacon	10	NA	607	0	Closed[3]	0
Boulder Spring	22	13,537	0	9,740	10/1 to 3/31	416
Breedlove	23	89,500	41	89,070	3/1 to 2/28	698
Buckhorn	26	82,968	0	2,540	3/1 to 2/28	3,370
Delamar	57	203,000	8,451	30,490	3/1 to 2/28	5,558
Garden Springs	76	38,823	0	22,210	10/1 to 5/31	2,809
Gourd Spring	85	57,700	3,034	50,910	10/1 to 5/31	3,458
Grapevine	86	22,000	1,299	18,700	3/1 to 2/28	349
Henrie Complex	91	165,060	0	87,220	11/1 to 4/30	1,380
Lime Mountain	102	67,144	0	2,790	10/1 to 5/15	6,754
Lower Lake East	106	41,800	2,504	27,350	3/1 to 2/28	640
Lower Lake West	107	57,000	0	5,550	3/1 to 2/28	1,247
Lower Riggs	108	19,569	0	120	5/1 to 3/24	1,408
Mormon Peak	126	64,700	67	12,890	6/1 to 3/31	600
Pahranagat East	143	34,146	0	11,400	8/1 to 5/31	511
Pahranagat West	144	70,138	0	12,000	10/1 to 5/31	2,144
Snow Springs	191	44,042	6,499	37,510	10/1 to 5/15	3,567
Summit Spring	202	18,035	2,738	14,260	10/1 to 5/31	715
Terry[4]	207	30,163	22,030	8,490	11/1 to 5/31	1,511
White Rock	222	32,916	0	24,720	10/1 to 5/31	2,880

[1] Map unit number refers to grazing allotments on **Map 2.4.16-1**.
[2] Not including allotment acreages unavailable for grazing within desert tortoise ACECs.
[3] Rounded to tens.
[4] Southern portion of Terry allotment has a season-of-use of 11/1 to 3/15 (critical desert tortoise habitat).

The Gourd Spring, Henrie Complex, Lower Lake West, and White Rock allotments have been evaluated and are meeting or making progress towards achieving the rangeland health standards. The other 15 allotments will be evaluated to determine if they are meeting or making progress toward meeting the standards for rangeland health.

Allotments or portions of allotments outside of ACECs would be managed according to seasonal utilization limits of 40 percent on key perennial grasses and shrubs (March 15 to October 15), 50 percent on key forbs, perennial grasses, and 45 percent on key shrubs and perennial forbs (October 15 to March 15) of annual growth. This limitation should maintain plant communities at their current seral stage. Direct impacts to the desert tortoise from livestock grazing would include localized vegetation trampling, removal of cover plants due to grazing or browsing, crushing of burrows, injury/mortality from livestock or livestock management activities, and added effects from habitat fragmentation. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could

further reduce habitat quality. Possible long-term negative impacts to tortoise, such as trampling and competition for forage, could continue on the 519,713 acres of desert tortoise habitat outside the ACECs. Potential impacts to desert tortoise would be minimized through Section 7 consultation, and implementation of management actions and BLM best management practices.

Plant Species

Ute Ladies'-tresses. This species occurs on private land. Thus, impacts from the Livestock Grazing Program are not anticipated.

Other Sensitive Plant Species on BLM-administered Land. Potential changes to sheep and goat grazing in occupied desert bighorn sheep habitat and associated buffer zone may minimize the potential for physical damage to special status plants and the deterioration of habitat present within these areas in the short and long term.

Geology and Mineral Extraction.

The fluid mineral development potential in the planning are is based on reasonable foreseeable development scenarios for oil and gas and geothermal energy developed in conformance with BLM policy. These analyses are based largely on the reasonable foreseeable development scenarios as presented in detail in the mineral report prepared for the Proposed RMP/Final EIS (ENSR 2004a). Various additional assumptions have been incorporated based on changes in the mineral markets over the past couple of years.

Table 4.7-7 presents a summary of anticipated disturbance from mineral extraction in the planning area. Detailed reasonable foreseeable development scenarios for individual categories of minerals are presented in Section 4.18, Geology and Mineral Extraction.

Table 4.7-7
Summary of Anticipated Disturbance from Mineral Extraction

Type of Mineral Development	Approximate Disturbance Acreage[1]	
	Short-term	Long-term
Fluid Leasable Minerals	8,400	1,400
Solid Leasable Minerals	0	0
Geothermal Development	200	100
Locatable Minerals	7,500	7,500
Mineral Materials	1,000	1,000
Totals Disturbance Acreage	**17,100**	**10,000**

[1] Rounded to hundreds.

Fish Species

Pahrump Poolfish. No historic mining or oil and gas development overlap with the area surrounding Shoshone Ponds. Mining would not affect habitat for Pahrump poolfish because mineral development would be closed in the Shoshone Ponds ACEC. Oil and gas development is not expected to affect these species, although indirect impacts may occur from activities outside the ACEC.

Big Spring Spinedace. Future mining disturbance would not occur in the Condor Canyon habitat for this species because the Condor Canyon ACEC would be closed for mineral development of solid leasable minerals, locatable minerals, and mineral materials. It would be managed as no surface occupancy for fluid leasable minerals. No active oil and gas leases overlap with occupied or designated critical habitat for Big Spring spinedace; therefore, oil and gas development would not affect this species. Since Upper Meadow Valley Wash (Condor Canyon) is located within an area of high potential oil and gas development, this drainage could be affected by construction and operation activities if a lease is approved. Future development activities would have to be done with conditions to protect Big Spring spinedace and its designated critical habitat. Best management practices involving interagency inventory and monitoring and recovery actions would be implemented to minimize impacts to sensitive species in Condor Canyon.

White River Spinedace, Hiko White River Springfish, Pahranagat Roundtail Chub, and Railroad Valley Springfish. No direct impacts would occur to these species since they occur on ponds not administered by the Ely Field Office. Indirect effects (sedimentation) could affect habitats that occur in close proximity to BLM-administered lands open for mineral development. Drilling activities in proximity to these sites potentially could affect habitats through water consumption from these sources or alteration of spring flow if aquifers are disrupted.

White River Springfish. The 80-acre site surrounding Ash Springs is open to fluid leasable mineral development but subject to no surface occupancy constraints. The surrounding area would be closed to development of solid leasable minerals, locatable minerals, and mineral materials. In general, oil and gas and mineral development can affect aquatic habitat by altering riparian vegetation, reducing water levels or flow by water consumption or disruption of the supply aquifer, and degrading water quality from surface disturbance, runoff, and contaminant leaks or spills. However, the 80-acre withdrawal area should be adequate to ensure that development would not affect habitat for White River springfish.

Other Sensitive Aquatic Species on BLM-administered Land. Sensitive fish species occur in upper and lower Meadow Valley Wash (Meadow Valley desert sucker and Meadow Valley Wash speckled dace) and the Goshute Creek drainage (Bonneville cutthroat). Other special status species in upper White River (White River desert sucker, White River speckled dace, relict dace, and springsnails) could be affected by future mining, as discussed for Big Spring spinedace. Mining in areas containing perennial stream segments and springs also could affect other sensitive fish and springsnail species.

Special Status Species on Non-BLM-administered Land. Mining is not expected to occur in areas surrounding occupied and designated critical habitat for the other seven federally listed fish species that occur on non-BLM-administered land. Oil and gas development in high potential areas could disturb

BLM-administered land that is adjacent to private or state land that contains habitat for White River spinedace. Oil and gas development would not affect federally listed Hiko White River springfish, Pahranagat roundtail chub, Railroad Valley springfish, or other special status species, since no high potential areas overlap with habitat for these species.

Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario (see Section 4.18, Geology and Mineral Extraction), would be disturbed throughout 11.5 million acres of the planning area. Mineral development activities likely would have localized effects special status species and their habitats. Long-term impacts to special status species would result from the disturbance of wildlife habitat and the added effects from habitat fragmentation in association with oil and gas, geothermal, and metallic and industrial minerals exploration and development. Development of new roads and trails within the planning area would be evaluated for effects on special status species and its habitat on a project-specific basis. Short-term impacts would result from increased noise and human presence. These effects are anticipated to occur incrementally over time and at scattered locations within a large geographic area of the planning area. Potential impacts would include limited mortalities of smaller, less mobile species of wildlife (e.g., small mammals, reptiles, and invertebrates) and the displacement of more mobile species into adjacent habitats. Displacement also could result in some local reductions in special status species populations if adjacent habitats, which may already be populated at carrying capacity, are additionally burdened by this displacement, ultimately contributing to increased mortality. Timing and surface use stipulations in the fluid minerals leasing program would reduce conflicts with special status species in several situations. Mineral development would be evaluated for effects on special status species and their habitat on a case-by-case basis, in accordance with NEPA. Best management practices that would reduce potential impacts to special status species and their habitats are presented in Appendix F, Section 1.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. The majority of Southwestern willow flycatcher and yellow-billed cuckoo habitat within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands) and would not be directly impacted from geology and mineral development activities. Potential impacts from geology and mineral extraction projects (e.g., oil and gas, coal, geothermal resources, and precious and base metal ores) to the habitat for these species on BLM-administered lands (e.g., Lower Meadow Valley Wash) would be dependent on the location and types of the projects. If projects are developed within habitat for the flycatcher and cuckoo, direct impacts could result in the long-term incremental reduction of potential breeding and foraging habitat, and increased habitat fragmentation. Direct impacts also could result in the loss of eggs or young if construction or maintenance activities were to occur during the breeding season. Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads could further reduce habitat quality in the vicinity of mineral development projects. Potential impacts to these species and their habitat would be minimized through Section 7 consultation related to specific development projects. Beneficial impacts from the no surface occupancy constraint for fluid mineral development in the 25,000-acre Lower Meadow Valley Wash ACEC and the closure of this area to development of solid leasable minerals, locatable minerals, and mineral materials would include a reduction in erosion, habitat degradation, and noxious and invasive species; and

increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution.

Bald Eagle. No direct or indirect impacts to nesting bald eagles from geology and mineral extraction projects would be anticipated based on the lack of documented bald eagle nest sites within the planning area. Direct impacts to riparian and upland vegetation from mineral development activities could result in the incremental long-term disturbance of foraging or roosting habitat and added effects from habitat fragmentation. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of recreation areas. Potential impacts to this species and its habitat would be minimized through Section 7 consultation. Beneficial impacts from the closure of the Lower Meadow Valley Wash ACEC to surface activities of mineral development would result in the protection of approximately 300 acres of habitat that could be utilized by bald eagles for foraging and roosting. Protection of the Lower Meadow Valley Wash would result in a reduction in habitat degradation, and increased overall habitat quality, improved roosting and foraging habitat, and potential increases in species distribution.

Desert Tortoise. Potential impacts to the desert tortoise from mineral extraction projects could include the incremental reduction of habitat and increased habitat fragmentation. Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads could further reduce habitat quality in the vicinity of development areas. Impacts from construction, operation, and maintenance activities also could result from increased collection opportunities, injury/mortality from vehicles or equipment, and disruption of behavior. Potential impacts to this species and its habitat, including potential predation from predatory birds (e.g., raptors and ravens) would be minimized through additional Section 7 consultation for specific mineral development projects and implementation of management actions.

Beneficial impacts from the closure of approximately 297,100 acres (41 percent) of desert tortoise habitat to development of fluid leasable minerals; closure of approximately 406,500 acres (56 percent) of desert tortoise habitat to development of solid leasable, locatable, and mineral materials (see **Maps 2.4.18-2** and **2.4.18-3**), and the management of mineral material development sites and disposal areas in the desert tortoise ACECs would result in decreased habitat loss and fragmentation, and the elimination of potential collection opportunities, crushing of burrows, injury/mortality from vehicles, and disruption of behavior (see **Table 4.7-8**).

Following designation of the Kane Springs ACEC, approximately 57,190 acres of desert tortoise habitat within the ACEC were withdrawn from mineral entry and closed to mineral entry, to fluid and non-energy mineral leasing, to the operation of the General Mining Law, subject to valid existing rights, and to mineral material disposal. The desert tortoise and its habitat benefit from these closures. The potential for direct mortality, burrow crushing, and habitat loss due to mineral development has been eliminated within this area.

Table 4.7-8
Management of Mineral Development within Desert Tortoise Habitat

Type of Habitat	Acreage	Type of Mineral Management		
		Fluid Leasable	Locatable Minerals	Mineral Materials
Kane Springs ACEC	57,190	Closed	Closed[1]	Closed[1]
Beaver Dam Slope ACEC	36,800	No surface occupancy[2]	Closed[1]	Closed[1]
Mormon Mesa ACEC	108,000	No surface occupancy[2]	Closed[1]	Closed[1]
Critical Habitat Outside ACECs	53,780[3]	Open[4]	Open	Open
Non-critical Habitat Outside ACECs	470,800	Open[4]	Open	Open
Total Acreage[5]	**726,600**			

[1] Closed with exceptions (MIN-16 and MIN-21).
[2] No surface occupancy with exception (MIN-9).
[3] Critical habitat acreage may differ from actual habitat mapped for the same area due to critical habitat designation following legal boundaries (i.e., section lines) while actual habitat boundary is based on topographic elevation.
[4] Open, subject to surface use and/or timing restrictions (MIN-3).
[5] Total acreage contains minor areas of non-habitat within ACECs.

Fluid Leasable Minerals. Fluid mineral exploration and development could continue throughout the Mormon Mesa and Beaver Dam Slope ACECs, but they would be managed as no surface occupancy with exceptions granted upon completion of Section 7 consultation with the U.S. Fish and Wildlife Service. Impacts that could occur from these activities include loss and fragmentation of habitat, direct mortality of tortoises, and increased public access to habitat. By attaching the lease stipulations and conditions, as outlined in Section 2.4.18.2 and additional mitigation measures developed though Section 7 consultation, the impacts to desert tortoise habitat would be reduced to the extent possible.

No habitat disturbance from seismic activities would occur within ACECs, since these activities would be restricted to existing roads and trails. One wildcat well per year would disturb up to 5 acres. Should oil or gas be found, one oil and gas field could occur during the life of the plan, disturbing up to 640 acres.

Outside ACECs, habitat disturbance associated with fluid mineral activities would take place in three phases: exploration, well drilling, and oil field production. It is estimated that 25 to 50 miles per year of seismic lines could occur throughout the planning area with a small portion occurring in desert tortoise habitat outside of ACECs. Mitigation measures outlined in Section 2.4.18.2, along with others developed through Section 7 consultation for specific mineral development proposals, would reduce the impacts to tortoise habitat and reduce the potential for take.

Solid Leasable Minerals. All three desert tortoise ACECs would be closed to solid mineral leasing. Some areas within non-critical desert tortoise habitat outside of the ACECs would remain open to leasing of solid minerals. By applying lease stipulations and conditions outlined in Section 2.4.18.2, BLM best management practices, and mitigation measures developed through Section 7 consultation, impacts to the

desert tortoise and its habitat could be reduced to the extent possible. All disturbed areas would be reclaimed to predisturbance conditions as outlined in the Desert Tortoise Recovery Plan.

Locatable Minerals. Exploration and mineral developments would continue throughout the proposed Mormon Mesa and Beaver Dam Slope ACECs on valid existing claims. Negative effects from mineral exploration and development could include direct mortality during mining activities, harassment, incidental take, and the loss and degradation of habitat. By requiring validity examinations of existing claims, plans of operation, NEPA review, and Section 7 consultation for all mineral activities within Mormon Mesa and Beaver Dam Slope ACECs, the potential for these impacts would be mitigated to the extent possible. It has been determined that protection of the desert tortoise and habitat for recovery of the species cannot be accomplished only through mitigation measures in the Kane Springs ACEC as in the Mormon Mesa and Beaver Dam Slope ACECs. This is because the habitat in the Kane Springs ACEC is of higher quality and the population densities are higher than in the other ACECs. Due to these two aspects of the Kane Springs ACEC, it would be very difficult to design a plan of operation that would sufficiently mitigate the impacts to the tortoise and its habitat and still provide for recovery of the desert tortoise. Closure of the Kane Springs ACEC would reduce the potential for further habitat fragmentation in the Northeastern Mojave Recovery Unit, the reserve design of which is already compromised because of the large edge effect (ratio of edge to interior area).

It is anticipated that exploration would continue at a rate of from 8 to 10 activities per year, for all types of locatable minerals within the entire planning area. The operations would consist of small exploration projects that would disturb an estimated 5 acres per project. These could result in up to 50 acres of disturbance per year. It is estimated that one small mining operation would be developed during the life of the plan, with a disturbance of approximately 75 acres in the planning area. This would constitute a minimal loss of desert tortoise habitat within the planning area.

Outside ACECs, the impacts described above for locatable minerals could occur within desert tortoise habitat during exploration under notices for disturbance less than 5 acres. Mitigation would be imposed only through plans of operation when the exploration and development exceeded 5 acres. Plans and notices would prevent undue and unnecessary degradation of desert tortoise habitat.

Mineral Materials. Impacts associated with mineral material disposal include habitat loss, degradation, fragmentation, and the potential for incidental take of tortoise. By closing the ACECs to mineral material disposal (with the exception of 1-mile-wide road corridors for free use and Federal Highway Act material rights-of-way), these impacts would be reduced.

Impacts associated with mineral material disposal, including habitat loss, degradation, fragmentation, and the potential taking of a tortoise would be reduced. It is anticipated that the Nevada Department of Transportation would continue to hold their existing mineral material rights-of-way. The Lincoln County Road Department also may have the need for additional free use permits located in the designated corridor in the ACECs. However, material sites will be restricted to not less than 10-mile separations. Over the life of the plan, it is anticipated that no more than 500 acres of habitat loss would occur from these pits within the proposed ACECs. These would continue to be needed for highway and road maintenance. Mitigation

measures outlined in the Proposed RMP, and others developed through Section 7 consultation for specific mineral development proposals, would reduce the impacts to tortoise habitat and the potential for incidental take. These operations would be required to have a "no jeopardy" opinion decision from the U.S. Fish and Wildlife Service.

The majority of the required mineral material pits would be located along Highway 93; the Nevada Department of Transportation would continue to hold 14 material site rights-of-way, with the possibility of three more being developed. The Lincoln County Road Department also may have the need for three free use pits along the Kane Springs and Carp-Elgin roads. However, over the life of the plan it is anticipated that no more than 500 acres of habitat loss would occur from these pits within the proposed ACECs. These would continue to be needed for highway and road maintenance. Mitigation measures outlined in the Proposed RMP, and others developed through Section 7 consultation, would reduce the impacts to tortoise habitat and the potential for incidental take. These operations would be required to have a "no jeopardy" opinion decision from the U.S. Fish and Wildlife Service.

Outside ACECs, the sale of mineral materials to the public would be expected to increase in the future, as population growth continues in the region. Mitigation measures, outlined in Section 2.4.18.2, and those developed though Section 7 consultation related to new materials sites would reduce the impacts to tortoise habitat and the potential for incidental take. It is estimated that one new pit would be established every 5 years to meet public demand, disturbing an estimated 80 acres within desert tortoise habitat over the life of the plan.

Other Sensitive Wildlife Species on BLM-administered Lands. Effects of mineral development on special status wildlife species would be similar to those discussed for the Proposed RMP with various species covered by timing and use stipulations under the fluid minerals leasing program. In relation to other types of mineral development activities, special status wildlife species generally would be protected through project-specific mitigation measures developed as a result of additional NEPA analyses associated with the individual projects at the time they are proposed.

Minerals leasing would continue to be evaluated and mitigated, as needed, on a site-specific basis for the protection of special status plants.

Plant Species

Ute Ladies'-tresses. This species occurs on private land. Thus, impacts from the Geology and Mineral Extraction Program are not anticipated.

Other Sensitive Plant Species on BLM-administered Land. Minerals leasing would continue to be evaluated and mitigated, as needed, on a site-specific basis for the protection of special status plants. Mineral development within the ACECs designated to protect special status plants would be subject to special restrictions and appropriate best management practices. Thus, impacts to the subject plant populations would be minimized.

Fire Management.

In general, fuels management would result in a more widespread treatment (prescribed fire, wildland fire use, mechanical thinning, and herbicide application) in upland areas to achieve vegetation goals and reduce heavy fuel accumulation in comparison to current management. This management approach would result in a reduced risk of catastrophic fires compared to current management. Management actions for fire suppression would be initiated on wildland fires. Activities associated with fire suppression could include the removal of vegetation with hand tools, burning, bulldozers, and other heavy equipment; water removal by engines, portable pumps, or helicopter; and water and slurry drops from helicopters and air tankers. In general, these types of activities would be avoided in the area except during suppression. Following fire, the burned areas would be stabilized and rehabilitated through appropriate treatment actions that could include seedbed preparation (if necessary), seeding, and erosion control measures (e.g., waterbars, contour furrows, and mulching).

Fish Species

Pahrump Poolfish, Big Spring Spinedace, and White River Springfish. The effect of fuels management on aquatic habitat would be reduced erosion input to perennial drainages due to increased soil stability on a long-term basis. In the short-term, there would be a loss of understory and woody debris in drainages, which could result in increased erosion to streams and springs. Restoration of vegetation resilience and return to historical fire regimes would reduce impacts to aquatic habitat when fires occur.

Direct impacts of fire suppression actions could involve reduction in available habitat if water is withdrawn from Shoshone Ponds. Indirect effects could include increased sedimentation from vegetation removal, if the disturbed area is located near or within the runoff or drainage area into Shoshone Ponds, Condor Canyon, or Ash Springs. This temporary increase in sedimentation could reduce habitat quality for fish. Application of emergency stabilization and rehabilitation measures would reduce the potential impacts of wildland fires to aquatic habitats. On a long-term basis, the disturbed area would be reclaimed and sedimentation input to these aquatic habitats would be minimized or eliminated.

Hiko White River Springfish, White River Spinedace, and Pahranagat Roundtail Chub. The effects of fuels management on habitat for Hiko White River springfish, White River spinedace, and Pahranagat roundtail chub would be similar to the types of indirect effects described for Pahrump poolfish, Big Spring spinedace, and White River springfish. Short-term disturbance to soils and vegetation removal on BLM land could result in sediment input to adjacent private land that contains habitat for these species. On a long-term basis, fuels management would minimize sediment input to aquatic habitats as soil becomes more stable and desired vegetation becomes established.

The effects of wildland fire suppression and emergency stabilization and rehabilitation on Hiko White River springfish, White River spinedace, and Pahranagat roundtail chub would be similar to the types of impacts discussed for Pahrump poolfish.

Railroad Valley Springfish. Fire management on BLM-administered land would not likely affect habitat for Railroad Valley, since there are no well-developed drainages connecting the public and private lands containing the springs or stream segments inhabited by this species.

Fire suppression management actions are not expected to affect habitat for Railroad Valley springfish, since there are no well-developed drainages connecting the public and private lands containing the springs or stream segments inhabited by this species.

Emergency stabilization and rehabilitation activities would help to reduce the impacts of wildland fires to aquatic habitat for this species.

Other Special Status Aquatic Species. Effects of fire management and fire suppression activities on other special status species on BLM-administered lands would be similar to those discussed above for Pahrump poolfish. Such impacts generally would be minimal and short-term in nature.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. Fuels management activities would generally occur in the upland areas rather than within suitable habitat for these species. Such activities would result in no direct or indirect effects to these species.

Direct impacts to the Southwestern willow flycatcher and yellow-billed cuckoo from fire suppression could result in the incremental long-term disturbance of breeding and foraging habitat and added effects from habitat fragmentation. Direct impacts also could result in the loss of eggs or young if fire activities were to occur during the breeding season. However, potential long-term impacts would be minimized through Section 7 consultation following any necessary fire suppression activities affecting these species. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of fire suppression activities. Beneficial effects would include improved ecological health and vegetation resiliency, and a reduction of potential fire events that could affect riparian habitats.

Emergency stabilization and rehabilitation activities would help reduce long-term impacts to affected habitats for these species.

Bald Eagle. Fuels management activities generally would occur in the upland areas rather than within riparian habitats used by this species.

Direct impacts to the bald eagle from fuels management and fire suppression activities could result in the incremental long-term disturbance of roosting and foraging habitat and added effects from habitat fragmentation. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust/smoke effects associated with fire suppression activities and recently burned areas could further reduce habitat quality in the vicinity of fires. Beneficial effects would include improved ecological health and vegetation resiliency, and a reduced potential for future fire events that could affect riparian habitats.

Desert Tortoise. Wildland fires would have the potential to alter desert plant communities and encourage the proliferation of nonnative plant species, especially red brome. Such fires also could destroy forage and cover, as well as cause wildlife mortalities through exposure to smoke and heat. Tortoises would be susceptible to being killed, particularly when caught in the open or in shallow burrows, as a wildland fire moves past them. After a fire, tortoises may experience food shortages and inadequate cover. Individuals may be able to survive a short term forage loss, since tortoises are adapted to food shortages during drought years. The loss of thermal cover may be a more important impact, particularly on sites where rocks are not available. Hatchlings and juvenile tortoises could be more vulnerable to predation as a consequence of reduced cover.

Fuels management involving the use of prescribed fires or other tools consistent with recovery goals and objectives may be implemented to help reduce the re-burn cycle. Many areas burn repeatedly, reducing the potential for desired perennial and shrubs to return. By using prescribed fires on these areas, temporary fire breaks could be designed to reduce future fire size.

Activities associated with fuels management could include the removal of vegetation with hand tools, bulldozers, or other heavy equipment; and water and slurry drops from helicopters and tankers. Direct impacts to the desert tortoise from fuels management could result in the incremental long-term disturbance of desert tortoise habitat and added effects from habitat fragmentation. Impacts also would include direct removal or loss of individuals through burning or removal of habitat, displacement and loss of individuals through escaped fire, and crushing and trampling of individuals and burrows from vehicles and foot traffic. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality. Beneficial effects would include improved ecological health and vegetation resiliency, and a reduction of potential catastrophic fire events that could affect desert tortoise habitat.

Fire suppression activities also could impact desert tortoise and their habitat. These impacts include vehicular crushing of live tortoises and the destruction of nests and burrows. The construction of fire lines also has the potential to destroy nests and burrows. Off-road tracks created by suppression vehicles would be obliterated after the fire under this alternative, thus minimizing the creation of new permanent roads and trails.

Under the Proposed RMP, full fire suppression tactics within desert tortoise habitat would reduce habitat loss. The use of suppression techniques to minimize surface disturbance and restrict off-highway vehicle travel would limit habitat destruction or degradation and reduce the potential for direct mortalities. Education of fire crews about the desert tortoise and its habitat could reduce effects associated with suppression activities. The use of Resource Advisors in the development of suppression tactics would further mitigate impacts to tortoise habitat. Habitat loss would be further minimized by locating fire camps, staging, and helispots outside of the desert tortoise ACECs.

Plant Species

Ute Ladies'-tresses. This species occurs on private land in a moist meadow. BLM's management actions would help protect private lands from fires occurring on public lands. Additionally, the habitat for this species is relatively fire resistant. Thus, impacts from the Fire Management Program are not anticipated.

Noxious and Invasive Weed Management.

Fish Species

Pahrump Poolfish. Noxious and invasive weed management would not affect habitat for the Pahrump poolfish, since no treatment is planned for the area surrounding Shoshone Ponds. This area is not considered to have high potential for weed introduction and dispersal. Expansion of the fenced area to preclude livestock grazing would help prevent the introduction of noxious weeds.

Big Spring Spinedace. Noxious weed management activities could result in varying effects on Big Spring spinedace habitat. The mechanical removal of weeds would result in soil disturbance, which could contribute increased sediment input into Upper Meadow Valley Wash during runoff events. The extent of sediment input would depend upon the location of mechanical disturbance in relation to the stream channel. Increased sediment could alter fish habitat by covering bottom substrates or adversely affecting macroinvertebrate food sources for fish. The duration of sediment-related effects would be considered short-term (i.e., several months to several years until new vegetation is established). The eradication of monotypic tamarisk stands along Upper Meadow Valley Wash would remove a small amount of overhanging cover that provides shade and streamside structure. Most mixed canopy tamarisk along Upper Meadow Valley Wash has already been removed. Removal of tamarisk also could result in localized sediment input into the stream due to reduced bank stability. After new vegetation is established in several years, cover and bank stability would be established along the stream. Tamarisk removal also could result in potential improved water quality and increased water quantity in steams.

White River Springfish. Future weed treatment could occur along the access road and parking area near Ash Springs. Mechanical removal of weeds could result in surface disturbance and short-term sediment input to the spring depending on the extent of the disturbance area and location in relation to Ash Springs. Non-mechanical methods, such as biological treatments, may be used for some weed species to minimize disturbance impacts. Various best management practices (see Appendix F, Section 1) would be implemented as part of noxious weed treatment to minimize or avoid impacts to aquatic species and their habitat.

Hiko White River Springfish, Pahranagat Roundtail Chub, White River Spinedace, and Railroad Valley Springfish. Noxious weed treatment on BLM-administered land would not affect habitat occupied by Hiko White River springfish, Pahranagat roundtail chub, White River spinedace, and Railroad Valley springfish on non-BLM-administered land. When considering the drainage characteristics, no indirect effects involving sedimentation or other water quality changes are expected to affect habitat for these species.

Other Sensitive Aquatic Species on BLM-administered Land. Other special status species in Upper and Lower Meadow Wash and White River Valley (fish and springsnails) could be affected by noxious weed treatment as discussed for Big Spring spinedace and the White River Valley fish species.

Management of invasive and noxious weeds may cause some temporary and localized impacts to special status species as a result of weed eradication techniques (i.e., use of herbicide) within the planning area. With proper application of approved herbicides, impacts to species would not be expected to cause population level effects. Various other types of treatment methods, such as biological, also may be used to minimize effects on non-target species. Best management practices developed to reduce potential impacts with special status species are presented in Appendix F, Section 1. Treatments designed to decrease or eliminate noxious weeds would benefit special status species habitats by reducing or eliminating the chances for dominance of plant species with limited forage or cover values. Noxious and invasive weed treatments would continue to be evaluated and mitigated on a site-specific basis for the protection of special status plant species.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. The majority of habitat used by these species within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands) and would not be impacted from noxious and invasive weed management. Activities associated with the treatment of noxious and invasive weeds on BLM-administered lands with potential Southwestern willow flycatcher and yellow-billed cuckoo habitat (e.g., Lower Meadow Valley Wash) would include application of herbicides, clearing or cutting vegetation by hand or machinery (e.g., chainsaw), and the use of off-highway vehicles or trucks. Potential impacts to these species from weed management activities could result in the long-term incremental reduction of potential breeding and foraging riparian habitat (i.e., tamarisk stands). Direct impacts also could result in the loss of eggs or young if weed management activities were to occur during the breeding season. Indirect impacts from noise and human presence could further reduce habitat quality in the vicinity of weed management activities in the short term. Potential impacts to this species and its habitat would be minimized through Section 7 consultation and the implementation of BLM best management practices. Beneficial effects would include a reduction in habitat degradation and noxious and invasive species, and increased habitat quality with the reestablishment of native riparian species (e.g., willow).

Bald Eagle. Activities associated with the treatment of noxious and invasive weeds would include application of herbicides, clearing or cutting vegetation by hand or machinery (e.g., chainsaw), and the use of off-highway vehicles or trucks. Potential impacts to the bald eagle from weed management could result in the disturbance of roosting and foraging habitat during these activities. Potential impacts to this species and its habitat would be minimized through implementation of BLM best management practices. Weed control measures would generally improve habitat conditions over the long term.

Desert Tortoise. Activities associated with the treatment of noxious and invasive weeds would include application of herbicides, clearing or cutting vegetation by hand or machinery (e.g., chainsaw), and

the use of off-highway vehicles or trucks. Potential impacts to the desert tortoise from weed management could result in the unintentional removal or destruction of individuals or habitat, loss of cover or food source, harassment, crushing of burrows, and injury or mortality of individuals from vehicles or machinery. Indirect impacts from noise and human presence could further reduce habitat quality in the vicinity of weed management activities in the short term. Potential impacts to this species and its habitat would be minimized through Section 7 consultation and the implementation of BLM best management practices. Beneficial effects would include a reduction in habitat degradation and noxious and invasive species, and increased habitat quality.

Plant Species

Ute Ladies'-tresses. This species occurs on private land. BLM's management actions would help ensure that the agency's weed control activities do not adversely affect vegetation on neighboring private lands. Thus, impacts from the Noxious and Invasive Weeds Program are not anticipated.

Special Designations.

Fish Species

Pahrump Poolfish. A new ACEC (Shoshone Ponds) consisting of 1,240 acres would be implemented in the Shoshone Ponds (see **Map 2.4.22-1**) for the protection of this species. Management actions for mineral development, fuelwood cutting, and renewable energy would be closed, which would eliminate future impacts on habitat from these activities. Limited off-highway vehicle, road maintenance, fire management, transportation, and livestock grazing management activities would occur within this new ACEC. In the short term (1 to 5 years), habitat characteristics would be the same as present conditions. It is anticipated that it would take at least 5 to 10 years before habitat conditions would improve for Pahrump poolfish. There would be no negative effects related to the ACEC designation.

Big Spring Spinedace. A new ACEC (Condor Canyon) 4,500 acres would be implemented in the area surrounding the portion of Upper Meadow Valley Wash inhabited by Big Spring spinedace (see **Map 2.4.22-1**). The ACEC would be established for the protection of this species and its designated critical habitat. Management actions for mineral development and renewable energy would be closed, which would eliminate future impacts on habitat from these activities. Limited off-highway vehicle, road maintenance, fire management, transportation, and livestock grazing management activities would occur within this new ACEC. Potential beneficial effects to habitat for the Big Spring spinedace would occur in at least 5 to 10 years after the restoration is implemented. There would be no negative effects related to the ACEC designation.

White River Springfish. No new ACECs would be implemented for the area surrounding Ash Springs. Therefore, this program would not affect habitat for White River springfish.

Hiko White River Springfish, Pahranagat Roundtail Chub, and Railroad Valley Springfish. No new ACECs would be implemented for the area surrounding Hiko Spring, Crystal Spring, Pahranagat Creek, or

the Duckwater area. Therefore, this program would not affect habitat for the Hiko White River springfish, Pahranagat roundtail chub, and Railroad Valley springfish.

White River Spinedace. A new ACEC (White River Valley) consisting of 13,100 acres in four parcels would be implemented near the White River (see **Map 2.4.22-1**). However, the ACEC locations are at least 1.5 miles from the river, which means that ACEC management activities would not directly affect habitat occupied by White River spinedace on non-BLM administered land. There would be no negative effects related to the ACEC designation.

Other Sensitive Aquatic Species on BLM-administered Land. Designation of the Lower Meadow Valley Wash ACEC would help improve habitat in the long term for Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace. The recovery and conservation actions identified in the southwestern willow flycatcher would serve as a major influence in the management of this ACEC. It is anticipated that it would take at least 5 to 10 years before habitat conditions would improve for these species. Designation of a new White River Valley ACEC would not result in habitat improvements for White River desert sucker, White River speckled dace, and relict dace, since the ACEC would be located in upland areas at least 1.5 miles from the White River. Designations of new ACECs also would improve habitat for other special status wildlife species that occur within these areas.

Wildlife Species

Southwestern Willow Flycatcher and Yellow-billed Cuckoo. A new ACEC encompassing approximately 25,000 acres (Lower Meadow Valley Wash) would be implemented in the Lower Meadow Valley Wash drainage for the protection of several special status species including the Southwestern willow flycatcher and yellow-billed cuckoo (see **Map 2.4.22-1**). This ACEC includes approximately 300 acres of Southwestern willow flycatcher habitat and approximately 340 acres of yellow-billed cuckoo habitat. Habitats for the two species generally are similar and overlapping. Management actions for the ACEC include closure for plant collecting, locatable mineral development, mineral materials development, fuelwood cutting, and renewable energy, which would eliminate future impacts on habitat from these activities. Leasable mineral development would be subject to the no-surface-occupancy stipulation. The area would be an avoidance area for rights-of-way, no new roads would be developed, and the area would not be available for disposal. Off-highway vehicle use, road maintenance, fire management, and livestock grazing within the area would be limited. No negative direct or indirect impacts to the southwestern willow flycatcher and yellow-billed cuckoo would occur from the designation of ACECs on the planning area. Beneficial effects would result from the exclusion or reduction of management actions (e.g., livestock grazing, off-highway vehicle use, mineral extraction, etc.) that otherwise would be permitted. As a result, effects to potential habitat for these species (i.e., riparian/wetland) within designated ACECs would include long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution.

Designation of the Rainbow Canyon and Silver State Trail as back country byway (see **Map 2.4.22-2**) would likely increase visitor used of this trail and may increase the level of human activity within potential habitat along Meadow Valley Wash. These activities are expected to have little effect on the species.

Bald Eagle. No negative direct or indirect impacts to the bald eagle would occur from the designation of ACECs in the planning area. Beneficial effects would result from the exclusion or reduction of management actions (e.g., livestock grazing, off-highway vehicle use, mineral extraction, etc.) that would be permitted. As a result, effects to potential bald eagle habitat (i.e., riparian/wetland) within several designated ACECs containing riparian or wetland habitat (e.g., Lower Meadow Valley Wash, Shoshone Ponds, Swamp Cedar, and Condor Canyon) would include long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved foraging habitat, and potential increases in species distribution.

Desert Tortoise. Redesignation of the three existing desert tortoise ACECs would directly benefit the threatened desert tortoise, assisting the recovery and delisting of the species in the Northeastern Mojave Recovery Unit. The three existing ACECs (Beaver Dam Slope – 36,800 acres; Kane Springs – 57,190 acres; and Mormon Mesa – 109,680 acres) would be retained and redesignated for the protection of desert tortoise (see **Map 2.4.22-1**). Management plans would be developed for these three ACECs to address and implement multiple-use management actions and conservation measures for desert tortoise. No negative direct or indirect impacts to the desert tortoise would occur from the retention of these ACECs in the planning area. Beneficial effects would result from the exclusion or reduction of management actions (e.g., additional rights-of-way, off-highway vehicle use, mineral extraction, land disposal, livestock grazing, renewable energy development, etc.) that otherwise would be permitted. As a result, effects to potential desert tortoise habitat within designated ACECs would include long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved foraging habitat, and potential increases in species distribution. The effects of those various management prescriptions associated with designation of the ACECs are discussed in greater detail in the individual resource management programs.

Plant Species

Ute Ladies'-tresses. The only known population of this species in the planning area occurs on private land near Panaca Spring. Thus, no direct or indirect impacts to known populations of Ute ladies'-tresses are anticipated to result from this or other resource management programs within the Proposed RMP.

Other Sensitive Plant Species on BLM-administered Land. Three new ACECs totaling approximately 24,900 acres would be established primarily for the protection of special status plants. The establishment of these ACECs and the land use restrictions associated with these ACECs would have a positive effect on known and potential habitat for special status plants in these areas. These ACECs and the associated special status plant species occurring within them are as follows:

- Schlesser Pincushion ACEC
  - Schlesser pincushion cactus (*Sclerocactus schlesseri*)

- White River Valley ACEC
  - Sunnyside green gentian (*Frasera gypsicola*)
  - Eastwood milkweed (*Asclepias eastwoodiana*)
  - White River catseye (*Cryptantha welshii*)
  - Tiehm blazingstar (*Mentzelia tiehmii*)
  - Parish phacelia (*Phacelia parishii*)
  - Charleston grounddaisy (*Townsendia jonesii* var. *tumulosa*)

- Highland Range ACEC
  - Basin waxflower (*Jamesia tetrapetala*)

In addition to these three ACECs established in relation to the species shown, establishment of the Condor Canyon ACEC may provide benefit to the Ute ladies' tresses orchid, since the species could occur within that area.

Conclusion. Sensitive fish and invertebrate species would be managed through evaluations of their overall habitat conditions. Numerous resource uses could affect sensitive aquatic habitat as a result of sedimentation, vegetation removal, or habitat alteration. Changes in grazing management and restoration efforts in riparian areas could improve habitat conditions in the long-term, particularly in Lower Meadow Valley Wash ACEC and Condor Canyon ACEC. Vegetation management could result in greater short-term impacts through erosion and sedimentation as a result of increased treatment areas. On a long-term basis, the restoration of vegetation resilience in riparian areas and the surrounding uplands would improve habitat conditions for sensitive fish and invertebrate species. By implementing the various management actions associated with the special status species management direction and mitigation actions associated with other programs, the goals and objectives for special status aquatic species would be achieved.

Special status wildlife species would be specifically assessed, based on species-specific desired future conditions, and compared to overall habitat conditions and identification of causal factors for declines. On a watershed level, restoration activities would result in higher quality forage, increased cover and vegetation structure, and increased habitat quality for special status species. On a landscape level, restoration activities to achieve appropriate ranges of vegetation conditions would improve special status species habitats by reducing habitat degradation and fragmentation, and promoting ecological health and resiliency. The Proposed RMP would achieve the program goal for special status wildlife species.

A detailed analysis of potential impacts to special status plants would be completed in conjunction with each watershed and habitat analysis. As part of the best management practices, potential mitigation measures and monitoring would be developed on a site-specific basis. Three new ACECs would be established primarily for the protection of special status plants. The establishment of these ACECs and the land use restrictions associated with them may offer additional protection where special status plants occur in these areas. Therefore, implementation of the Proposed RMP would result in additional protection for special status plants and achieve the program goal relative to such species.

Alternative A

Impacts from Special Status Species Management Actions.

Parameter – Special Status Species Habitat

Management actions for federally listed species are mandated to comply with Section 7 of the Endangered Species Act. This requirement is reflected in the management direction and standard operating procedures. Compliance with the Endangered Species Act requires that any direct or indirect impacts on federally listed species do not jeopardize the species or their designated critical habitat.

Management of listed fish species would continue to be focused on maintenance or enhancement of designated critical habitats on BLM-administered public land, which involves three species (Big Spring spinedace, Pahrump poolfish, and White River springfish). Habitat for other sensitive (non-listed) fish species also would be maintained or enhanced.

Numerous management actions applicable to all alternatives would be implemented to minimize or eliminate impacts to special status fish species (Section 2.5.7, Special Status Species). A key management action for all species would involve the Ely Field Office's participation in the Nevada Department of Wildlife Interagency Implementation Teams to identify and implement actions for the recovery of listed fish species in the planning area.

Management of special status wildlife species would continue to occur predominantly at a fine scale (i.e., allotment, project, or portion of a watershed) and occasionally at the large scale (i.e., planning area) through management actions that address an immediate need or habitat niche for the maintenance, mitigation, and restoration of a single special status species on a case-by-case basis. Implementation of this alternative would include restoration activities that would be managed to achieve desired range of conditions for vegetation communities (see Section 2.5.5, Vegetation Resources). The historic restoration rate of approximately 10,000 acres per year is not considered an adequate rate of habitat restoration, given the historic trends in habitat degradation, fragmentation, and spread of invasive vegetation species that have occurred on the planning area. With continued deterioration of these communities and resultant loss of habitat for several special status species, particularly those that inhabit sagebrush and salt desert shrub communities, the probability continues to increase for additional listing of such species under the Endangered Species Act. Listing of one or more species within this complex of sensitive species easily could impose major constraints on other multiple uses within the planning area.

Under this alternative, cave roosting habitat for bats would receive protection from other program activities (e.g., recreation) through implementation of the Ely Field Office Cave Management Plan and by restricting actions and activities that could impact sensitive roost areas (e.g., hibernaculum, maternity roost, and bachelor roosts) on the planning area. Protection of other roosting habitat (e.g., rock outcrops and vegetation) and restoration projects to promote or restore foraging habitats (e.g., riparian and pinyon-juniper) would not be a priority under this alternative. As a result, degradation of foraging and some roosting habitat for bat species would continue.

Special status plants would be addressed on a case-by-case basis. Recovery of species and historic habitats would continue to be affected due to lack of occurrence information. A more detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. As part of the best management practices, potential mitigation measures and monitoring would be developed on a site-specific basis.

Parameter – Great Basin Riparian Habitat

Management of listed fish species would continue to be focused on maintenance or enhancement of designated critical habitats on BLM-administered public land, which involves two species within this habitat (Big Spring spinedace and Pahrump poolfish). Habitat for other sensitive (non-listed) fish species also would be maintained or enhanced. Habitat projects would be implemented on a case-by-case basis.

Specific management actions also would affect Pahrump poolfish under Alternative A. Existing fencing around the Shoshone Ponds would continue to provide some protection to surface disturbance to adjacent lands and habitat for Pahrump poolfish. However, the fencing is not totally effective in eliminating human and livestock access or run-off from adjacent upland areas.

Although a historic population of Ute ladies'-tresses orchid was observed near Panaca Spring in Meadow Valley Wash in 1936, this population was not observed again nor were other populations observed in the planning area until 2005. At that time, the original population was rediscovered. No active management for this species is currently conducted by the Ely Field Office. Pre-construction review of proposed projects and disturbances requiring NEPA review would continue to be the primary means of avoiding potential impacts to known or potential habitat for the Ute ladies'-tresses orchid and other special status plant species. If additional unknown populations of Ute ladies'-tresses exist on public lands, the current management approach would not protect such populations from potential conflicts with resource uses not requiring NEPA review.

Parameter – Mojave Desert and Great Basin Riparian Habitats

Under Alternative A, the Lower Meadow Valley Wash area would not be designated as an ACEC for protection of special status species within this riparian habitat. Thus, impacts to the Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace from livestock grazing and other uses would continue. Similarly, the Condor Canyon area would not be designated as an ACEC for protection of the Big Spring spinedace.

Within riparian habitats of the Mojave Desert and Great Basin ecological systems, conflicts would continue to result in short-term localized habitat disturbance from habitat restoration projects and the incremental reduction of potentially suitable habitat for species that utilize tamarisk (e.g., southwestern willow flycatcher, yellow-billed cuckoo, Arizona southwestern toad). Implementation of standard operating procedures that would minimize or prevent potential impacts to special status species are present in Appendix J of the Draft Ely RMP/EIS (July 2005). In addition, since no special use restrictions or utilization levels, above BLM

general standards and policy, have been established for Meadow Valley Wash, effects from grazing would continue to result in a reduction in herbaceous and shrub cover and overall nesting and foraging structure for special status species that utilize riparian habitat.

Parameter – Mojave Desert Riparian Habitat

Management of listed fish species would continue to be focused on maintenance or enhancement of designated critical habitats on BLM-administered public land, which involves one species in this habitat (White River springfish). Habitat projects would be implemented on a case-by-case basis for this and other aquatic species. In the riparian habitats of the White River/Pahranagat Valley, adjacent public lands would be managed so that indirect effects would not occur for White River springfish, Hiko White River springfish, or Pahranagat roundtail chub. Management actions identified in the recovery plans (see **Table 3.7-3**) would continue to be implemented.

Specific management actions would be implemented for White River springfish habitats in Ash Springs, as identified in the Ash Spring Coordinated Management Plan. These actions would involve the 72-acre administrative withdrawal of Ash Springs from future land sales and development. Mitigation and monitoring identified in previous Section 7 consultations for this species would continue to be used. Management actions also would be implemented to minimize indirect effects on fish species that occur in adjacent lands (Virgin River, Muddy River, White River Valley, and Pahranagat Valley) to the planning area (see Section 2.5.7, Special Status Species).

Parameter – Mojave Desert Scrub Habitat

Under this alternative, special status species in the Mojave Desert ecological system would continue to experience watershed level effects from increased displacement by red brome and other invasive species, and a reduction of native herbaceous understory. However, special status species in the Mojave Desert ecological system would continue to benefit from the exclusion of livestock grazing within designated desert tortoise ACECs (approximately 203,670 acres) and special use restrictions that have been developed for desert tortoise habitat outside the ACECs. This management direction would provide higher quality forage (i.e., grasses and forbs) and cover within these areas. Implementation of standard operating procedures that would further reduce potential impacts to desert tortoise are presented in Appendix J of the Draft Ely RMP/EIS (July 2005).

Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Under this alternative, no habitat analyses, systematic breeding surveys, or proactive actions to promote habitat conditions for the burrowing owl or other desert scrub or salt desert shrub dependent special status species would occur. As a result, habitat for special status species within desert scrub or salt desert shrub communities would continue to be affected primarily by management of other uses such as livestock grazing, fire management, and recreation.

Parameter – Great Basin Sagebrush Habitat

Within sagebrush habitats of the Great Basin ecological system, watershed level effects would continue to result in the reduction in available herbaceous forage, cover, and shrub structure for sagebrush-dependent special status species (e.g., greater sage-grouse and pygmy rabbit) in the long term. Landscape level effects would continue to result from general habitat degradation, habitat fragmentation, and a reduction in ecological health and resiliency.

Impacts from Other Programs. Effects to special status species associated with forest/woodland and other plant products and noxious and invasive weed management would be the same as described for the Proposed RMP. The following interrelated programs would result in different effects as compared to the Proposed RMP.

Water Resources. Effects related to this program would be the same as the Proposed RMP. Actions of this program would focus on restoration and maintenance of water quality on these lands. Additional best management practices impose constraints on various types of uses to ensure that water quality is maintained. If these actions propose to use water sources that affect surface water quantity, reductions in flow or water levels could adversely affect habitat for special status species. These actions would be addressed on a case-by-case basis when specific water uses are identified.

Vegetation.

Big Spring Spinedace, Pahrump Poolfish, and White River Springfish. If future vegetation treatment (e.g., prescribed fire or chaining) is applied to Upper Meadow Valley Wash (Condor Canyon) or the area surrounding the Shoshone Ponds and Ash Springs, activities would be completed using standard operating procedures and best management practices to minimize any sediment input to the water bodies.

Other Special Status Aquatic Species on BLM-administered Land. Potential impacts to other special status fish species (Meadow Valley Wash desert sucker, Meadow Valley Wash speckled dace, White River desert sucker, White River speckled dace, relict dace, and Bonneville cutthroat trout) and sensitive invertebrates (e.g., springsnails) would be similar to those described for the Big Spring spinedace. However, vegetation management actions for Meadow Valley Wash desert sucker and Meadow Valley speckled dace would apply to occupied habitat in both Upper Meadow Valley Wash and Lower Meadow Valley Wash. The lower portion of Meadow Valley Wash is defined as the Clover Creek confluence (near Barclay) to the Clark County line (south of Rox).

Special Status Aquatic Species on Non-BLM-administered Land. Vegetation treatment in the planning area would not affect areas occupied by seven federally listed and other special status species on non-BLM-administered land. When considering the drainage characteristics, no indirect effects involving sedimentation or other water quality changes are expected to affect habitat used by these species.

Treatment and maintenance activities would occur primarily in pinyon-juniper and sagebrush communities although less extensive treatments, as compared to the Proposed RMP, would occur within each of the

Great Basin vegetation types. Although the effects on special status species from restoration activities (i.e., removal or thinning of woodland and shrubland) would be similar to those discussed for the Proposed RMP, the levels of treatment within various vegetation communities under Alternative A are not expected to keep up with the ongoing decline of ecological health in these same communities. Thus, vegetation communities would continue to exhibit transitions that affect wildlife habitat (e.g., conifer invasion of aspen stands and establishment of pinyon and juniper trees in sagebrush shrubland), increased tree density and canopy cover, and a reduction of native herbaceous understory (e.g., grasses and forbs) in untreated areas. Although localized restoration activities to achieve the desired range of conditions generally would improve habitats for special status species in these areas, habitat quality would continue to decline at the landscape scale with associated increase in the risk for additional listings under the Endangered Species Act.

Management of the Mojave Desert ecological system would be similar to the Proposed RMP except that this alternative would focus on maintaining or improving vegetation health and resiliency through management of various uses (e.g., livestock grazing, recreation, and wild horse herds) and the localized treatment of noxious weeds and exotic woody species (e.g., red brome and tamarisk). Although localized restoration activities would benefit special status species by increasing herbaceous forage and ground cover in the short term, and improving vegetation composition and structure in the long term, the levels of treatment under this alternative are not expected to keep pace with the ongoing spread of invasive species. Thus, landscape level effects would continue to result in increased habitat degradation and a reduction in overall habitat quality in the long term.

Some of the vegetation management programs that may result in positive effects to potential or known habitats for the Ute ladies'-tresses orchid include the maintenance of current riparian vegetation species and improvement of riparian vegetation towards proper functioning condition. Restoration actions (e.g., prescribed fire, reseeding) within specific habitats would be evaluated on a site-specific basis to avoid or minimize potential impacts to special status plants.

Fish and Wildlife.

Big Spring Spinedace. Habitat management for nonnative trout species in Upper Meadow Valley Wash and Clover Creek do not overlap with designated critical habitat for Big Spring spinedace. Therefore, management actions for trout would not affect Big Spring spinedace.

Pahrump Poolfish, and White River Springfish. Habitat management for nonnative trout species would not conflict with occupied or designated critical habitat for these species. Nonnative trout do not occur in Shoshone Ponds or Ash Springs.

Other Sensitive Species on BLM-administered Land. The management of nonnative trout species could result in conflicts with other sensitive aquatic species in terms of competition for food, cover, spawning areas, and other ecological requirements. Conflicts would be addressed on a case-by-case basis for a specific water body.

The management of fish and wildlife would result in the same general effects as discussed above for the Proposed RMP, except fewer acres of habitat would be treated in the long term. The management of fish and wildlife would result in conflicts with some special status species, particularly those that occupy dense pinyon juniper and sagebrush vegetation communities. However, potential impacts are expected to be short term. Long term effects would improve ecological health and habitat quality for special status species.

Special riparian use restrictions or limitations that may be implemented on a case-by-case basis to protect fisheries would avoid or minimize effects to potential habitat for the Ute ladies'-tresses orchid in the long term.

Wild Horses.

Big Spring Spinedace. Occupied and designated critical habitat for Big Spring spinedace is located adjacent to the Deer Lodge Canyon Herd Management Area, which has an appropriate management level of 30 to 50 horses. Although horse use would not occur within the stream channel, surface disturbance would occur in the area south of Upper Meadow Valley. Sediment could enter the stream during runoff periods.

Pahrump Poolfish and White River Springfish. No wild horse herd management areas currently exist within the Shoshone Pond Resource Area or Ash Springs, which contain occupied and designated critical habitat for these species. Therefore, wild horses would not affect these species.

Other Sensitive Species on BLM-administered Land. Potential impacts to other special status fish species occurring in Upper and Lower Meadow Valley Wash (Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace) would be the same as described for the Big Spring spinedace. Sediment-related impacts to springsnail habitats also could occur as a result of horse use of areas surrounding springs in other herd management areas.

Special Status Species on Non-BLM-administered Land. Wild horse herd management areas would not affect areas occupied by the six federally listed species that occur on adjacent non-BLM-administered land.

Wild horses would have the same general effects on special status wildlife species as described under the Proposed RMP, except that 24 herd management areas would be retained and approximately 1.6 million more acres would be available for wild horses.

Effects of wild horse management on special status plant species would be similar to the Proposed RMP except continued grazing of vegetation by wild horses in all existing herd management areas may result in greater damage to known or potential habitat for Ute ladies'-tresses orchid or other special status plants.

Lands and Realty. No identified disposal areas include known populations of special status aquatic species, but a variety of identified potential disposal areas are in close proximity to such populations (approximately 1,100 feet). The management approach under Alternative A specifies that lands would be

retained if actions would result in a listing of sensitive species or affect designated critical habitat for federally listed species. Possible land disposals and acquisitions potentially could result in impacts depending upon the land use actions. Potential impacts could include changes in water quality and quantity or direct alteration of habitat. Beneficial effects could result from land transactions that provide conservation easement or other actions that protect the species. Future transactions would be analyzed on a site-specific basis. Compliance with the Endangered Species Act would require that actions would not jeopardize the continued existence of the species or its designated critical habitat.

Under this alternative, approximately 31,900 acres of land would be available for possible land disposal. Potential land disposals would be more limited than the Proposed RMP and, thus, would have less impact on special status species. Utility right-of-way management would result in the same general effects to special status species as described for the Proposed RMP. Development of newly proposed utility projects and communication sites would be evaluated for effects on special status species and special status species habitat, on a case-by-case basis, in accordance with NEPA. Conflicts with land use authorizations would be expected to result in the long-term reduction of wildlife habitat and increased effects from habitat fragmentation. Development of new land use authorization facilities would be evaluated for effects on special status species, in accordance with NEPA. Standard operating procedures and best management practices that would reduce potential impacts of land and realty actions to special status species are presented in Appendix N of the Draft Ely RMP/EIS (July 2005).

Potential land disposals and acquisitions would continue to be evaluated and mitigated, as needed, on a site-specific, case-by-case basis to minimize potential impacts to special status plants. Proposed expansion of existing designated corridors and land and realty actions would be evaluated under NEPA prior to implementation. Potential impacts to special status plants would be addressed in those analyses.

Renewable Energy. Under Alternative A, proposed wind energy and solar energy development projects would be reviewed by the Ely Field Office on a case-by-case basis. Conflicts with special status species would be the same as discussed for the Proposed RMP,

Travel Management and Off-highway Vehicle Use.

Big Spring Spinedace, Pahrump Poolfish, and White River Springfish. Use of existing and new transportation corridors could result in short-term, localized sediment input to perennial stream segments. The primary mechanism for sediment effects would involve off-highway vehicle use adjacent to or within stream channels. Soil disturbance from vehicle use could result in sediment runoff from roads into adjacent streams. The construction of new roads near streams could result in sediment input due to surface disturbance. By implementing required erosion control measures during construction, sediment impacts to streams would be minimal.

Other Sensitive Species on BLM-administered Land. Potential impacts to other special status fish species occurring in Upper and Lower Meadow Valley Wash (Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace) would be the same as described for Big Spring spinedace (Upper Meadow Valley Wash). Sediment-related impacts also could occur in the Clover Creek drainage, which

contains habitat for Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace. Activities include maintenance of the Union Pacific Railroad rights-of-way and off-highway vehicle use. Other special status species that could be affected by transportation include White River desert sucker, White River speckled dace, and relict dace (White River) and springsnails.

Special Status Species on Non-BLM-administered Land. Road use on BLM-administered land would not affect areas occupied by seven federally listed species that occur on adjacent non-BLM-administered land.

Travel management and off-highway vehicle use would have the same general effects on special status wildlife species as the Proposed RMP; however, approximately 9.8 million acres would remain open to off-highway vehicle use. Impacts to wildlife from increased noise and human presence would be much more widespread and potentially much more disruptive, as compared to the other alternatives. Development of new trails by off-highway vehicle use within these open areas would result in increased habitat degradation and fragmentation.

New road construction would continue to be evaluated and mitigated, as needed, on a site-specific, case-by-case basis to minimize potential impacts to special status plants. Potential impacts (e.g., trampling of vegetation, soil disturbances) to known and potential habitat for the Ute ladies'-tresses orchid or other special status plants may occur on 9.8 million acres open to off-highway vehicle use and adjacent areas as a result of trespass use.

Recreation.

Big Spring Spinedace and Pahrump Poolfish. Recreation activities under Alternative A could result in vehicle traffic and hiking near Condor Canyon in Upper Meadow Valley Wash and Shoshone Ponds. Vehicle use could result in some erosion along existing roads and trails. It is not expected that these activities would contribute sediment, since they are located at least 500 feet from the waterbodies. In addition, management direction to be defined in the Condor Canyon and Shoshone Pond ACECs would not allow activities that could affect habitat for these federally listed species.

White River Springfish. Recreation activities in the Ash Springs area include swimming, picnic use, and hiking. Effects of these activities on habitat for White River springfish could include sedimentation, bottom disturbance, and direct alteration of the shoreline area. No new special recreation management areas would be implemented under Alternative A, which would avoid sediment-related impacts associated with the Pahranagat Special Recreation Management Area.

Other Sensitive Species on BLM-administered Land. Potential impacts to other special status fish species occurring in Upper and Lower Meadow Valley Wash and Clover Creek (Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace) would be similar to other sensitive fish species. Other special status species that could be affected by recreation include White River Wash desert sucker and relict dace (White River) and springsnails.

Special Status Species on Non-BLM-administered Land. Recreation activities on BLM-administered land would not affect areas occupied by seven federally listed species that occur on adjacent non-BLM-administered land.

Recreation activities would have the same general effects on special status wildlife species as the Proposed RMP. Organized race events would continue under the current permitting system and would affect wildlife as described under the Proposed RMP.

Livestock Grazing.

Big Spring Spinedace. No special use restrictions or utilization levels, above BLM general standards and policy, would be established in Upper Meadow Valley Wash. Meadow Valley Wash is located in three grazing allotments (Black Hills, Condor Canyon, and N4/N5). The effects of grazing activities on Big Spring spinedace habitat could include direct alteration to bottom substrate, increased sedimentation, and loss of riparian vegetation. To minimize these types of impacts to Meadow Valley Wash, the BLM prepared the Condor Canyon Habitat Management Plan in 1990. The plan was designed to maintain or improve habitat conditions for this species. The plan recommended excluding livestock grazing within the Canyon between March 15 and November 15, limiting casual vehicle use to the railroad bed, and prohibiting organized competitive or non-competitive vehicle events. The change in livestock grazing season has not been implemented but will be considered when the allotments are evaluated.

Pahrump Poolfish. No cattle grazing currently exists within Shoshone Ponds, which contains occupied habitat for this species. The Ely Field Office has fenced the area around the ponds to restrict grazing. Therefore, livestock grazing would not affect Pahrump poolfish.

White River Springfish. No cattle grazing currently exists on BLM-administered land in the vicinity of Ash Springs. Therefore, cattle grazing would not affect this species.

Other Sensitive Species on BLM-administered Land. Potential impacts to other special status fish species occurring in Upper and Lower Meadow Valley Wash (Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace) would involve potential sedimentation effects on Meadow Valley Wash during the grazing periods. In Lower Meadow Valley Wash, grazing would occur outside of the southwestern willow flycatcher breeding period. Other special status species that could be adversely affected by grazing include the White River desert sucker and relict dace (White River), Bonneville cutthroat trout (Hampton and Goshute Creeks), Newark Valley tui chub, and springsnails.

Special Status Species on Non-BLM-administered Land. Cattle grazing would not affect areas occupied by six federally listed species that occur on adjacent non-BLM-administered land.

Livestock grazing would continue to be authorized for approximately 424,602 animal unit months on 8.4 million acres for allotments that have been determined to be meeting or progressing toward achievement of the standards for rangeland health. These will continue as needed to meet RMP goals and objectives including the standards for rangeland health. Current livestock grazing will be maintained for

120,665 animal unit months on 3.2 million acres until allotments have been evaluated for progress toward achievement of the standards for rangeland health. Changes to livestock grazing use will be made as needed to meet or progress toward achievement of the standards. These actions would lessen the impacts to the resource.

Effects to special status wildlife species from livestock grazing would be similar to those described for the Proposed RMP, except that under Alternative A, livestock utilization levels and special use restriction would continue to be implemented through existing framework plans and site-specific activity plans. As a result, special status species conflicts with livestock grazing could continue to result from competition for forage, cover, and water resources in isolated situations throughout the planning area. On a landscape scale, livestock grazing would continue to affect habitat quality for special status species and, in some cases, may limit such populations.

Current grazing practices are not expected to cause deterioration of known and potential habitat for the Ute ladies'-tresses orchid or other special status plants. Grazing management practices and on-going effects would continue to be evaluated and mitigated, as needed, on a site-specific, case-by-case basis to minimize potential impacts to special status plants.

Forest/Woodland and Other Plant Products.

Big Spring Spinedace. Since Upper Meadow Valley Wash does not occur within an evergreen forest area, impacts associated with wood product harvest would be considered relatively low level magnitude. However, tree cutting has occurred in the area, particularly after the railroad tracks were removed in 1984 (U.S. Fish and Wildlife Service 1993). Therefore, impacts of tree removal could occur in the future. The types of impacts could include increased erosion, fuel spill risks, and removal of riparian vegetation. It is assumed that activities would not occur within the perennial stream channels to directly alter habitat. The magnitude of potential impacts would depend upon the proximity to the perennial stream, extent of surface disturbance, and drainage characteristics (e.g., gradient and extent of vegetation cover).

Pahrump Poolfish and White River Springfish. No wood harvests are allowed within Shoshone Ponds or Ash Springs. Therefore, wood product harvest would not affect these species.

Other Sensitive Species on BLM-administered Land. Potential impacts to other special status fish species occurring in Upper and Lower Meadow Valley Wash (Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace) would be considered low magnitude due to minimal tree harvesting in the drainage. If wood product harvests occurred in areas near springs or other perennial stream segments, other sensitive fish and invertebrates such as springsnails could be affected on a short-term basis.

Special Status Species on Non-BLM-administered Land. Habitat occupied by the three federally endangered fish species on BLM-administered land does not occur within areas representing potential wood harvest areas (i.e., evergreen forests). In addition, wood harvest areas are not located adjacent to habitat for the six federally listed fish on non-BLM-administered land. Therefore, the wood harvest program is not expected to affect sensitive aquatic species.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario (see Section 4.18, Geology and Mineral Extraction). The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Big Spring Spinedace. Three historic mining claims (closed in 1986) exist in the immediate vicinity of Condor Canyon and overlap with Big Spring spinedace designated critical habitat (U.S. Fish and Wildlife Service 1993). Impacts from these activities included loss or alteration of habitat, sedimentation, and removal of riparian vegetation. One active mining claim exists in Section 23. If this claim is developed in the next 20 years, potential impacts could occur, as discussed for past mining activities. No active oil and gas leases overlap with occupied or designated critical habitat for Big Spring spinedace; therefore, oil and gas development would not affect this species.

Pahrump Poolfish and White River Springfish. No historic mining or oil and gas development overlap with the area surrounding Shoshone Ponds or Ash Springs. The areas surrounding habitat occupied by these species also are closed to leasable and mineral materials. Therefore, these activities are not expected to affect these species. Future fluid mineral development could occur and affect habitat for these species, since the land surrounding their habitat is not closed to fluid leasable mineral development.

Other Sensitive Species on BLM-administered Land. Other special status fish species in Upper and Lower Meadow Valley Wash (Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace) could be affected by future mining, as discussed for Big Spring spinedace. Mining in the garnet rock quarry in the Hampton Creek drainage could affect habitat for Bonneville cutthroat trout. Oil and gas development in Newark Valley could impact Newark Valley tui chub.

Special Status Species on Non-BLM-administered Land. No historic or future mining is expected to occur in areas surrounding occupied and designated critical habitat for the other seven federally listed fish species that occur on non-BLM-administered land.

Effects of mineral development on special status wildlife species would be similar to those discussed for the Proposed RMP with various species covered by timing and use stipulations under the fluid minerals leasing program. In relation to other types of mineral development activities, special status wildlife species generally would be protected through project-specific mitigation measures developed as a result of additional NEPA analyses associated with the individual projects at the time they are proposed.

Minerals leasing would continue to be evaluated and mitigated, as needed, on a site-specific basis for the protection of special status plants.

Watershed Management.

Big Spring Spinedace. The watershed analysis for Panaca Valley, which contains designated critical habitat for Big Spring spinedace in Condor Canyon, is considered a high priority in the assessment schedule. The assessments would determine the physical and biological conditions of a watershed. During the implementation phase of the watershed analysis, recommendations would be made to restore habitat features that are impaired or not functioning satisfactorily. In the long-term, the watershed analysis would help to improve aquatic habitat. However, until the assessments are completed, current conditions in water resources would continue.

Pahrump Poolfish. The Shoshone Ponds area is included among the high priority watersheds Improvements in habitat conditions would occur, as discussed for the Big Spring spinedace.

White River Springfish. The Ash Springs area is included among the high priority watersheds. Improvements in habitat conditions would occur, as discussed for the Big Spring spinedace.

Other Sensitive Species on BLM-administered Land. Watershed analyses in Meadow Valley Wash, which are on the high priority list, also would be helpful in identifying habitat concerns for Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace. Other special status species that could benefit from watershed analyses include White River desert sucker and Preston White River Valley springfish (White River North is a high priority watershed), Moorman White River springfish (White River South is a high priority watershed), and Bonneville cutthroat trout (Deep Creek and Snake Valley North are low priority watersheds while Snake South is a high priority watershed). As stated above, current trends in water bodies would continue until habitat restoration is implemented. Habitat for springsnails would improve at scattered spring locations throughout the planning area, with the timing of improvements depending on the schedule of the various watershed assessments and subsequent treatments.

Special Status Species on Non-BLM-administered Land. Watershed analyses for the BLM-administered lands adjacent to the federally listed species that occur on state or private land include a combination of high and low priority watersheds.

Following vegetation treatments, the quantity and quality of forage (i.e., herbaceous vegetation) is expected to increase within treated areas and would provide improved habitat for special status species in the short term. In the Schell Resource area, the reservation of 30 percent of additional forage for wildlife would continue to provide an incremental increase in available forage for special status species. Additional forage within the Egan and Caliente Resource Areas in the planning area would continue to be allocated or reserved proportionately among all users, including wildlife, on a case-by-case basis. Although treated areas would provide additional herbaceous forage and increased habitat quality for wildlife in the short term,

landscape level effects would continue to result from habitat degradation and fragmentation, reduction in ecological health, and reduction in vegetation resiliency in the long term.

A more detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. As part of the best management practices, potential mitigation measures and monitoring would be developed on a site-specific basis.

Fire Management.

All Species. If prescribed and wildland fire use are conducted in areas containing habitat for special status species, effects could be the short-term loss of understory and woody debris, which provides cover and shading for aquatic species. Within 10 years, vegetation would recover along the streams and provide cover attributes with a lower fire risk. Restoration of woody vegetation in riparian areas could take longer than 10 years. The potential for large uncontrolled wildland fires would exist throughout the next 20 years. Increased erosion and sediment input to streams likely would occur in these burned areas due to the loss of vegetation.

Big Spring Spinedace. Under this alternative, the restoration efforts would continue to focus on mitigation. Restoration and recovery efforts would focus on mitigating the direct and indirect effects of post-wildland fire on Condor Canyon and the associated aquatic habitats.

Other Sensitive Species on BLM-administered Land. Habitat restoration for Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace would focus on stabilization projects in areas burned by wildland fires in Upper and Lower Meadow Valley Wash.

Restoration activities resulting from wildland fire use and prescribed fire commonly would improve forage palatability for some special status wildlife species through the use of both native and nonnative plant species, increased availability of herbaceous forage plants, and increased amount of habitat edge in the short term. However, at the historic rate of restoration, it is anticipated that vegetation communities would continue to exhibit transitions in community structure and composition, increased tree density and canopy cover, and a reduction of native herbaceous understory (e.g., grasses and forbs) in untreated areas. In the absence of large fires, these habitat changes would result in a reduction of herbaceous forage, structure, and overall suitability of habitats for special status species. Even with the expansion of fire use to the extent allowed under the current fire plan, it is expected that woody fuels would continue to accumulate in untreated areas, and the probability of major, uncontrollable stand-replacing fires would continue to escalate. Thus, over the long term, it is anticipated that increased large fire events would provide open niches for expansion of nonnative and functionally divergent weedy species including flammable annuals and non-palatable perennials. On a landscape scale, habitats would exhibit a reduction in overall habitat quality, ecological health, and vegetation resiliency in the long term.

Prescribed fire and wildland fire use would continue to be evaluated and mitigated, as needed, on a site-specific, case-by-case basis to minimize potential impacts to special status plants.

It is not likely that fire management activities would affect the Ute ladies'-tresses orchid since this species occurs within and near riparian and wetland areas which are not conducive to carrying wildland fires due to the higher moisture content of the soils and vegetation. Fire management activities would not likely affect the Sunnyside green gentian since this species occurs in the salt desert shrub community, which likely would not have sufficient natural fuels to support a major fire. Other special status plants that occur in the pinyon-juniper woodland and sagebrush communities may be affected by wildland fires since these communities include a sufficient amount of natural fuels that are conducive to carrying wildland fires.

Noxious and Invasive Weed Management.

Big Spring Spinedace. As part of existing conditions in Condor Canyon, most of the large native structural vegetation was destroyed by the 1999 fire events. As of early 2006, restoration efforts have not replaced native vegetation including a riparian cover component. Noxious and invasive weed management activities would result in varying effects on Big Spring spinedace habitat. The mechanical removal of weeds would result in soil disturbance, which could contribute increased sediment input into Meadow Valley Wash during runoff events. Increased sediment could alter fish habitat by covering bottom substrates or adversely affecting macroinvertebrate food sources for fish. The duration of sediment-related effects would be short-term in duration (i.e., several months to several years until new vegetation is established). The eradication of monotypic tamarisk stands along Upper Meadow Valley Wash would remove some overhanging cover that provides shade and streamside structure. Most mixed canopy tamarisk along Upper Meadow Valley Wash has already been removed. Removal of tamarisk also could result in localized sediment increases due to reduced bank stability. After new vegetation is established in several years, cover and bank stability would be replaced along the stream. The effect of tamarisk removal on fish habitat would be the potential increased water quantity in streams. Tamarisk consumes relatively high amounts of water compared to other vegetation.

Pahrump Poolfish and White River Springfish. Noxious and invasive weed management would not affect habitat for these species, since no treatment is planned for the area surrounding the Shoshone Ponds or Ash Springs at this time. If future weed treatments occurred near these water bodies, potential effects could involve sedimentation from surface disturbance as part of nonchemical treatment. By following standard operating procedures, chemical weed treatment would not be expected to affect water quality.

Other Sensitive Species on BLM-administered Land. Potential effects of weed treatment on other special status species (i.e., Meadow Valley Wash desert sucker, Meadow Valley Wash speckled dace, White River desert sucker, relict dace, Bonneville cutthroat trout, and springsnails) would be the same as described for Big Spring spinedace. Habitat restoration for the Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace would focus on the control of tamarisk in Upper and Lower Meadow Valley Wash.

Special Status Species on Non-BLM-administered Land. Noxious weed management activities would not affect areas occupied by six federally listed and other special status species on non-BLM-administered land. When considering the drainage characteristics, no indirect effects involving sedimentation or other water quality changes are expected to affect habitat used by these species.

Noxious and invasive weed treatments would continue to be evaluated and mitigated on a site-specific basis for the protection of special status plant species. Weed infestations could be directly affecting special status plant populations within the planning area; however, this has not been documented.

Special Designations.

All Species. Under Alternative A, no new special designations would be implemented. In addition, the three existing ACECs (Beaver Dam, Kane Springs, and Mormon Mesa) do not overlap with habitat for sensitive aquatic species. Therefore, special designations would not affect sensitive fish and invertebrate species.

The three existing ACECs include known populations of four special status plant species. Although prescribed for the specific benefit of the desert tortoise, these ACECs also provide protection for special status plant species due to closures to livestock grazing and off-highway vehicle use. The White River Valley ACEC described under the Proposed RMP would not be designated and existing impacts to special status plant species in that area would continue.

Conclusion. Management for sensitive fish and invertebrate species would focus on the maintenance, mitigation, and restoration of habitat, as identified in the management and recovery plans for the species. Other programs would continue to result in sedimentation and habitat alteration due to surface disturbance. On a long-term basis, riparian vegetation would be degraded as a result of wild horses and livestock grazing, which would adversely affect aquatic habitat. Development of disposed lands could involve uses with water consumption requirements that could affect habitat through changes in flow or water level. In general, there would be less protection for spring habitat. Alternative A would meet the goal and objectives for federally listed fish species through management actions and compliance with Section 7 of the Endangered Species Act. However, the goal and objectives may not be met for "precluding the need to list additional species."

Management of special status species would continue to occur predominantly at the scale of individual allotments and occasionally at a planning area scale through management actions that address an immediate need or habitat niche for the maintenance, mitigation, and restoration of a single special status species on a case-by-case basis. Although restoration would promote more suitable habitat conditions for special status species on a localized basis, watershed level and landscape level effects would include continued habitat deterioration for many of the special status species.

A detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. As part of the best management practices, potential mitigation measures and monitoring would be applied on a site-specific basis. Therefore, implementation of Alternative A would result in minimal long-term impacts to special status plants and enable additional management emphasis for any populations identified during the watershed analysis. However, any ongoing impacts to unknown populations of special status plants would continue until such areas undergo watershed analysis. Overall, this alternative would

have a greater risk than the Proposed RMP of failing to achieve the program goal for special status plant species.

Alternative B

Impacts from Special Status Species Management Actions.

Parameter – Special Status Species Habitat

Management for special status aquatic species under Alternative B would involve actions shown in Section 2.6.7.1). In addition, species would be managed through evaluations of their overall specific habitat conditions and factors affecting their populations at the large-scale (entire planning area) and proactively resolved through habitat restoration and multiple use restrictions at the mid-scale (i.e., watershed). Maintenance and mitigation measures would continue to be implemented where multiple-use impacts occur or where habitat or populations are at or near their maximum natural levels.

Effects to special status species habitat generally would be the same as described for the Proposed RMP. Implementation of this alternative would establish management criteria through desired future conditions of special status species in order to treat and restore imperiled vegetation communities within the planning area and ensure that special status species are factored into the decision-making process during restoration actions.

Effects to special status bat species under this alternative would be the same as described for the Proposed RMP.

A more detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. As part of the best management practices, potential mitigation measures and monitoring would be developed on a site-specific basis. Thus, impacts to special status plant species would be minimal and similar to the Proposed RMP.

Parameter – Great Basin Riparian Habitat

Habitat for the Pahrump poolfish would be improved under Alternative B by building a new fence around Shoshone Ponds to exclude both human and livestock access. The fenced area also would be expanded in size to exclude new surface disturbance and minimize sedimentation and runoff from upland areas. The fenced area would be reseeded to minimize sedimentation input to the ponds.

Impacts to Big Springs spinedace, White River spinedace, and Railroad Valley springfish would be the same as described for the Proposed RMP.

Program-specific management actions would include the initiation of a systematic survey of potential habitats for Ute ladies'-tresses orchid. In addition, recovery actions and a conservation strategy for any discovered occurrences of the species or areas with habitat potential for the species would be developed.

Corrective actions to maintain and conserve, and restore the species would be implemented after the species distribution and habitats were evaluated. Based on the implementation of these management actions, impacts to Ute ladies'-tresses orchid would be avoided.

Parameter – Mojave Desert and Great Basin Riparian Habitats

Effects to special status species within riparian habitats of the Mojave Desert and Great Basin ecological systems would be the same as the Proposed RMP. Removal of livestock grazing from riparian areas within the Meadow Valley Wash would enhance aquatic habitat for Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace as well as result in increased nesting and foraging habitat for riparian special status species (e.g., southwestern willow flycatcher, yellow-billed cuckoo, and Arizona southwestern toad).

Parameter – Mojave Desert Riparian Habitat

Effects to special status species within riparian habitats of the Mojave Desert Riparian Habitat ecological systems would be the same as the Proposed RMP for White River springfish, Hiko White River springfish, and Pahranagat roundtail chub.

Parameter – Mojave Desert Scrub Habitat

Implementation of this alternative would increase herbaceous forage, cover, and shrub structure for special status species (e.g., desert tortoise and banded gila monster) in the Mojave Desert ecological system due to the removal of livestock grazing from the remaining desert tortoise habitat (see **Map 2.6.16-1**). Additional restoration and management actions and mitigation measures to protect or enhance habitats would be evaluated during the watershed analysis and habitat analyses.

Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Effects to special status species (e.g., burrowing owls) desert scrub and salt desert shrub habitats would be the same as the Proposed RMP except that the White River Valley ACEC would not be designated for the protection of the Sunnyside green gentian and other rare plant species. Thus, existing impact to these species would continue.

Parameter – Great Basin Sagebrush Habitat

Effects to special status species (e.g., greater sage-grouse and pygmy rabbit) within sagebrush habitats of the Great Basin ecological system would be the same as the Proposed RMP.

Impacts from Other Programs. Impacts to sensitive aquatic species and their habitat associated with vegetation, lands and realty, recreation, watershed management, fire management, and special designations would be the same as described for the Proposed RMP. Impacts to sensitive aquatic species and their habitat associated with water resources, wild horse, renewable energy, travel management and

off-highway vehicle use, forest/woodland and other plant products, and noxious and invasive weed management would be the same as described for Alternative A.

Effects to special status wildlife species associated with vegetation, wildlife and fisheries, wild horses, renewable energy, forest/woodland and other plant products, geology and mineral extraction, fire management, and noxious and invasive weed management would be the same as described for the Proposed RMP.

Impacts to special status plants associated with renewable energy, geology and mineral extraction, watershed management, and noxious and invasive weed management activities would be the same as described for Alternative A. Impacts related to vegetation, wild horse management, lands and realty, and fire management would be the same as or similar to the Proposed RMP.

The following interrelated programs would result in different impacts compared to the Proposed RMP and Alternative A.

Fish and Wildlife.

Big Spring Spinedace. Since occupied habitat for trout in Upper Meadow Valley Wash does not overlap with designated critical habitat for Big Spring spinedace, management actions for trout species would not affect this species in this stream. However, the Recovery Implementation Team is discussing the potential to establish a refugium in Clover Creek, which may overlap with that habitat. If this recovery area is used, coordinated management efforts between the U.S. Fish and Wildlife Service and Nevada Department of Wildlife would be required.

Pahrump Poolfish, and White River Springfish. Habitat management for game fish species would not affect these species, since trout populations do not occur in Meadow Valley Wash, Shoshone Ponds, or Ash Springs.

Other Sensitive Species on BLM-administered Land. Under this alternative, priority habitats for priority species would be actively managed to maintain or enhance existing habitat.

The elimination of domestic livestock grazing within Rocky Mountain bighorn sheep ranges and migration corridors would improve the condition of known and potential habitat for various special status plants in the long term.

Lands and Realty. Conflicts with lands and realty would be the same as described for the Proposed RMP, except that approximately 90,600 acres of land would be available for possible disposal and special status species habitat and potential land use authorizations within ACECs could result in increased habitat degradation and habitat fragmentation. Designated corridors would be increased to 1 mile in width, potentially resulting in greater fragmentation effects. Land use authorization facilities would likely result in increased degradation and fragmentation effects in the long term. Impacts associated with these activities

would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Travel Management and Off-highway Vehicle Use and Recreation. Conflicts with travel management and off-highway vehicle use would be the same as described for the Proposed RMP, except that nine special recreation management areas totaling approximately 2.7 million acres would be designated with three being managed primarily for motorized recreation. Thus, potential impacts to special status species by noise and human activity in these areas may be greater than under the Proposed RMP.

Potential impacts (e.g., trampling of vegetation, soil disturbances) to known and potential habitat for the Ute ladies'-tresses orchid or other special status plants may occur as a result of off-highway vehicle trespass use in areas adjacent to designated roads and trails. However, eliminating cross-country off-highway vehicle use, limiting off-highway vehicle use to designated roads and trails on 10.3 million acres of land, and closing off-highway vehicle use on an additional 81,000 acres of land (wilderness study areas) would help protect known and potential habitat for special status plants. Known and potential habitat areas for special status species would not be subjected to long-term surface disturbances related to off-highway vehicle use in these areas.

Livestock Grazing.

Big Spring Spinedace. The potential effects of grazing on designated critical habitat for this species in Upper Meadow Valley Wash could be reduced, since grazing may either be unavailable in relation to bighorn sheep habitat or restricted until the revegetation objectives are met based on the watershed management program.

Pahrump Poolfish. A new fence would be built to exclude livestock grazing near Shoshone Ponds. The fenced area also would be expanded to exclude a larger area from grazing.

White River Springfish. No additional changes in the Ash Springs area would be implemented as part of Alternative B.

Other Sensitive Species on BLM-administered Land. Livestock grazing would be excluded from the northern portion of the Lower Meadow Valley Wash ACEC and limited for the southern portion. Restrictions in livestock grazing for desert tortoise and bighorn sheep habitat may reduce impacts to portions of the habitat for other special status species such as the Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace in Upper and Lower Meadow Valley Wash, the White River desert sucker and relict dace in the White River, and springsnails at scattered locations throughout the planning area. Livestock grazing would be excluded from all areas of Lower Meadow Valley Wash to protect and initiate conservation and restoration of aquatic habitat for Meadow Valley speckled dace and Meadow Valley Wash desert sucker.

Special Status Species on Non-BLM-administered Land. Livestock grazing in the planning area would not affect areas occupied by seven federally listed and other special status species on non-BLM-

administered land. When considering the drainage characteristics, no indirect effects involving sedimentation or other water quality changes are expected to affect habitat used by these species.

Effects to special status wildlife species from livestock grazing would be similar to those described for the Proposed RMP, except that there would be approximately 3.8 million acres throughout the planning area that would be unavailable for livestock grazing, resulting from closure of desert tortoise habitat, desert bighorn sheep habitat, and some additional ACECs.

Livestock grazing would continue to occur on approximately 7.7 million acres of rangeland within the planning area. Grazing practices, however, would be modified where necessary to protect known or newly identified populations of Ute ladies'-tresses orchid or other special status plants. The closure of 542,100 acres of rangeland in the Mojave Desert region, approximately 3.0 million acres of bighorn sheep ranges and migration routes, and approximately 14,900 acres of new ACECs would help protect potential habitat for special status plants that may occur within these areas.

Geology and Mineral Extraction.

Big Spring Spinedace. Approximately 3.5 miles out of 4.2 miles of habitat for Big Spring spinedace would be closed to fluid, leasable, and mineral material development under Alternative B. Mining could occur in approximately 0.7 mile of habitat for this species, which could result in impacts such as loss or alteration of habitat, sedimentation, and removal of riparian vegetation.

Pahrump Poolfish. Mineral extraction would not affect this species because the Shoshone Ponds area would be closed to all types of mineral development.

White River Spinedace, White River Springfish and Railroad Valley Springfish. Mineral extraction could affect habitat for this species, since the lands surrounding occupied habitat is open to all types of mineral development. The types of impacts would include loss or alteration of habitat, sedimentation, and removal of riparian vegetation.

Hiko White River Springfish. Mining impacts to the Hiko White River springfish would vary depending on the location. Mineral extraction would not affect habitat in Crystal Spring because adjacent land would be closed to all types of mineral development. Mineral extraction could affect habitat for this species in Hiko Spring, since the surrounding land is open to all types of mineral development. The types of impacts would include loss or alteration of habitat, sedimentation, and removal of riparian vegetation.

Pahranagat Roundtail Chub. Mineral development impacts on historic habitat in Hiko and Crystal springs would be the same as discussed for Hiko White River springfish. Potential impacts at occupied habitat in the Pahranagat River could include loss or alteration of habitat, sedimentation, and removal of riparian vegetation, since the surrounding lands are open to all types of mineral development.

Other Sensitive Species on BLM-administered Land. Mineral extraction in portions of upper and lower Meadow Valley and upper White River Valley would be allowed, which indicates potential impacts on

Meadow Valley Wash desert sucker, Meadow Valley Wash speckled dace, White River desert sucker, White River speckled dace, relict dace, and springsnails.

Watershed Management. Effects to special status wildlife species from watershed management would be similar to those effects described for the Proposed RMP, except that implementation of Alternative B would provide increased available forage and water for special status species in the long term.

Special Designations. Fifteen new ACECs totaling 134,350 acres would be established for the protection of other resources. The establishment of these ACECs and the land use restrictions associated with these ACECs may have a positive effect on known and potential habitat for special status plants in these areas.

Conclusion. Sensitive fish and invertebrate species would be managed through evaluations of their overall habitat conditions. Numerous resource uses could affect sensitive aquatic habitat as a result of sedimentation, vegetation removal, or habitat alteration. However, grazing impacts would be eliminated on approximately 3.9 million acres including habitats for several aquatic special status species. Vegetation management could result in greater short-term impacts through erosion and sedimentation as a result of increased treatment areas. Management and restoration plans with two new ACECs would help restore habitat for fish species in Condor Canyon and Lower Meadow Valley Wash. On a long-term basis, the restoration of vegetation resilience in riparian areas and the surrounding uplands would improve habitat conditions for sensitive fish and invertebrate species. By implementing the various management actions associated with the special status species management direction and mitigation actions associated with other programs, the goals and objectives for special status aquatic species would be achieved.

Special status wildlife species would be specifically assessed, based on species-specific desired future conditions, and compared to overall habitat conditions and identification of causal factors for declines at the mid-scale. On a watershed level, restoration activities would result in higher quality forage, increased cover and vegetation structure, and increased security for special status species. On a landscape level, restoration activities to achieve desired range of conditions would improve special status species habitats by reducing habitat degradation and fragmentation, and promoting ecological health and resiliency. Alternative B would be expected to achieve the program goal.

The initiation of a systematic survey of potential habitats for the Ute ladies'-tresses orchid, development of recovery actions and a conservation strategy for potential habitat for, or possible new occurrences of, Ute ladies'-tresses orchid would provide additional protection and recovery prospects for these species. The establishment of 15 new ACECs for the protection of other resources and the land use restrictions associated with these ACECs may offer additional protection where and if special status plants occur in these areas. Therefore, implementation of Alternative B would result in additional protection for special status plants and would achieve the program goal relative to such species.

Alternative C

Impacts from Special Status Species Management Actions.

Parameter – Special Status Species Habitat

Program-specific impacts to special status aquatic species under this alternative would be similar to current management.

Under this alternative, management of special status wildlife species would be similar to Alternative A. Special status species management would continue to occur predominantly at a fine scale and occasionally at a large scale through management actions that address an immediate need or habitat niche for the maintenance, mitigation, and restoration of a single special status species on a case-by-case basis. While management actions would be taken as necessary to prevent the listing of additional species in accordance with BLM Management Policy 6840, the desired range of vegetation conditions used under this alternative would be less favorable for most special status species than those used in the Proposed RMP and Alternative B.

Under this alternative, management of bat roosting and foraging habitat would be the same as described for Alternative B, except the Ely Field Office Cave Management Plan and Nevada Bat Conservation Plan would be utilized for guidance on implementation of proactive bat management actions only in areas where there are no conflicts with commodity objectives. As a result, potential conflicts to foraging and roosting habitat outside of cave habitats would continue to result in landscape level effects from increased habitat degradation and habitat fragmentation.

Potential impacts to Ute ladies'-tresses orchid, Sunnyside green gentian, and other special status plants would be similar to those described for Alternative A. As stated for the program-specific impacts associated with Alternative A, a pre-construction review of potential impacts to special status plants would be conducted prior to development. A more detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. Best management practices, potential mitigation measures, and monitoring would be developed on a site-specific basis.

Parameter – Great Basin Riparian Habitat

Surface disturbance and sediment-related impacts to Pahrump poolfish would be reduced, since the fencing around the Shoshone Ponds would be repaired to its original size and specifications. Impacts to Big Spring spinedace, White River spinedace, and Railroad Valley springfish would be the same as discussed for Alternative A.

As with Alternative A, pre-construction review of proposed projects and disturbances requiring NEPA review would continue to be the primary means of avoiding potential impacts to known or potential habitat for the Ute ladies'-tresses orchid and other special status plant species. If unknown populations of Ute

ladies'-tresses exist on public lands, the current management approach would not protect such populations from potential conflicts with resource uses not requiring NEPA review.

Parameter – Mojave Desert and Great Basin Riparian Habitats

Impacts to Meadow Valley speckled dace and Meadow Valley desert sucker would be the same as discussed for Alternative A.

Within riparian habitats of the Mojave Desert and Great Basin ecological systems, restoration activities within Meadow Valley Wash would be similar to Alternative A, except that management actions would promote increased forage production and developed and managed recreation in the Lower Meadow Valley Wash ACEC and livestock utilization and special use restrictions would be enacted as needed. As a result, grazing and recreation would continue to affect herbaceous and shrub cover and overall nesting and foraging structure for riparian habitat dependent special status species (e.g., southwestern willow flycatcher, yellow-billed cuckoo, and Arizona southwestern toad).

Parameter – Mojave Desert Riparian Habitat

Impacts to White River springfish, Hiko White River springfish, and Pahranagat roundtail chub would be the same as discussed for Alternative A.

Parameter – Mojave Desert Scrub Habitat

Management of special status species (e.g., desert tortoise and banded gila monster) within desert scrub habitats of the Mojave Desert ecological system would be the same as described for Alternative A and similar impacts would be expected.

Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Management of special status species (e.g., western burrowing owl) within desert scrub and salt desert shrub habitats of the Mojave Desert and Great Basin ecological systems would be the same as described for Alternative A and similar impacts would be expected.

Parameter – Great Basin Sagebrush Habitat

Management of greater sage-grouse habitat would be similar to Alternative A, except that sagebrush habitat restoration would be emphasized in areas that have the greatest potential to provide additional livestock forage and habitat management to stabilize greater sage-grouse populations and improve sagebrush habitats would primarily occur through the local greater sage-grouse planning teams or through actions identified during the watershed analysis process. As a result, sagebrush habitat would not be actively managed with emphasis on greater sage-grouse, and habitat degradation and fragmentation could continue.

Impacts from Other Programs. Impacts to sensitive aquatic species and their habitat associated with water resources, renewable energy, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, and noxious and invasive weed management would be similar to those described for Alternative A. Effects associated with vegetation, wild horses, watershed management, travel management and off-highway vehicle use, and oil and gas development management activities would be the same as described for the Proposed RMP.

Effects associated with wild horses, renewable energy, forest/woodland and other plant products, and noxious and invasive weed management would be similar to those described for the Proposed RMP. Effects to wildlife associated with geology and mineral extraction would be the same as or similar to those described for Alternative A.

Impacts to special status plants associated with renewable energy, geology and mineral extraction, watershed management, and noxious and invasive weeds management activities would be the same as described for Alternative A. Impacts to special status plant species associated with management of vegetation, fish and wildlife, and wild horses would be the same as or similar to the Proposed RMP.

The following interrelated program would result in different impacts compared to Alternative A and the Proposed RMP.

Vegetation. Vegetation treatments under Alternative C would focus on somewhat greater total acreage to be treated than the Proposed RMP, but the goals of treatment and management would focus treatments on the creation of vegetation communities that are more productive for commodity interests such as livestock and forest/woodland products. Under this alternative, restoration treatments would maximize herbaceous vegetation states and limit the amount of mature woodland and shrub states, as compared to other alternatives. Thus, achievement of successful restoration generally would benefit a somewhat different set of special status species under this alternative than under the Proposed RMP. Like the Proposed RMP, treatments would occur across all vegetation types, but the greatest area of treatments would occur in sagebrush and pinyon-juniper communities, with limited applications in other communities where current conditions are not within the desired ranges of vegetation conditions.

Impacts to special status wildlife species from the vegetation management under Alternative C would include the short-term reduction in forage and ground cover on each treatment area until the desirable perennial species recover or become established, and the long-term conversion from dense shrub and woodland communities to open, herbaceous-dominated communities on much of the area to be treated. While this conversion would favor some wildlife species by creating a greater amount of herbaceous forage, a reduction of more mature and dense shrub vegetation would result in the long-term reduction of breeding and seasonal habitats for shrubland-dependent special status species. On a landscape scale, habitats would exhibit a reduction in overall habitat quality for numerous wildlife species in the long term.

Fish and Wildlife. The effects on sensitive aquatic species associated with fish management activities would be the same as discussed for Alternative A except that the 2:1 acreage mitigation goal for disturbance of priority habitats would not apply, resulting in increased effects to priority habitats.

Lands and Realty. No habitat for special status fish species is located within possible land disposal areas for Alternative C, but some habitat occurs within 1,000 feet of identified potential disposal areas. More instances of such proximity occur in Alternative C than in Alternative B.

Conflicts to special status wildlife species from potential disposal of lands would be the same as described for the Proposed RMP except that up to approximately 295,200 acres would be available for possible disposal. Conflicts with utility right-of-way management would result in the same general effects as described under the Proposed RMP, except that existing designated corridors would be increased to 3 miles in width, resulting in greater fragmentation effects. In this alternative, the proposed utility corridor along the western margin of Spring Valley would potentially affect 36 greater sage-grouse leks (within 2 miles on either side of the 3-mile-wide corridor [see **Map 2.4.12-5**]). Potential conflicts with the development of communications sites would be the same as described for Alternative B.

Land use authorizations would likely result in increased habitat degradation and fragmentation on special status species in the long term. New land use authorizations would be evaluated for effects on special status species, in accordance with NEPA. Implementation of requirements that would reduce potential impacts to special status species are presented in Appendix N of the Draft Ely RMP/EIS (July 2005).

Lands and realty management programs would have similar potential impacts to known and potential habitat for the Ute ladies'-tresses orchid and other special status species as described for Alternative A. In addition, new designated corridors (3.0 miles wide) could be established. Pre-construction reviews and detailed analyses would be the same as those described for Alternative A.

Travel Management and Off-highway Vehicle Use and Recreation. Conflicts from travel management and off-highway vehicle use and recreation would be the same as described for Alternative A, except that cross-country off-highway vehicle use would be limited to approximately 32,000 acres on selected dry lake beds. Approximately 1.1 million acres would be closed to off-highway vehicle use and approximately 10.4 million acres would be restricted to existing roads and trails. In addition, 2.6 million acres would be managed as nine dispersed special recreation management areas in the planning area. Four new recreation permit areas totaling 1.3 million acres also would be established for motorcycle special recreation events. As a result, degradation of habitat and habitat fragmentation associated with these uses would occur on a larger area than under Alternative B but a more concentrated area than Alternative A.

Potential impacts (e.g., trampling of vegetation, soil disturbances) to known and potential habitat for the Ute ladies'-tresses orchid or other special status plants may occur as a result of off-highway vehicle trespass use in areas adjacent to designated roads or trails. However, limiting off-highway vehicle use to designated roads and trails on approximately 10.4 million acres of land would have a positive effect on known and potential habitat for special status plants. Known and potential habitat areas for special status species would not be subjected to long-term surface disturbances related to off-highway vehicle use in these areas.

Recreation. Recreation activities could increase under this alternative, which could result in surface disturbance near water bodies containing special status aquatic species. However, management would be done in a manner that would minimize effects to water bodies.

Livestock Grazing. Effects to special status species from livestock grazing would be similar to those described for Alternative A, except that grazing would not be available on approximately 6,400 acres of newly designated ACECs, which would benefit wildlife by providing additional forage and water for special status species.

Making approximately 6,400 acres within four newly designated ACECs unavailable to livestock grazing would help protect any potential habitats for special status plants that may exist in those areas in the long term.

Watershed Management. Effects to wildlife from watershed management would result in a reduction of available forage and water for special status species in the long term.

Fire Management. The effects of fire management under Alternative C would vary for treated and untreated areas. There would be a buildup of fuel materials in untreated areas, which could contribute to the probability of a major wildland fire event with subsequent erosion input to drainages. Treated areas would reduce material buildup, which would reduce erosion input to drainages on a long-term basis.

Under Alternative C, prescribed fire and wildland fire use would not be the preferred management tools, and wildland fires would be suppressed to the extent practical. Although areas treated may be greater than described for Alternative A, it is anticipated that increased fuel loading from full fire suppression on the planning area would eventually lead to large fire events in untreated areas, which would lead to greater long-term habitat effects to special status species than discussed for the Proposed RMP, Alternative A, or Alternative B.

The suppression of all wildland fires would likely have some effect on known and potential habitat for special status plants in the short term. However, the increase in fuel loads over time would increase the likelihood of widespread catastrophic fires in the long term. Populations of special status plants subjected to these catastrophic fires could be eliminated.

Special Designations.

Big Spring Spinedace. The Condor Canyon ACEC would be managed as a multiple use area with managed recreational development. Recreational use in Condor Canyon could result in increased surface disturbance and sediment input to Meadow Valley Wash, which could affect habitat for Big Spring spinedace.

Meadow Valley Wash Desert Sucker and Meadow Valley Wash Speckled Dace. Potential sediment-related impacts in the Condor Canyon ACEC also could affect these species. The Lower Meadow Valley Wash ACEC would be managed as a multiple use area with managed recreational development.

Recreational use in Lower Meadow Valley Wash could result in increased surface disturbance and sediment input to the drainage, which could affect habitat for Meadow Valley Wash desert sucker and Meadow Valley speckled dace. The same mitigation discussed for Big Spring spinedace also would apply to these species.

Seventeen new ACECs totaling approximately 129,700 acres would be established for the protection of other resources. The establishment of these ACECs and the land use restrictions associated with these ACECs would offer protection where and if potential habitat for special status plants exists in these areas.

Conclusion. Program-specific impacts special status aquatic species would be similar to Alternative A. In general, management actions would allow a greater intensity of development, which would result in a higher potential for sedimentation impacts on aquatic habitat. Increased recreation activities could result in additional surface disturbance and sediment impact on habitat for sensitive aquatic species. Alternative C would meet the goal and objectives for federally listed fish species through management actions and compliance with Section 7 of the Endangered Species Act. However, the goal and objectives may not be met for "precluding the need to list additional species".

Management of special status wildlife species would continue to address an immediate need or habitat niche for the maintenance, mitigation, and restoration of a single special status species on a case-by-case basis. On a watershed level, special status species conflicts would include decreased shrub cover, a reduction in vegetation community structure, and increased competition for habitat by sagebrush dependent species. On a long-term basis, Alternative C would not likely achieve the program goal.

A detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. As part of the best management practices, potential mitigation measures and monitoring would be developed on a site-specific basis. In addition, the establishment of 17 new ACECs for the protection of other resources and the land use restrictions associated with these ACECs may offer additional protection where and if habitat for special status plants occur in these areas. However, any ongoing impacts to unknown populations of special status plants would continue until such areas undergo watershed analysis. Overall, this alternative would have a greater risk than the Proposed RMP of failing to achieve the program goal for special status plant species.

Alternative D

Impacts from Special Status Species Management Actions.

Parameter – Special Status Species Habitat

Management of special status fish species under Alternative D would involve a passive and indirect approach to restore habitat throughout the planning area through the exclusion of discretionary commodity uses of public lands. Natural processes would be allowed to restore degraded habitats and determine future habitat conditions. Any active habitat management would emphasize restoration of human-induced changes to the natural environment and the protection of large-core areas of existing intact habitats. The effects of this management approach would be improvement in habitat conditions as a result of decreased surface

disturbance and surface runoff into watersheds. An exception would be when and where this approach leads to crossing thresholds that cause future vegetation states to inadequately protect watersheds. Some of those areas then would be subject to accelerated erosion due to inadequate vegetation cover, especially where and when the future state burns frequently. Passive management could require a relatively long timeframe (10 to 20 years or longer) before aquatic habitat conditions improve. Direct management involving restoration of human-induced effects on watersheds could be implemented in a shorter timeframe. Restoration efforts would focus on excluding use in riparian areas. As a result, stream banks could become more stabilized and overhanging vegetation along water bodies could be more developed.

Under this alternative, management of special status species would emphasize a passive management approach to restoration through the exclusion of discretionary uses of public lands to achieve the desired range of conditions. Implementation of Alternative D would result in the continuation of habitat transitions (e.g., conifer invasion of aspen stands and establishment of pinyon and juniper trees in sagebrush shrubland), increased tree density and canopy cover, and a reduction of native herbaceous understory (e.g., grasses and forbs). The increased woody fuel and woody competition with herbaceous vegetation would cause some untreated plant communities to cross ecological thresholds. Eventually, these untreated communities would burn, resulting in hotter fires that would cause soil to be more susceptible to accelerated erosion and expansion of weeds. These habitat changes would result in a reduction of herbaceous forage, community structure, and overall suitability of habitats for special status species. Localized restoration activities following fires would improve habitat conditions for special status species, but on a landscape level, changes would continue to result in habitat degradation, reduction in ecological health and resiliency, and reduction in overall biological diversity, largely as a result of increasing numbers of large-scale fires and spread of invasive species. With the resultant loss of habitat for several special status species, particularly those that inhabit sagebrush and salt desert shrub communities, the probability continues to increase for additional listing of such species under the Endangered Species Act. Listing of one or more species within this complex of sensitive species easily could impose major constraints on other multiple uses within the planning area.

Effects to special status bat species under this alternative would be the same as described for Alternative A and similar impact would be expected.

Direct impacts of special status species management direction to potential and known habitat for most special status plant species would be minimal since the special status species management of this alternative would emphasize a passive and indirect management approach. Most of the potential impacts would occur as indirect impacts from other management programs.

Parameter – Great Basin Riparian Habitat

Management for special status aquatic species would be the same as Alternative A, and impacts from special status species management activities would be similar.

Impacts to potential habitat for the Ute ladies'-tresses orchid would be the same as described for Alternative B since a specific survey and recovery program would be initiated relative to this particular species. Such efforts would improve the knowledge base and protection measures related to the species.

Parameter – Mojave Desert and Great Basin Riparian Habitats

Management for special status aquatic species would be the same as Alternative A, and impacts from special status species management activities would be similar.

Within riparian habitats, implementation of this alternative would result in the incremental increase in nesting and foraging habitat for riparian special status species (e.g., southwestern willow flycatcher, yellow-billed cuckoo, and Arizona southwestern toad).

Parameter – Mojave Desert Riparian Habitat

Management for special status aquatic species would be the same as Alternative A, and impacts from special status species management activities would be similar.

Parameter – Mojave Desert Scrub Habitat

Within desert scrub habitats of the Mojave Desert ecological system, this alternative would benefit Mojave Desert special status species (e.g., desert tortoise and banded gila monster) by improving herbaceous understory and cover in the long term.

Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Within Mojave Desert mountain and desert scrub habitats, desert scrub and salt desert shrub habitats of the Mojave Desert and Great Basin ecological systems, landscape level changes would continue to result in habitat degradation, reduction in ecological health and resiliency, and reduction in overall biological diversity largely as a result of the potential major fires and spread of invasive species.

Parameter – Great Basin Sagebrush Habitat

Within sagebrush habitats of the Great Basin ecological system, landscape level changes would continue to result in habitat degradation, reduction in ecological health and resiliency, and reduction in overall biological diversity largely as a result of the potential major fires and spread of invasive species.

Impacts from Other Programs. Impacts to sensitive aquatic species and their habitat associated with water resources, noxious and invasive weed management, and special designations management activities would be the same as described for current management.

The following interrelated programs would result in different effects to special status wildlife species as compared to the previous alternatives.

Impacts to special status plants associated with fish and wildlife, watershed management, and noxious and invasive weeds activities would be the same as described for Alternative A. The following interrelated program would result in different impacts compared to Alternative A. Minimal impacts would be associated with management of lands and realty, renewable energy, and geology and mineral extraction since such programs would be reduced or eliminated under this alternative.

Vegetation. Management of riparian areas would involve prohibiting land-disturbing activities. Natural processes would be allowed to occur in riparian areas, which would help stabilize stream banks and provide overhanging cover for aquatic species. No herbicides would be used under this alternative, which would eliminate possible toxicity concerns for special status species.

Management of vegetation would emphasize a passive management approach to restoration with minimal influence from management and resource uses. As a result, degraded and fragmented habitats would be left to recover through natural processes. As discussed in Section 4.5, if such recovery occurs at all, it is expected to be very slow in this environment. Active habitat management would emphasize habitat treatments of invasive vegetation species. Implementation of this alternative would result in the continuation of ongoing habitat transitions (e.g., conifer invasion of aspen stands and establishment of pinyon and juniper trees in sagebrush shrubland), increased tree density and canopy cover, and a reduction of native herbaceous understory (e.g., grasses and forbs) in the long term. In the absence of large fires, these habitat changes would result in a reduction of herbaceous forage, community structure, and overall suitability of habitats for wildlife in the long term. However, with the accumulation of fine fuels in sagebrush (due to reduced livestock grazing) and heavy fuels in dense shrub and tree communities, increased large fire events would remove large areas of woodland and shrubland. Within the dense, overmature stands of sagebrush or pinyon-juniper woodlands, perennial understory species of grasses and forbs are commonly absent. Thus, without costly rehabilitation measures, most of these burned areas would not recover with native perennial herbaceous vegetation. Rather, the freshly burned areas would provide open niches for expansion of nonnative and weedy species including flammable annuals and non-palatable perennials. On a landscape scale, habitats would exhibit a reduction in overall habitat quality, ecological health, and vegetation resiliency in the long term.

Vegetation management programs would include the management of riparian areas and would allow these areas to undergo natural processes as nearly as possible. Riparian areas that have invasive or exotic species would be high priority treatment areas. The implementation of these vegetation management programs in riparian areas would improve the quality of potential habitat for Ute ladies'-tresses orchid in the planning area over the long term. The protection of native vegetation communities and prevention of expansion of annual exotic species would help maintain and improve the quality of known and potential habitat for special status species by reducing the spread and establishment of invasive species. However, the relative scarcity of vegetation treatments would allow fuels to continue to accumulate. Additional areas would cross one or more ecological thresholds. Crossing the threshold to the tree state could decrease water availability for riparian habitats. Crossing thresholds to high fuels states or states with minimal herbaceous understory could lead to major fires and accelerated soil erosion, thus damaging riparian habitats as well as the watersheds that supply them with water.

Wild Horses. Habitat for fish and invertebrate species could be affected by wild horse grazing and physical disturbance in the 24 herd management areas where herd growth would be uncontrolled. Streams could include Upper Meadow Wash (Big Spring Spinedace, Meadow Valley Wash Speckled dace, and Meadow Valley Wash desert sucker) and Goshute Creek (Bonneville cutthroat trout). Impacts to unfenced springs could affect habitat for springsnails.

Under this alternative, conflicts with wildlife would be similar to those described for Alternative A except that wild horse populations within these areas would be uncontrolled, substantially increasing the impacts to wildlife. It is expected that these uncontrolled populations would destroy the herbaceous forage and ground cover, reduce habitat structure, and diminish overall habitat quality in the long term.

Wild horse populations would be allowed to increase without limits on the existing 24 herd management areas. This uncontrolled herd growth would soon eliminate almost all forage, including any special status species plants, within these areas.

Lands and Realty. Impacts associated with lands and realty would be similar to Alternative A and would not be expected to affect habitat for special status fish species.

Effects to special status wildlife species and habitats resulting from lands and realty actions would be minimal since no net loss of public lands would occur under this alternative, nor would there be any new land use authorizations such as new rights-of-way.

Renewable Energy. Habitat for sensitive aquatic and terrestrial species would not be affected by this program, since there would be no issuance of rights-of-way for renewable energy development.

Travel Management and Off-highway Vehicle Use. Based on a reduction of off-highway vehicle, surface disturbance in watersheds would be reduced under Alternative D. As a result, sediment input to streams from off-highway use would be reduced, which would improve habitat for special status aquatic species.

Under this alternative, off-highway vehicle use would be restricted to approximately 400,000 acres of designated roads and trails. This closure of approximately 11 million acres to off-highway vehicle use would greatly reduce the effect to special status species by reducing overall habitat degradation and fragmentation.

Potential impacts (e.g., trampling of vegetation, soil disturbances) to known and potential habitat for the Ute ladies'-tresses orchid or other special status plants may occur as a result of off-highway vehicle trespass use adjacent to designated roads and trails. However, limiting off-highway vehicle use and closing most of the planning area to off-highway vehicle use would have a positive effect on known and potential habitat for special status plants. Known and potential habitat areas for special status plants would not be subjected to long-term surface disturbances related to off-highway vehicle use in these areas.

Recreation. Impacts to aquatic habitat could occur under this alternative, as a result of an increase in dispersed recreation. The types of impacts could include erosion or water quality changes, if activities occurred in stream or springs inhabited by sensitive fish or invertebrate species.

Livestock Grazing. Livestock grazing would be eliminated throughout the planning area, which would eliminate future impacts to special status species habitat such as surface disturbance/sedimentation, loss of riparian vegetation, and direct alteration of stream channel habitat.

No conflicts to special status wildlife species from livestock management would occur under this alternative, since livestock use would not be permitted on the planning area. This aspect of Alternative D would result in higher habitat quality for special status species, at least in the short term.

The elimination of livestock grazing throughout the planning area could allow special status plant habitats that have been heavily grazed to recover in the long term, contingent upon the absence of other major disturbances such as fire. Some vegetation communities containing habitat for special status plant species may not fully recover through removal of grazing alone.

Forest/Woodland and Other Plant Products. Habitat for sensitive aquatic species would not be affected by this program, since there would be no fuelwood collection or other wood products harvests except for personal pinyon pine nut collection and limited seed collection.

Conflicts to special status wildlife species from forest/woodland and other plant products would be minimal since only limited pinyon pine nut harvesting would be permitted.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario (see Section 4.18, Geology and Mineral Extraction). Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Watershed Management. In the short term, Alternative D would have minimal impacts to special status aquatic species, as watershed restoration would be primarily passive. The elimination of grazing and limited vegetation treatment in riparian areas would reduce and minimize stream sedimentation. However in the long term, the loss of resiliency in many of the vegetation communities surrounding aquatic habitat would place these habitats in greater jeopardy from catastrophic wildland fires and increased erosion and sedimentation.

Additional available forage would be allocated for watershed maintenance, wildlife, and wild horses after Standards for Rangeland Health have been met at the watershed level. However, because active management would not be a priority under this alternative, watershed level impacts would continue to result in habitat transitions and increased canopy cover. Landscape level impacts would continue to result in a

reduction in overall habitat quality, ecological system health, and ecological resiliency in the long term, largely as the result of increased probability for large fires followed by reduced success probabilities for rehabilitation.

Fire Management. The effects of fire management on aquatic habitat would be similar to Alternative C except that in the absence of grazing and fire suppression, there would be a short-term buildup of fire fuels followed by a higher probability of widespread wildland fires. In terms of effects on aquatic habitat, there would be greater risk of fires burning in drainages, which would result in higher erosion impacts on both a short- and long-term basis.

Implementation of this alternative with minimal fire suppression, limited vegetation treatments, and absence of livestock grazing would result in accumulation of fire fuels in sagebrush and heavy fuels in shrublands and woodlands. This would ultimately lead to fire events that would have a high likelihood of eliminating shrub cover and woodland habitats for special status species in the long term. These impacts would be expected to occur at a large geographic scale with substantial cover losses, especially at lower elevations. Depending on shrub and woodland overstory, recovery rates, fire frequency, and reclamation success, these events could result in short- and long-term impacts. Effects would include long-term diminished habitat productivity and diversity for entire communities of shrubland and woodland wildlife. In the event of unsuccessful fire rehabilitation, these areas could devolve into vast monocultures of herbaceous grasslands dominated by cheatgrass and other invasive species that are of little or no value to special status species.

The minimal suppression of wildland fires under this alternative would lead to widespread major fire events that could jeopardize populations of any special status plant species in the affected areas.

Conclusion. Emphasis on passive management of sensitive aquatic species through exclusion of commodity uses on public lands could result in improved habitat conditions. Less erosion would occur from vegetation treatment, but far more would occur from widespread wildland fires. By implementing the various management actions associated with the special status species management direction and mitigation actions associated with other programs, the goals and objectives for special status aquatic species would be achieved.

Management of habitat for special status species would emphasize a passive management approach through the exclusion of discretionary commodity uses of public lands. On a watershed level, natural habitat transitions would continue with increased canopy cover and possible increased regeneration of palatable species. On a landscape level, habitats would exhibit a reduction in overall habitat quality, ecological health, and resiliency as the result of major, widespread wildland fires resulting in conversion to herbaceous communities. These habitat changes would result in a reduction of vegetation community structure and overall suitability of habitats for special status species. This alternative would likely achieve the program goal in the short term, but fail to sustain this habitat quality and achieve the goal over the long term.

Potential habitat for Ute ladies'-tresses orchid could improve in the planning area with the elimination of grazing and most other physical disturbances. A detailed analysis of potential impacts to special status plants would be completed during watershed and habitat analyses. The additional protection resulting from

these measures, however, would be offset by the potential damage to special status plant populations resulting from increased wildland fires and uncontrolled wild horse populations under this alternative. Overall, this alternative would have a greater risk than the Proposed RMP of failing to achieve the program goal for special status plant species.

4.8 Wild Horses

Impact Issues

The primary impact issues associated with wild horse management relate to resource conflicts with other resources and uses such as vegetation, watersheds, wildlife habitat, livestock grazing, and erosion prevention/soil stabilization when appropriate management levels are not achieved. In the absence of population controls, most horse herds have the capacity to grow beyond the ability of the habitat to provide forage, water, space, and cover. In several existing herd management areas, the available habitat resources are marginal or inadequate to support healthy herds of wild horses. As herds grow beyond the appropriate management level for a given herd management area, wild horses increasingly compete with both wildlife and livestock for those local resources. Thus, population controls such as periodic gathers or fertility vaccinations are typically necessary to stabilize populations at levels supported by the available resources and compatible with other ongoing land uses.

Assumptions for Analysis

- Appropriate management level would be achieved and maintained in all alternatives except Alternative D.
- Public attitudes toward wild horse protection and adoption would remain similar to those displayed over the past 10 to 20 years.
- Natural reproduction and recruitment rates would continue to exceed natural mortality from predation, disease, and other factors.

Interactions with Other Programs

The wild horse management program within the planning area potentially would be affected by actions within the resource management programs for water resources, vegetation, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing, geology and mineral extraction, watershed management, fire management, and noxious and invasive weed management.

Goal

Maintain and manage healthy, self-sustaining wild horse herds inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple-use relationship with other uses and resources.

Northeastern Great Basin Resource Advisory Council Standard. Healthy wild horse and burro populations exhibit characteristics of healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long-term viability of the population as a distinct group. Herd

management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.

Mojave-Southern Great Basin Resource Advisory Council Standard. Wild horses and burros within herd management areas should be managed for herd viability and sustainability. Herd management areas should be managed to maintain a healthy ecological balance among wild horse and/or burro populations, wildlife, livestock, and vegetation.

Objective

To maintain wild horse herds at appropriate management levels within herd management areas where sufficient habitat resources exist to sustain healthy populations at those levels. Herds would consist of healthy animals that exhibit diverse age structure, good conformation, and any characteristics unique to the specific herd.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to wild horses also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Wild Horses Management Actions.

Parameter – General Wild Horse Management

In the Proposed RMP, proposed appropriate management levels reflect the recent evaluation using multi-tiered analysis. The first tier consisted of evaluating each herd management area for five essential habitat components and herd characteristics: forage, water, cover, space, and reproductive viability. Additionally, interrelationships between wild horse populations from different herd management areas were analyzed (see **Table 3.8-2**). If one or more of these components were missing, or there was no potential for a stable shared genetic pool, the herd management area was considered unsuitable. If all components were present, the analysis proceeded to the second tier. In the second tier, monitoring data were used to establish the appropriate management level. Key forage utilization, use pattern mapping, and frequency were considered and if allotment objectives were being met, the highest value of historical ranges was used to set the appropriate management level. Where allotment objectives were not being achieved, appropriate

management level was set based on census data relative to range utilization or the past need for emergency wild horse gathers, which suggested overpopulation of the herd management area.

Parameter – Herd Management Area Establishment

If monitoring and analysis showed all the essential habitat components were present to maintain healthy, self-sustaining wild horse populations on either individual herd management areas or two or more adjacent herd management areas and the established appropriate management levels provide for a reproductively viable population (125 individuals with 50 breeding adults), the herd management areas were determined to be viable for long term wild horse management. The evaluation determined that twelve of the current herd management areas (approximately 3.7 million acres) meet the criteria for retention. The twelve that met the criteria are primarily the largest herd management areas or portions of adjacent smaller herd management areas. The majority of acreage (approximately 71 percent) in herd management area status meets the criteria for retention. An additional sixteen herd management areas or portions of herd management areas (1.6 million acres) do not meet the criteria for retention as herd management areas.

Under the Proposed RMP, wild horses would be managed within six consolidated herd management areas that would be created from twelve current herd management areas covering approximately 3.7 million acres as shown in **Table 2.4-11** and illustrated on **Map 2.4.8-1**. The six new herd management areas would be:

- Pancake – made up of Monte Cristo and Sand Springs East herd management areas;
- Triple B – made up of Buck and Bald, Butte, and a portion of Cherry Creek herd management areas;
- Antelope – boundary adjusted due to highway fence;
- Silver King – made up of Dry Lake and portions of Rattlesnake and Highland Peak herd management areas;
- Eagle – made of Wilson Creek and Deer Lodge Canyon herd management areas; and
- Diamond Hills South – no change to herd management area.

The Proposed RMP would retain most large herd management areas and small units adjacent to them. Boundaries would be consistent with neighboring planning areas and agencies as to wild horse management. This would increase operational efficiency, resulting in more on-the-ground management of the six herd management areas, increased effectiveness of maintenance gathers resulting in decreased resource conflict. Further, it allows for the concentration of resources, funding, and management on the six herd management areas, resulting in more effective management of the wild horses and their environment.

Wild horses would no longer be managed in a number of herd management areas considered unsuitable for year-long occupation by horse herds. These areas total approximately 1.6 million acres, including the units shown in **Table 4.8-1**.

The Proposed RMP would result in the removal from management of approximately 1.6 million acres of current herd management areas (as shown in **Table 4.8-1**) that provide very limited habitat for wild horses or do not provide essential habitat components to sustain healthy, thriving herds in these areas. The total reduction in appropriate management level within the planning area associated with this alternative would

Table 4.8-1
Herd Management Areas Eliminated in the Proposed RMP

Herd Management Area	Public Land Area (acres)[1]	Approximate Number of Animals Removed
Antelope (west of Highway 93)	62,900	0
Applewhite	30,300	0
Blue Nose Peak	84,600	5
Cherry Creek (eastern portion)	3,200	0
Clover Creek	33,100	10
Clover Mountains	168,000	20
Delamar Mountains	183,600	40
Highland Peak (southern 2/3)	65,500	0
Jakes Wash	153,700	50
Little Mountain	53,000	30
Meadow Valley Mountains	94,500	5
Miller Flat	89,400	30
Moriah	53,300	30
Rattlesnake (southern 1/2)	37,400	0
Seaman	358,800	100
White River	116,300	80
Totals	**1,587,600**	**400**

[1] Rounded to hundreds.

be approximately 446 animals or about 21 percent of current appropriate management level for the whole planning area. The described actions would result in a less crowded environment, with less competition for desert tortoise habitat and other limited resources.

Boundary fences would be constructed along the perimeter of herd management areas where necessary to achieve management objectives, including reduction of conflicts with domestic livestock.

This approach would achieve a balance between horse populations on the six herd management areas and the habitat needed to support them on a sustained basis. The resultant herds are expected to be healthier and less susceptible to starvation, disease, and predation.

Parameter – Population Management

Under the Proposed RMP, all appropriate management levels would be expressed as a range with the upper level of the range based on available habitat and the lower level based on the projected recruitment rate between gather cycles as developed from herd monitoring data. The upper limit of the range would be the level at which the maximum number of wild horses could exist without causing resource damage. This population range would ensure that a thriving natural ecological balance is obtained since each herd would be managed in a manner designed to not exceed habitat limitations.

The Proposed RMP would focus wild horse management on population management based on those areas that possess the essential habitat components as described above, and that have the potential for self-sustaining, healthy wild horse populations within each herd management area.

Impacts from Other Programs.

Water Resources. Water is a limiting factor for horse herds on several herd management areas within the planning area, affecting not only the basic survival of horses within these areas, but also the distribution of their use and degree of conflict with other animals, including livestock and wildlife. It is unlikely that the number and locations of water sources within the retained herd management areas would be substantially altered under the Proposed RMP. However, with aggressive watershed restoration, water amounts at these sources should increase as watershed health increases, resulting in higher, and more reliable flows from these sources. Additional water developments for livestock or wildlife also would benefit wild horses.

Vegetation. Restoration treatments would affect wild horse populations where they occur within portions of herd management areas that are the primary use areas to the extent that the population may have to be reduced for a few years while the desired vegetation becomes established. Assuming that treatment activities affect herd management areas proportionately to their distribution within the planning area and assuming that 2 years of establishment without grazing are desirable for seedling establishment following seeding, the maximum total area affected at any one time could be in excess of 100,000 acres.

Total exclusion of wild horses from freshly seeded areas probably would not be practical, but in some herd management areas it may be necessary to fence selected areas or modify water sources to attract animals away from such areas or time treatments to gathers so that numbers are a low range of the appropriate management level. Impacts to wild horses from vegetation treatment activities would be similar in nature to current management, but would be spread over greater area. Long-term effects of the Proposed RMP would include healthier vegetation communities that provide more abundant and diverse forage species. This would result in enhanced nutrition and less stress on wild horses as they live on the range.

With watershed treatment and the removal of pinyon and juniper where they have expanded into sagebrush communities and treatment of pinyon-juniper woodland, cover would be reduced. The reduction in cover would result in easier capture during gather operations resulting in less stress while being gathered. Because tree cover is very important to wild horses in the summer for shade and the winter for thermal protection, watershed treatment also could result in a concentration of wild horses in the hottest and coldest times of year. The watershed treatments also would result in an increase of available forage and healthier vegetation communities.

Lands and Realty. Under the Proposed RMP, the lands identified for possible disposal would be approximately 75,600 acres. Potential disposal of lands in these areas would affect approximately 9,300 acres on the herd management areas identified under this alternative and could necessitate a reduction in the appropriate management level. Because disposals within herd management areas would be limited to prevent a reduction of appropriate management level below a reproductively viable population (125 animals with 50 breeding individuals), and ensure that wild horses can exercise in their free-roaming

behavior, impacts to wild horses from land disposals would be limited. Among the lands identified for disposal, small areas of overlap with herd management areas occur northeast of Cherry Creek at the edge of the Antelope herd management area and northeast of Pioche at the juncture of the Silver King and Eagle herd management areas. These potential disposals are not expected to noticeably affect wild horse herd on these areas.

Renewable Energy. Under the Proposed RMP, renewable energy development in herd management areas could impact wild horse by preventing wild horses from using portions of the herd management areas due to development. Further, if development occurs in primary use areas within herd management areas for wild horses, the loss of certain summer or winter habitats could impact the long-term management of wild horses. Since the locations of the 40,000 acres of wind energy rights-of-way have not been determined, specific effects on herd management areas cannot be determined. Such effects would be analyzed in project-specific NEPA reviews. Newly-developed wind energy sites along ridge tops in herd management areas could impact wild horse gather operations that use helicopters. Impacts associated with these activities would be mitigated to the extent practicable through management practices from the Wind Energy Programmatic EIS.

Travel Management and Off-highway Vehicle Use. Establishment of six herd management areas and the substantial reduction in amount of area open to off-highway vehicle use in this alternative would effectively reduce encounters and conflicts between off-road vehicle traffic and wild horse herds. Overall impacts of the increasing recreational demand on the planning area on wild horse management probably would be reduced in this alternative compared to current management.

Recreation. The primary interactions between wild horses and recreation are those associated with off-highway vehicle use (see paragraph above) and other dispersed recreation activities such as hunting and hiking. Five special recreation management areas totaling approximately 1.2 million acres would be established under the Proposed RMP. Portions of these would overlap with the Eagle, Silver King, Pancake, and Triple B Herd Management Areas. Some recreational users would seek out opportunities to view wild horses and may affect herd behavior and movement by their presence.

Livestock Grazing. Management of grazing allotments under the Proposed RMP would not involve changes likely to affect wild horse management. Livestock grazing will continue to be authorized for approximately 424,602 animal unit months on 8.4 million acres for allotments that have been determined to be meeting or progressing toward achievement of the standards for rangeland health. These will continue as needed to meet RMP goals and objectives including the standards for rangeland health. Current livestock grazing will be maintained for 120,665 animal unit months on 3.2 million acres until allotments have been evaluated for progress toward achievement of the standards for rangeland health. Changes to livestock grazing use will be made as needed to meet or progress toward achievement of the standards. These actions would lessen the impacts to the resource.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario would be disturbed throughout the 11.5 million acres of the planning area. Potential short-term impacts include vegetation loss, habitat fragmentation, herd displacement, and increased noise and human presence. Long term impacts could include irretrievable loss of habitat, change

in vegetation composition, and continuing habitat fragmentation. All proposed mineral actions would be evaluated on a case-by-case basis with specific recommended mitigations and best management practices. Closed areas and oil-and-gas stipulations will provide further protection and mitigation of potential disturbances to wild horses and their habitat.

Watershed Management. In the short term, the watershed analysis would help to improve wild horse habitat in various herd management areas where they overlap with the 41 high priority watersheds (approximately 2.6 million acres). The rate of completion of watershed analysis, evaluations, and implementation of watershed restoration strategies would be substantially increased compared to current management. Wild horses also would benefit in the allocation of the additional forage produced on watersheds within the herd management areas following vegetation treatments.

Fire Management. Prescribed fire, wildland fire use (approximately 8.9 million acres available), and other tools would be used to the greatest extent practical under the Proposed RMP. During the short-term, there would be a temporary reduction in forage availability and wild horses would be temporarily displaced from the area. Long-term habitat improvements would provide better forage for the maintenance of wild horses. Restoration of vegetation resilience and return to historical fire regimes would reduce impacts to wild horses when wildland fires occur. Fire suppression activities also may impact wild horses in terms of water withdrawal from local streams and waterbodies, increased human activity and traffic on access routes, and potential spills of fuel and chemicals. These effects generally would be localized and of short duration in comparison to the long-lasting effects of habitat alteration on the burned areas.

Noxious and Invasive Weed Management. Noxious weed management could affect wild horse herds if noxious and invasive weeds occur within the herd management areas to the extent that they replace desirable forage species, thereby reducing availability of quality forage. Some weeds are more toxic to horses than to other types of grazers. Under the Proposed RMP, the vegetation treatment and restoration efforts would help slow the spread of invasive species from those areas being treated and improve habitat for wild horses.

Conclusion. Wild horses would be managed where healthy, self-sustaining populations can be maintained over the long-term. Wild horse populations would be brought into balance with the available habitat resources needed to sustain healthy populations and prevent damage to the environment and surrounding resources. The Proposed RMP would achieve the goal for the wild horse management program.

Alternative A

Impacts from Wild Horses Management Actions.

Parameter – General Wild Horse Management

Wild horses would be managed where herd management areas currently exist regardless of whether habitat conditions can support a long-term reproductively viable population or not. The maintenance of small herds tends to reduce genetic diversity within these populations over several generations and render them more susceptible to various diseases and other maladies. Small herds would continue to be vulnerable to

starvation and dehydration during drought years in those herd management areas where population numbers substantially exceed the appropriate management level.

Boundary fences along the perimeter of herd management areas would only be constructed where livestock grazing allotment boundaries coincide with herd management area boundaries. Thus, herd movements generally would not be restricted within the herd management areas and conflicts with other resource uses would continue to be largely addressed on a case-by-case basis.

Parameter – Herd Management Area Establishment
The 24 herd management areas presently existing within the planning area would be retained with a collective area of approximately 5.4 million acres (see **Table 2.5-10** and **Map 2.5.8-1**).

Parameter – Population Management
Herd management areas would be managed with an appropriate management level of 2,141 wild horses. As demonstrated by the recent evaluation survey, many of the current herd management areas lack one or more of the necessary habitat components to sustain their numbers on a year-long basis. Especially in the south end of the planning area; where quality forage is limited and water sources are scarce, herds would be in jeopardy from starvation or dehydration. When herd size grows beyond appropriate management level, such hazards to health and well-being would be intensified during periods of drought. At the same time, the wild horse herds could cause substantial, harmful effects on vegetation resources on both public and private lands. Small (non-viable) herds existing in these herd management areas may be extirpated by natural means.

Some herds would continue to be managed with appropriate management levels as a fixed number until another analysis of appropriate management level has been completed and other herds with appropriate management levels as a range, depending upon the existing decision applicable for each herd. For herd management areas with an appropriate management level established as a single number, gathers would be conducted when that number is exceeded to bring populations to far enough below the appropriate management level to allow for natural population growth over a 3- to 4-year period before the next gather. For herd management areas with an appropriate management level set as a range, the wild horse population would be managed within that range.

Impacts from Other Programs.

Water Resources. Water is a limiting factor for horse herds on several herd management areas within the planning area, affecting not only the basic survival of horses within these areas, but also the distribution of their use and degree of conflict with other animals, including livestock and wildlife. Additional water developments for livestock or wildlife also would benefit wild horses. It is unlikely, however, that the number and location of water sources would be substantially altered under Alternative A.

Vegetation. Vegetation treatment and restoration would continue at levels comparable to or somewhat above historic levels. These restoration treatments would affect wild horse populations where they occur within herd management areas and the total herd management area affected at any one time could be in

the tens of thousands of acres. Effects of treatment would be similar to the Proposed RMP but spread over smaller areas of treatments.

Lands and Realty. The lands that are proposed for possible disposal under Alternative A include only about 400 acres within herd management areas and, thus, would not affect wild horses. Any additional parcels disposed of would be subject to additional NEPA review prior to disposal.

Renewable Energy. Impacts from renewable energy development would be the same as discussed for the Proposed RMP.

Travel Management and Off-highway Vehicle Use. Continually increasing recreational demand in the planning area, accompanied by increased off-road vehicle use, would gradually result in increased conflicts with wild horses. Most of the increased recreation and off-highway vehicle use is expected to occur in the southern portions of the planning area where habitat for wild horses is typically of marginal quality and some herd management areas have appropriate management levels of zero. Increasing recreation and transportation areas activities in these herd management areas may result in these herds moving to areas with less noise and activity, potentially resulting in conflicts outside the herd management areas.

Recreation. The primary interactions between wild horses and recreation are those associated with off-highway vehicle use (see paragraph above) and other dispersed recreation activities such as hunting and hiking. In addition, one special recreation management area would be established under Alternative A. Its use is not anticipated to affect wild horse herds.

Livestock Grazing. Management of grazing allotments under Alternative A would be essentially unchanged and would not be expected to result in new impacts on wild horse management. Where they occur, usually where appropriate management levels have not been achieved, existing conflicts for forage and water resources would continue. In all areas, where livestock numbers have been reduced to provide a more balanced use of available resources, such reduction would continue or potentially be reduced further to meet resource management objectives.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that of the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario in the Proposed RMP. The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Watershed Management. The increased forage production on the treated areas would provide improved forage and habitat for livestock, wildlife, and wild horses. Under Alternative A, the additional forage would be allocated 70 percent to livestock and wild horses, with the remaining 30 percent reserved for wildlife in the Schell Resource Area. In the remainder of the planning area, additional forage would be allocated or reserved proportionately among all users. Thus, forage available for wild horses likely would increase on treated acres within herd management areas throughout the planning area.

Fire Management. The impacts under Alternative A would be similar to those under the Proposed RMP except on a smaller scale. This, in the long-term, would result in fewer acres with improved ecological health, vegetation resilience, and overall improved habitat quality; fuels would continue to accumulate in untreated areas; and the probability of major, uncontrollable stand replacing fire events would continue.

Fire suppression activities also may impact wild horses in terms of water withdrawal from local streams and waterbodies, increased human activity and traffic on access routes, and potential spills of fuel and chemicals. These effects would generally be localized and of short duration in comparison to the long-lasting effects of habitat alteration on the burned areas.

Noxious and Invasive Weed Management. Noxious weed management could affect wild horse herds if noxious and invasive weeds occur within the herd management areas to the extent that they replace desirable forage species, thereby reducing availability of quality forage. Some weeds are more toxic to horses than to other types of grazers. Under Alternative A, it is highly probable that the spread of invasive alien species would continue at a rate greater than the rate of weed eradication and vegetation treatment.

Conclusion. Alternative A would maintain several herd management areas that possess marginal or inadequate habitat to sustain wild horse populations at a level that would ensure healthy populations over the long-term, thereby resulting in a high probability for continued conflicts with other resources, conflicts with private land owners, and occasional starvation and dehydration of wild horses. Alternative A would fail to achieve the program goal over the long term.

Alternative B

Impacts from Wild Horses Management Actions.

Parameter – General Wild Horse Management
The general management approach and associated impacts would be the same as the Proposed RMP.

Parameter – Herd Management Area Establishment
Alternative B involves the same six herd management areas proposed under the Proposed RMP. The impacts associated with this change in number and location of herd management areas would be the same as the Proposed RMP.

Parameter – Population Management
The emphasis of wild horse management would be on maintenance of healthy, viable herds at levels sustainable under drought conditions. Impacts would be the same as the Proposed RMP.

Impacts from Other Programs. Impacts to wild horse management related to interactions from water resources, vegetation, fish and wildlife, special status species, renewable energy, geology and mineral extraction, fire management, and noxious and invasive weeds would be the same as described for the Proposed RMP. Interaction effects from the following programs would likely differ from the Proposed RMP.

Lands and Realty. An area of approximately 90,600 acres would be available for potential disposal including approximately 17,400 acres within herd management areas. Potential disposal of lands in these areas would have minimal effects on wild horses on the herd management areas identified under this alternative, and would be unlikely to necessitate a reduction in the appropriate management level of affected herd management areas. Impacts associated with these activities would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Recreation. The primary impacts resulting from interactions between wild horses and recreation are those associated with off-highway vehicle use (see paragraph above). In addition, nine special recreation management areas totaling approximately 2.7 million acres would be established under Alternative B. Portions of these would overlap with the Eagle, Silver King, Triple B, and Pancake Herd Management Areas. Wild horse viewing is one of the types of recreation anticipated to occur in these areas and the presence of recreation users may affect herd behavior and movement.

Travel Management and Off-highway Vehicle Use. The reduction of both size and number of herd management areas and the substantial reduction in amount of area open to off-highway vehicle use in this alternative would effectively reduce encounters and conflicts between off-road vehicle traffic and wild horse herds. The off-highway vehicle emphasis areas in this alternative do not overlap with the remaining herd management areas. Therefore, impacts of the increasing recreational demand on the planning area on wild horses would be reduced in this alternative compared to Alternative A, but similar to the Proposed RMP.

Livestock Grazing. Management of grazing allotments under Alternative B would include closure of grazing on approximately 3.0 million acres of bighorn sheep habitat, portions of which occur within various herd management areas. Thus, competition for forage and water resources would be reduced in these areas of livestock closure. Other areas of existing conflict would be eliminated or reduced in those areas where herd management area status is dropped and the wild horses are removed.

Watershed Management. Additional forage resulting from vegetation treatment and restoration activities would be allocated to watershed health and wildlife, thus there would be no net impact to wild horses. Watershed treatments may enhance water availability and quality within herd management areas.

Conclusion. Wild horse populations would be brought into balance with the available habitat resources needed to sustain healthy populations over the long-term and prevent damage to the environment and surrounding resources. Vegetation treatments would, in the long term, enhance habitat conditions within the

herd management areas to ensure the sustainability of healthy herds maintained at appropriate management levels. Thus, Alternative B would achieve the program goal.

Alternative C

Impacts from Wild Horses Management Actions.

Parameter – General Wild Horse Management
The general management approach and associated impacts would be the same as the Proposed RMP. Wild horse populations would be managed with the same approach for calculating and applying appropriate management level as in the Proposed RMP. Only limited fencing of herd management area boundaries would be done as with Alternative A.

Parameter – Herd Management Area Establishment
Wild horses would be managed in the same reduced set of six consolidated herd management areas as used in the Proposed RMP. The only differences would occur in areas identified for possible disposal where the potential disposal areas would no longer remain in herd management area status. The total area of the herd management areas could be reduced by approximately 66,500 acres in areas identified for proposed land disposals. No land disposals would be permitted to remove the habitat necessary for supporting long-term reproductively viable populations. The impacts associated with this change in number and location of herd management areas would be the similar to those of the Proposed RMP.

Parameter – Population Management
The emphasis of wild horse management would be on maintenance of healthy, viable herds at levels sustainable under drought conditions. Impacts would be the same as the Proposed RMP.

This slight reduction in size of the Eagle and Silver King Herd Management Areas is not considered enough to warrant a change in the proposed appropriate management level for these units.

Impacts from Other Programs. The impacts related to interactions from water resources, vegetation, renewable energy, livestock grazing, geology and mineral extraction, watershed management, and noxious and invasive weed management activities would be the same as or similar to the Proposed RMP. Programs for which the impacts would differ from the Proposed RMP and Alternatives A and B are discussed below.

Lands and Realty. Potential disposal of lands could reduce the herd management areas identified under this alternative by approximately 66,500 acres, possibly necessitating a reduction in the appropriate management level.

Travel Management and Off-highway Vehicle Use. The reduction of both size and number of herd management areas and the substantial reduction in amount of area open to off-highway vehicle use in this alternative would effectively reduce encounters and conflicts between off-road vehicle traffic and wild horse herds. Three of the off-highway vehicle emphasis areas in this alternative do not overlap with the remaining herd management areas. Two areas, however, Silver State and Pancake Summit, overlap almost totally with the Silver King and Pancake Herd Management Areas, respectively. Some degree of impact to the wild

horse population in those herd management areas would be expected. However, overall impacts of the increasing recreational demand on the planning area on wild horse management probably would be reduced in this alternative compared to Alternative A, but similar to the Proposed RMP.

Recreation. The primary impacts resulting from interactions between wild horses and recreation are those associated with off-highway vehicle use (see paragraph above). In addition, nine special recreation management areas totaling approximately 2.6 million acres would be established under Alternative C. Portions of these would overlap with the Eagle, Silver King, Triple B, and Pancake Herd Management Areas. Wild horse viewing is one of the types of recreation anticipated to occur in these areas and the presence of recreation users may affect herd behavior and movement.

Watershed Management. Impacts to wild horses would be the same as the Proposed RMP except that additional forage after restoration would be allocated to livestock, and there would be no change in forage availability for wild horses.

Fire Management. Impacts to forage on herd management areas and thereby to wild horses would probably be less in Alternative C than the Proposed RMP or Alternatives A and B during the short term due to aggressive fire suppression. Over the long term, however, this fire suppression approach is expected to result in more large widespread fires, potentially burning major portions of individual herd management areas with subsequent conversion of these areas to herbaceous dominated plant communities.

Conclusion. Wild horse populations would be brought into balance with the available habitat resources needed to sustain healthy populations and prevent damage to the environment and surrounding resources. Alternative C, however, would likely have greater impacts and risks to wild horse populations than the Proposed RMP over the long term due to increased potential for major wildland fires.

Alternative D

Impacts from Wild Horses Management Actions.

Parameter – General Wild Horse Management

Herd management areas would be the same as under Alternative A, but herds would be unmanaged except for removal of wild horses outside the herd management areas. This alternative, however, would focus on eliminating livestock grazing throughout the planning area to protect vegetation and soil resources. This approach could initially make more forage available to wild horses in those herd management areas where horses and livestock currently compete for forage. This alternative also eliminates other discretionary uses of the pubic lands including mineral sale and leasing, lands and realty actions, and many recreational uses. This approach would remove or eliminate most resource use conflicts with wild horses, but it would not alter substantially or remedy the unsuitability of several existing herd management areas for maintaining viable, healthy horse populations in thriving ecological balance with other resources.

Parameter – Herd Management Area Establishment
The 24 herd management areas presently existing within the planning area would be retained with a collective area of approximately 5.4 million acres (see **Table 2.5-10** and **Map 2.5.8-1**).

Parameter – Population Management
Management under this alternative would not constrain population growth within herd management areas. Thus, in the absence of population controls, it is expected that natural population growth at rates of up to 20 percent annually would quickly result in excessive populations and rapid degradation of forage supplies on all herd management areas. Riparian areas within the herd management areas would be particularly vulnerable. As forage supplies become depleted within the herd management areas, it is expected that increasing numbers of animals would move onto adjoining areas where they would be removed. Starvation would be common as would be long-term or permanent damage to the vegetation resource. Foals and old animals would be the most vulnerable to starvation and predation.

Impacts from Other Programs.

Water Resources. Water hauls and other man-made sources of water for livestock would be terminated, thus removing important water sources for wild horses and wildlife as well.

Vegetation. Vegetation treatment and restoration activities would occur under this alternative at about the same scale as Alternative A, but emphasis would be placed on returning previously disturbed sites (including nonnative seedings) to sagebrush or pinyon-juniper communities. Thus, impacts to wild horses would be similar to Alternative A, except that Alternative D would involve a lower overall probability of achieving and maintaining desired range of vegetation conditions within the herd management areas. This would lead to greater impacts on the health of wild horse populations.

Lands and Realty. This alternative emphasizes a policy of "No net loss of lands in the planning area." No new rights-of-way, permits, leases, and easements would be granted. This approach would not directly affect wild horse herds.

Renewable Energy. Since rights-of-way for renewable energy projects would not be granted, impacts to wild horses would not occur.

Travel Management and Off-highway Vehicle Use. Almost all of the planning area would be closed to off-highway vehicle use, effectively eliminating any conflict of such uses with wild horse herds.

Recreation. Alternative D would involve elimination of organized recreational events, thereby eliminating a potential use conflict in wild horse herd management areas.

Livestock Grazing. Livestock grazing would be eliminated under Alternative D. This would remove the conflict between livestock and wild horse for forage, but also would eliminate some of the water sources used by the wild horse herds.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario. Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Watershed Management. After restoration activities have occurred to meet Standards for Rangeland Health at the watershed level, additional forage would be allocated to wild horses within herd management areas, thus providing increased forage for herds using these treated areas.

Fire Management. This alternative would involve the use of fire suppression only for human-caused events and those that threaten human life and private property. For both the short term and the long term, this alternative would result in substantially greater risk for large, widespread fires that could adversely affect entire herd management areas or large portions thereof.

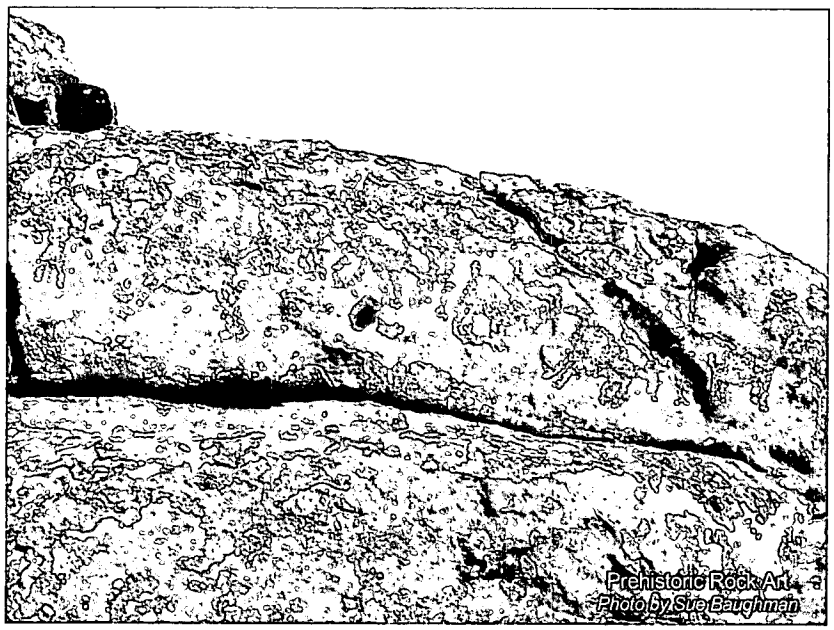
Noxious and Invasive Weed Management. Management would be the same as Alternative A except selected groups of herbicides would not be allowed. Thus, effective and efficient control of some weed species may not be achieved. This change would have few direct effects relative to wild horses, but would substantially reduce the effectiveness of weed control in the planning area. This approach would tend to facilitate the establishment and spread of various noxious and invasive weeds.

Conclusions. The limited management approach in Alternative D for the existing 24 herd management areas and absence of fire management would result in rapid deterioration of ecological systems within these areas and likely starvation of many animals as populations increase beyond the support level of their habitat. Therefore, Alternative D would fail to achieve the stated goal for this program.

4.9 Cultural Resources

Impact Issues

Cultural resources include, but are not limited to, historic cemeteries and townsites, rockshelters, caves, rock art, and Paleoindian sites. The primary impact mechanisms that could affect cultural resources within the planning area include off-highway vehicle and recreational use, minerals development, land disposal, fire, special designations, and livestock grazing. Some of these mechanisms would have a negative impact on cultural resources, which would be mitigated through project abandonment, redesign, and, if necessary, data recovery. However, some of these mechanisms may have a positive or beneficial impact on cultural resources, such as protection under an ACEC designation.



Any program, activity, or project has an effect on a cultural resource if it alters any of the characteristics or criteria that may qualify the resource for inclusion on the National Register of Historic Places or otherwise affects a cultural property's legally protected status. Impacts to cultural properties are considered adverse if the effect diminishes the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Negative or adverse effects can include, but are not limited to: physical destruction of or damage to all or part of a property; alteration of a property (e.g., restoration, rehabilitation, stabilization); removal of a property from its historic location; or, transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation.

Assumptions for Analysis

None.

Interactions with Other Programs

The cultural resource management program within the planning area potentially would be affected by actions within the resource management programs for vegetation, wild horses, visual resources, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing,

geology and mineral extraction, fire management, noxious and invasive weed management, and special designations.

Goal

Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (Federal Land Policy and Management Act, Section 103(c), 201(a), and (c); National Historic Preservation Act, Section 110(a); Archaeological Resources Protection Act, Section 14 (a)).

Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (Federal Land Policy and Management Act, Section 103(c), National Historic Preservation Act, Section 106, 110(a)(2)) by ensuring that all authorizations for land use and resource use will comply with the National Historic Preservation Act, Section 106.

Northeastern Great Basin Resource Advisory Council Standard. Land use plan will recognize cultural resources within the context of multiple use.

Objective

To protect and maintain cultural resources on BLM-administered land in stable condition. Appropriate management actions will be determined after evaluation and allocation of cultural resource use categories through cultural resource project plans.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to cultural resources also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Cultural Resources Management Actions. Under the Proposed RMP, the cultural landscape around National Historic Trails would be managed and protected in compliance with the National Historic Preservation Act and BLM policy. An area of direct effect around the trails would be established as 1 mile on each side of the trail centerline, although in some cases, the area of potential effect may be larger or smaller than 1 mile on each side of the centerline. The Proposed RMP focuses on management of the

setting of the Pony Express National Historic Trail and the California Historic Trail, of which the planning area manages about 15 miles. All cultural properties in the decision area, whether already recorded or projected to occur on the basis of existing data synthesis, including cultural landscapes, or not projected to occur, but later identified through inventory, would be allocated to specific uses according to their nature and relative preservation value. Once an cultural resource receives a cultural resource use allocation, it would be managed for that use and other resource uses would be managed in order to be compatible with the cultural resource use allocations. The use allocations would provide management direction, planning, and funding priorities for the thirteen site types identified. They also would provide priorities for writing cultural resource project plans, inventories, restoration, stabilization, rehabilitation, interpretation, protection, monitoring, and research. See the Glossary for the definitions of each resource use allocations and Section 2.4.9 for designations of specific use allocations for site types found in the planning area.

Impacts from Other Programs.

Vegetation. Vegetation management involves treatments to achieve healthy, resilient, and diverse ecological systems. Vegetation treatments typically involve direct manipulation of vegetation resources and include such activities as burning, chaining, tree cutting, and plowing, all of which can negatively affect cultural resources. Treatment projects would be subject to additional NEPA review and impacts to cultural resources would be avoided or mitigated in adherence to the National Historic Preservation Act and Federal Land Policy and Management Act. Vegetation management also may involve the elimination or modification of activities currently degrading watershed conditions, such as vehicle traffic, hiking, and livestock and wild horse grazing would benefit cultural resources by restoring cultural landscapes and reducing impacts to archaeological sites. Under the Proposed RMP, the increase in vegetation treatments would benefit cultural resources by increasing the percent of the planning area inventoried for cultural resources; however, the potential for indirect and inadvertent as well as direct impacts would increase proportionally to the amount of land undergoing ground disturbing vegetation treatment. Restoration projects would be subject to additional NEPA review, and impacts would be avoided or mitigated in adherence to the National Historic Preservation Act and Federal Land Policy and Management Act.

Wild Horses. Cultural resources are impacted by wild horse use in similar manner to livestock grazing impacts. These impacts are trampling, wallowing, and trailing, especially near fenced or unfenced watering areas, stream banks, and spring sources. The impacts caused by wild horses are nearly indistinguishable from those caused by livestock. These impacts would be mitigated on a case-by-case basis when discovered. Under the Proposed RMP, impacts to cultural resources would be reduced as overall horse numbers would be reduced from current management levels. Possible impacts could occur during gather operations but would generally be avoided in compliance with the National Historic Preservation Act and Federal Land Policy and Management Act.

Visual Resources. Under the Proposed RMP, approximately 3.5 million acres would be managed as Visual Resource Management Class I or II. This potentially would result in indirect protection of settings and landscapes of National Register eligible cultural resources.

Lands and Realty. No unmitigated impacts to cultural resources are anticipated as a result of potential land disposals. Any parcels disposed of would be subject to NEPA review prior to disposal in adherence to the National Historic Preservation Act and the Federal Land Policy and Management Act. Implementation of best management practices and proposed management actions would prevent lands identified for possible disposal from being transferred to other ownership without mitigation if they contain sites determined eligible for inclusion to the National Register of Historic Places. Lands and realty management would benefit cultural resources through acquisition of culturally sensitive properties.

Rights-of-way within newly designated corridors (0.5- to 0.75-mile-wide under this alternative) would result in a greater number of impacts to cultural resources compared to current management under which no additional corridors would be designated. Applicants for rights-of-way for utilities and communication sites would be encouraged to locate such activities within designated corridors or previously disturbed areas; therefore, the potential for impacts to cultural resources associated with these types of rights-of-way would be the same as those occurring under current management. This use consolidation would benefit cultural resources by ensuring public information about site stewardship and monitoring would occur in these corridors. Impacts associated with these activities would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Renewable Energy. Ground-disturbing activities associated with renewable energy development (i.e., wind or solar energy) would result in mitigated impacts to cultural resources. Authorization of renewable energy projects would be evaluated using an interdisciplinary approach and site-specific NEPA analysis would occur for all renewable energy development projects. Under the Proposed RMP, wind and solar energy and biomass resources could be developed (see Section 2.4.13). Direct impacts to cultural resources on the 4,000 acres that could be disturbed for wind energy development would be expected but mitigated in adherence to the National Historic Preservation Act and Federal Land Policy and Management Act. Renewable energy development areas will test site sensitivity models developed for the Ely RMP/EIS and will assist with predicting the severity of impacts to cultural sites. Impacts associated with these activities would be mitigated to the extent practicable through management practices from the Wind Energy Programmatic EIS (see Appendix F, Section 3).

Travel Management and Off-highway Vehicle Use. Off-highway vehicle activities, particularly if unregulated, are increasingly responsible for damage to all types of cultural/archaeological resources. Compaction, altered surface water drainage, and erosion are all negative impacts to the landscape and, by extension, to cultural resources. The weight and torque of off-road vehicles easily can destroy fragile surface artifacts. In addition, as off-highway vehicles take people into generally unvisited or hard-to-reach areas, the integrity of cultural/archaeological resources would be at greater risk of illegal collection, vandalism, surface disturbance, and site damage. The impacts caused by dispersed off-highway vehicle activity would not be mitigated unless discovered. Under the Proposed RMP, direct and indirect impacts to cultural resources would be substantially reduced. Approximately 1.1 million acres would be closed to off-highway vehicle use and approximately 10.3 million acres would be managed with use limited to designated roads and trails. Designations of roads and trails would occur subsequently at the implementation level.

Recreation. Recreation development can be both beneficial and detrimental in its relationship to cultural resources. A greater use of interpretive developments can increase public awareness and education, which can result in decreased illegal collecting and site vandalism. Conversely, increased development, in general, brings more people to the area and more visitors usually means greater illegal collection and site damage. Developed recreation can be slightly more detrimental to cultural resources than dispersed recreation because it tends to concentrate people in small, predictable areas. Dispersed recreation (e.g., hunting, hiking) tends to attract visitors to places that have not received much use in the past; however, this type of use is much less predictable and measurable. The Proposed RMP designates five new special recreation management areas. These designations are likely to attract additional recreational use to these public lands. The potential increase in recreational activity could lead to greater indirect impacts to cultural resources than under the current management.

Special recreation permit areas would be established to provide opportunities for motorcycle competitive events. Direct impacts to cultural/archaeological resources located within the permit areas would be mitigated through adherence to the National Historic Preservation Act and Federal Land Policy and Management Act. However, it is anticipated that a greater number of indirect impacts to cultural/archaeological resources located in the vicinity of the motorcycle events would occur due to the increased number of visitors to these areas. Indirect impacts would be mitigated on a case-by-case basis as discovered.

Livestock Grazing. Direct impacts associated with range improvements would be mitigated; however, other impacts may occur as a result of livestock grazing activities. Livestock congregation and trailing at or across cultural resource site locations can damage artifacts and the contexts in which they occur. Cattle shading and rubbing can damage standing historic structures and petroglyph and pictograph panels. Excessive trampling at spring sources and along stream banks, cattle trailing, and poorly managed grazing can all lead to a denuding of protective vegetation cover and create indirect impacts to cultural/archaeological resources by accelerating natural erosion and exposing artifacts to illegal surface collection and vandalism. These types of impacts generally would be localized at particular site locations, and could range from short-term to long-term to irreversible. Livestock grazing will continue to be authorized for approximately 424,602 animal unit months on 8.4 million acres for allotments that have been determined to be meeting or progressing toward achievement of the standards for rangeland health. These will continue as needed to meet RMP goals and objectives including the standards for rangeland health. Current livestock grazing will be maintained for 120,665 animal unit months on 3.2 million acres until allotments have been evaluated for progress toward achievement of the standards for rangeland health. Changes to livestock grazing use will be made as needed to meet or progress toward achievement of the standards. These actions would lessen the impacts to the resource. Better management and restored forage base through restoration activities could reduce impacts or could be used to draw animals away from sensitive areas, particularly accompanied by awareness briefings to permittees. Possible impacts to cultural resources would occur during construction of range improvements (troughs, pipelines, fencelines, etc.). Impacts to cultural resources would be avoided or mitigated in compliance with the National Historic Preservation Act and Federal Land Policy and Management Act.

Under the Proposed RMP, there would be fewer acres available for livestock grazing compared to current management on approximately 40 acres in the proposed Snake Creek Indian Burial Cave ACEC and 80 acres on the proposed Baker Archaeological Site ACEC. This would reduce impacts by livestock to cultural resources in the planning area.

Geology and Mineral Extraction. Under the Proposed RMP and under current management, surface-disturbing activities associated with mineral exploration and development would result in mitigated impacts (which may include data recovery) to cultural resources. The potential for indirect and inadvertent impacts would increase proportionally to the amount of land developed, which is expected to total approximately 17,100 acres over the reasonably foreseeable future. Fluid minerals management within the Sunshine Locality National Register District would be changed to a combination of no surface occupancy around the perimeter and closed within the center. Impacts to cultural resources associated with mineral extraction would be avoided or mitigated (which may include data recovery) in compliance with the National Historic Preservation Act and Federal Land Policy and Management Act, and best management procedures for mineral leasing.

Fire Management. Prescribed fire, wildland fire use (approximately 8.9 million acres available), and other tools would be used to the greatest extent practical under the Proposed RMP. This alternative has the potential for direct as well as indirect and inadvertent impacts to cultural resources as not all cultural resources are fire sensitive, but all are fire suppression sensitive. Planned fires would have less impact on cultural resources than catastrophic wildland fires. Areas proposed for prescribed burning would be inventoried for cultural/archaeological resources and impacts avoided or mitigated. Prescribed fires can indirectly impact archaeological sites by increasing short-term ground surface visibility. The greater visibility makes artifacts more accessible and can lead to increased illegal collection. These short-term impacts are mitigated through prior inventory, systematic surface artifact collection, and post-fire monitoring. Impacts to cultural resources would be avoided or mitigated in compliance with the National Historic Preservation Act and Federal Land Policy and Management Act.

Noxious and Invasive Weed Management. Treatment methods for noxious and invasive weed control include chemical, mechanical, cultural, or biological. Chemical treatments would negatively impact cultural resources (impacting dating accuracy) (BLM 2004a; BLM 2005c), and ground disturbing mechanical treatments can negatively impact cultural resources by disturbance/destruction of the resource. These impacts would primarily be mitigated through avoidance or data recovery in adherence to the National Historic Preservation Act.

Special Designations. Special designations (e.g., ACECs), with an emphasis on natural values, would benefit cultural resources by protecting and preventing irreparable damage to important cultural values, as well as historic and scenic values. The special designation would reduce or eliminate surface disturbances, which often are caused by activities such as off-highway vehicle use, grazing, range improvements, rights-of-way placements, and mineral entry. Restricting these activities would result in increased ground cover, leading to a reduction in soil erosion, which would help to maintain the integrity of cultural sites. While a special designation may emphasize one or more unique resource, other existing multiple-use management can continue within a special designation so long as the uses do not impair the values for which the area was designated.

Under the Proposed RMP, 20 ACECs would be designated, and 8 of these would be designated to protect and preserve relevant and important cultural values. These would include Baker Archaeological Site, Hendry's Creek/Rock Animal Corral, Honeymoon Hill/City of Rocks, Mount Irish, Pahroc Rock Art, Shooting Gallery, Snake Creek Indian Burial Cave, and Swamp Cedar. Designation of these ACECs would help protect cultural resources. Back country byways are not expected to affect cultural resources.

Forest/Woodland and Other Plant Products. Allowing fuelwood harvest throughout the entire planning area (except some restricted locations) could potentially impact cultural resources in areas where surveys have not been completed. Impacts would be mostly to historic features associated with or connected to pinyon and juniper trees. The amount of impacts to these features is expected to be minimal based on the anticipated level of harvest activities and locations where harvest will take place.

Conclusion. There would be a higher level of protection of cultural resources through use allocations, with 100 percent of the sites determined eligible to the National Register of Historic Places allocated and managed for Conservation, Scientific, and Public Use, and the designation of 8 new ACECs. There also would be more protection of cultural/archaeological resources than current management due to the decrease in lands open to off-highway vehicle use, wild horses, and livestock grazing. The level of protection from impacts associated with fire management and recreation activities would be greater than current management. The Proposed RMP would meet the goals for the cultural resources program, including the Resource Advisory Council Standards.

Alternative A

Impacts from Cultural Resources Management Actions. The cultural landscape around National Historic Trails would be managed and protected in compliance with the National Historic Preservation Act and BLM policy. An area of direct effect around the trails would be established as 1 mile on each side of the trail centerline, although in some cases, the area of potential effect may be larger than 1 mile on each side of the centerline. Alternative A focuses on management of the setting of the Pony Express National Historic Trail and the California Historic Trail, of which the Ely Field Office manages about 15 miles.

Class II inventories (sample surveys) would be conducted in areas identified as high potential for aboriginal site occurrence (e.g., rock art sites, rockshelters, caves, toolstone sources or quarries, large or complex prehistoric sites and camps, agave roasting pits, antelope walls, geoglyphs, and intaglios [i.e., engraved designs]). Rock art sites, historic sites, agave roasting pits, antelope walls, geoglyphs, and intaglios would be monitored for vandalism and natural deterioration.

A Cultural Resources Project Plan would be developed for the Mount Irish Archaeological District, Delamar townsite, and Sunshine Locality National Register District. The plan would outline protection measures and discuss use allocation objectives for these sites, as well as specify actions to be taken under the plan. The Delamar townsite and cemetery would be inventoried to determine the cultural and historical values.

Under Alternative A, cultural resources would continue to be managed for future Cultural Resource Use Allocations. Direct impacts to historic properties eligible to the National Register of Historic Places would be avoided or mitigated in accordance with federal and state laws. Indirect impacts in the form of illegal collecting, vandalism, or inadvertent damage to cultural/archaeological resources would continue to increase over time as the number of visitors to the area increases.

Impacts from Other Programs. Impacts to cultural resources from the noxious and invasive weed management program would be the same as described for the Proposed RMP.

Vegetation. Vegetation restoration and management activities would be undertaken at a relatively low level, and implementation primarily would be in reaction to changes that occur from events such as fire or other disturbance. Similarly, effects on cultural resources would be low to moderate. Restoration treatments would be subject to NEPA review and impacts to cultural resources would be avoided or mitigated in adherence to the National Historic Preservation Act and Federal Land Policy and Management Act.

Wild Horses. Wild horses would be managed within 24 management areas including several areas where scarcity of forage and water result in localized concentrations of use which can be destructive for any cultural/archaeological resources in the vicinity.

Visual Resources. Management of approximately 1.7 million acres under Visual Resource Management Classes I and II would provide less protection of the visual setting where cultural/archaeological resources occur than the Proposed RMP.

Lands and Realty. Cultural resource impacts associated with potential land disposals would be similar to those identified for the Proposed RMP. The negative impacts created by the construction of rights-of-way (e.g., transmission lines, pipelines, and communication sites) would be mitigated by adherence to the National Historic Preservation Act and Federal Land Policy and Management Act. No additional corridors would be designated and all linear rights-of-way would be encouraged to locate within existing designated corridors. Under this alternative, the number of acres withdrawn from mineral entry would be determined on a case-by-case basis.

Renewable Energy. Impacts to cultural/archaeological resources would be similar to those described for the Proposed RMP and would be avoided or mitigated in compliance with the National Historic Preservation Act and Federal Land Policy and Management Act. Impacts associated with these activities would be mitigated to the extent practicable through management practices from the Wind Energy Programmatic EIS (Appendix F, Section 3).

Travel Management and Off-highway Vehicle Use. It is anticipated that occurrences of surface disturbance, illegal collecting, and vandalism associated with off-highway vehicle use would be high due to the open class use designation in the planning area.

Recreation. Recreation development projects and planned off-highway vehicle events would be cleared and impacts to cultural resources mitigated through adherence to the National Historic Preservation Act and Federal Land Policy and Management Act. No organized off-highway vehicle events would be

permitted in the Baker Archaeological Site or Garrison Archaeological Site areas, thereby providing some level of resource protection. The effects of dispersed recreation would be mitigated on a case-by-case basis as discovered.

Livestock Grazing. Livestock grazing impacts and allotment evaluations would continue as described in the Proposed RMP. Impacts associated with livestock activities would be mitigated on a case-by-case basis as discovered.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that of the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP. The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Fire Management. The use of prescribed fire, wildland fire use (approximately 3.6 million acres available) and other tools would not be used to the greatest extent practical as under the Proposed RMP. Impacts from Alternative A would be similar to those in the Proposed RMP. Under Alternative A, puebloan sites would be protected from vehicular traffic associated with fire suppression in the event of fire on or near these sites. Existing standard operating procedures would protect fire-sensitive cultural resources (e.g., rock art sites, historic buildings and structures) located within fire management polygons.

Special Designations. No new ACECs would be designated. The Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs previously were established and would be retained under Alternative A. These ACECs are managed primarily for the protection of the desert tortoise and would be less important in protecting cultural resources.

Conclusion. Cultural resources would continue to be managed for future resource use allocations. Indirect impacts associated with off-highway vehicle use, wild horses, livestock grazing, and recreational activities would continue to occur under existing management. Alternative A would not meet the goals for the cultural resources program but would meet the Resource Advisory Council Standards.

Alternative B

Impacts from Cultural Resources Management Actions. Cultural resource impacts as a result of program-specific management activities would be similar to those described for the Proposed RMP; however, the magnitude of effects would vary based on the resource use allocations identified for this alternative (see Section 2.6.9, Cultural Resources).

Impacts from Other Programs. Impacts to cultural resources from vegetation, wild horses, visual resources, renewable energy, travel management and off-highway vehicle use, geology and mineral extraction, fire management, and noxious and invasive weed management essentially would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Lands and Realty. Cultural resource impacts associated with possible land disposal management activities would be the same as described for the Proposed RMP. Under Alternative B, rights-of-way within newly designated corridors (1.0-mile-wide under this alternative) potentially would result in a greater number of cultural resources impacts. However, all linear rights-of-way related to fiber optic cables and specific transmission lines and pipelines would be located within designated corridors; thereby, reducing dispersed rights-of-way and resulting in fewer potential impacts to cultural resources. Impacts associated with these activities would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Recreation. Indirect impacts to cultural resources are expected to increase because there would be greater numbers of special recreation management areas compared to the Proposed RMP.

Livestock Grazing. It is anticipated that livestock grazing management activities under Alternative B would result in fewer impacts to cultural resources compared to Alternative A and the Proposed RMP, because there would be a decrease of approximately 3.0 million acres (bighorn sheep habitat) in the areas available for livestock grazing (see Section 2.6.8). Better management and restored forage base through restoration activities could slightly reduce impacts or could be used to draw animals away from concentrating in or near sensitive areas.

Special Designations. Eighteen ACECs would be designated and 10 of these would be designated to protect and preserve relevant and important cultural values. These would include Baker Archaeological Site, Ward Mining District, Snake Creek Indian Burial Cave, Shooting Gallery, Hendry's Creek/Rock Animal Corral, Honeymoon Hill/City of Rocks, Mount Irish, Pahroc Rock Art, Osceola/Osceola Ditch, and Swamp Cedar. Designation of these ACECs would help protect cultural/archaeological resources.

Conclusion. Management of cultural resources would be the same as the Proposed RMP. The level of protection from recreation activities would be greater than the current management. Alternative B would meet the goals for the cultural resources program, including the Resource Advisory Council Standards.

Alternative C

Impacts from Cultural Resources Management Actions. Cultural resource impacts as a result of program-specific management activities would be similar to those described for the Proposed RMP; however, the magnitude of effects would vary based on the resource use allocations identified for this alternative (see Section 2.7.9, Cultural Resources). The level of protection would be lower as more sites would be allocated as Discharged from Management.

Impacts from Other Programs. Cultural resources impacts associated with wild horses, visual resources, and renewable energy, geology and mineral extraction, and noxious and invasive weed management essentially would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Vegetation. Vegetation restoration activities would be similar in magnitude to the Proposed RMP; however, treatments would focus on creation of plant communities conducive to the commodity emphasis of this alternative. These treatments would involve greater reliance on mechanical and chemical treatments as opposed to prescribed fire. This approach would result in greater potential impacts to cultural resources.

Lands and Realty. Cultural resources impacts associated with possible land disposals would be the same as those identified for the Proposed RMP except for the increased acreage available for possible disposal. Under Alternative C, cultural resources impacts associated with rights-of-way within newly designated corridors would be the same as described for the Proposed RMP, with the exception that these corridors would be 3 miles in width. All linear rights-of-way related to fiber optic cables and specific transmission lines and pipelines would be encouraged to locate within designated corridors; therefore, the potential for cultural resources impacts associated with these types of rights-of-way would be the same as described for the Proposed RMP.

Travel Management and Off-highway Vehicle Use. Reduced impacts to cultural resources would be similar to the Proposed RMP except approximately 32,000 acres would be open to off-highway vehicles on the dry lakebeds in Delamar, Garden, and Dry Lake valleys. The "open" designation on these dry lakebeds would concentrate off-highway vehicle use in these areas. The off-highway vehicle "open" designation would result in impacts to cultural resources on the margins of the dry lakebeds in all three valleys. In addition, this designation would result in impact to cultural resources located on the floor of Garden Valley dry lakebed(s).

Recreation. Indirect impacts to cultural resources are expected to increase because there would be greater numbers of special recreation management areas, special recreation permit areas, and routes for motorcycle and truck events compared to the Proposed RMP.

Livestock Grazing. There would be a slight decrease in the areas available for livestock grazing (see Section 2.7.8), and better management and restored forage base through restoration activities could slightly reduce impacts or could be used to draw animals away from concentrating in or near sensitive areas.

Impacts of livestock grazing on cultural resources would be generally similar to the Proposed RMP and livestock grazing and allotment evaluations would continue as described in the Proposed RMP.

Fire Management. The full suppression approach of Alternative C would initially reduce potential impacts to cultural resources but could increase impacts when fuel accumulations reach the point that suppression efforts fail to control large fires.

Special Designations. Twenty ACECs would be designated, of which 10 would be designated to protect and preserve relevant and important cultural values. The 10 new ACECs would be the same as those identified for Alternative B.

Conclusion. Cultural resource use allocations would protect cultural/archaeological resources; however, there would be a lower level of protection since more sites would be allocated as Discharged from Management. The decrease of lands open to off-highway vehicle use would provide more protection of cultural resources than current management. The level of protection from impacts associated with recreation and fire management would be lower than Alternative A and the Proposed RMP. Alternative C would meet the goals for the cultural resources program, including the Resource Advisory Council Standards.

Alternative D

Impacts from Cultural Resources Management Actions. Cultural resources impacts as a result of program-specific management activities would be similar to those described for the Proposed RMP; however, the magnitude of effects would vary based on the resource use allocations identified for this alternative (see Section 2.8.9, Cultural Resources).

Impacts from Other Programs. Cultural resources impacts associated with wild horses and noxious and invasive weed management activities would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Vegetation. Vegetation restoration activities would not be accelerated in comparison to the Proposed RMP. Restoration would be implemented primarily in areas dominated by invasive nonnative species or seeded nonnative species. Impacts to cultural resources would be similar to but less than the Proposed RMP.

Visual Resources. Approximately 11.5 million acres would be managed as Visual Resource Management Classes I and, II potentially resulting in more indirect protection for cultural/archaeological resources than under the Proposed RMP.

Lands and Realty. There would be no net loss of public lands in the decision area. As a result, there would be a lower potential for impacts to cultural resources as activities on lands retained under BLM jurisdiction would be subject to the requirement of the National Historic Preservation Act and Federal Land Policy Management Act. Under Alternative D, there would be no new land use authorizations such as right-of-way and communication site grants, so there would be no impacts to cultural/archaeological resources.

Renewable Energy. There would be no impact to cultural resources from renewable energy development because there would be no new land use authorizations.

Travel Management and Off-Highway Use. Fewer impacts to cultural resources would be anticipated, since no areas would be open to off-highway vehicle use and 11.0 million acres would be closed to off-highway vehicle use.

Recreation. No motorcycle and truck races would be permitted thus eliminating impacts from these events on cultural resources.

Livestock Grazing. Fewer impacts to cultural resources would occur compared to the Proposed RMP because livestock grazing would be eliminated throughout the decision area.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario. Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development would be much less in Alternative D than in the Proposed RMP.

Fire Management. Alternative D would emphasize reduced suppression of wildland fires except to protect life and property in the long term. Under this alternative, effects would be higher than the Proposed RMP with high potential for major, widespread fires.

Special Designations. No ACECs for the protection of cultural resources would be designated under Alternative D; however, the reduction of other activities would reduce the need for special management. Therefore, impacts to cultural resources are expected to be minimal.

Conclusion. More cultural resources would be allocated and managed for Conservation Use, which would provide a higher level of protection compared to the Proposed RMP. The level of protection of cultural/archaeological resources from off-highway vehicle use, recreation, and livestock grazing would be greater than all other alternatives. Fire management activities would pose a higher risk to cultural resources than all other alternatives. Alternative D would meet the goals for the cultural resources program, but would not meet the Resource Advisory Council Standards.

4.10 Paleontology

Impact Issues

Impacts to paleontological resources would be measured by physical damage to fossil-bearing formations through excavation or surface disturbance. The primary impact mechanisms that could affect paleontological resources within the planning area include off-highway vehicle use, minerals development, land disposal, and special designations. However, some of these mechanisms may have positive or beneficial impacts on paleontological resources.

Fossils are part of the geological units in which they occur and may be extensively distributed both vertically and horizontally throughout the unit. Fossil localities noted to occur within a given geologic unit indicate that the unit may yield fossils throughout its entire areal extent, which may be several hundred or several thousand square miles. Thus, knowledge of the outcrop pattern of geologic units, and the kinds and quality of the fossils produced by such units, is a critical management tool for land-use decision-making where fossils may be involved.

Assumptions for Analysis

None.

Interactions with Other Programs

The paleontology management program within the planning area potentially would be affected by actions within the resource management programs for lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, and geology and mineral extraction.

Goal

Identify and manage at-risk paleontological resources (scientific value), preserve and protect vertebrate fossils through best science methods, and promote public and scientific use of invertebrate and paleobotanical fossils.

Objective

To manage fossil sites with high scientific value in a stable condition, while allowing appropriate research and casual public collecting.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality

regulations. Impacts to paleontological resources also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Paleontology Management Actions. All paleontological resources in the decision area, whether already recorded or projected to occur on the basis of existing data synthesis, would be allocated for specific uses according to their nature and relative preservation value. The use allocations would reduce impacts thereby increasing the preservation of paleontological resources. See Section 2.4.10 for the definitions of use allocations and their application for specific types of paleontological resources. The no-fee registration system at trilobite collection localities would allow the Ely Field Office to protect the resource while allowing for reasonable collecting by the public.

Impacts from Other Programs.

Lands and Realty. Potential land disposals would not impact known paleontological resources, because the resources would be surveyed prior to land transfers and important paleontological resources would be eliminated from possible disposal parcels. Acquiring lands containing sensitive fossil localities would protect paleontological resources for future public and scientific use. Proposed rights-of-way would be inventoried prior to construction. Fossil specimens located during inventory would be documented and collected. The documentation would add to the body of knowledge about paleontological resources in the planning area; however, any discovered paleontological resources located in proposed disturbance areas would be permanently removed from their original context. Rights-of-way within newly designated corridors (0.5- to 0.75-mile-wide under this alternative) potentially would result in impacts to paleontological resources. All linear rights-of-way, related to fiber optic cables, transmission lines, pipelines, and communication sites would be encouraged to locate within designated corridors and existing sites.

Renewable Energy. Based on estimates of the reasonably foreseeable development of renewable energy resources, approximately 4,000 acres within the planning area could be affected by construction activities. Such activities would be subject to additional site-specific environmental investigation and NEPA analysis prior to development. Appropriate protection or mitigation measures would be identified at that time.

Travel Management and Off-highway Vehicle Use. Unrestricted off-highway vehicle use damages paleontological resources by soil compaction, altered surface water drainage, and erosion. Repeated hill climbing and damage to slopes, soils, and vegetation would result in damage to paleontological resources by directly wearing down rock formations or causing accelerated erosion. Fewer impacts to paleontological resources would be anticipated since there would be a decrease in the area open to off-highway vehicle use and an increase in the area closed to off-highway vehicle use compared to current management.

Approximately 10.3 million acres would be classified as limited, thereby reducing impacts outside of designated roads and trails.

Recreation. The demand for use of both vertebrate and invertebrate fossils has increased in the planning area, as well as the casual-use and collection of invertebrate fossils, in particular trilobites, by rockhounds and fossil collectors. Common invertebrate fossils, such as plants, mollusks, and trilobites may be collected for personal use in reasonable quantities, but may not be bartered or sold. A no-fee registration system would be established for known trilobite localities. It is anticipated that the no-fee registration system would be used as a management tool to track the number of people visiting these localities and associated impacts. If necessary, trilobite collecting localities would be closed if increased use is impacting the resource.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario, would be disturbed throughout the 11.5 million acre decision area. Mineral extraction would have the potential to affect paleontological resources. A review of paleontological resources would be required prior to ground-disturbing activities associated with mineral development, as well as documentation or collection of specimens discovered during operations. The documentation would add to the body of knowledge about paleontological resources in the planning area. Selected paleontological resources discovered in proposed disturbance areas would be placed in museums. This process would add to the body of scientific knowledge.

Conclusion. Paleontological resources would be protected under the Proposed RMP, because they would be allocated and managed for Scientific, Conservation, and/or Public Use. An increase in the number of acres withdrawn from mineral entry and a decrease in lands open to off-highway vehicle use would reduce impacts to paleontological resources. The no-fee registration system would increase the protection of known trilobite localities by tracking the amount of use and associated impacts. The Proposed RMP would meet the goal for the paleontology program.

Alternative A

Impacts from Paleontology Management Actions. Paleontological resource impacts associated with program-specific management activities would be the same as described for the Proposed RMP. There would be no registration system at trilobite collecting localities, which would make if difficult to track and manage the intensity of use of the resource.

Impacts from Other Programs. Impacts to paleontological resources associated with lands and realty and renewable energy would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Travel Management and Off-highway Vehicle Use. The potential for impacts to paleontological resources would be high due to the open use classification on 9.8 million acres in the decision area.

Recreation. No registration system currently is in place for invertebrate fossil collecting. In the planning area, illegal commercial collecting of trilobites and individuals collecting far more than is considered "reasonable quantities" of trilobites for personal use is occurring, both of which impact the resource and are expected to continue.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals, and mineral materials would be relatively the same as in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP. The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Conclusion. Paleontological resources would be managed the same as the Proposed RMP, but no registration system would be in place for trilobite collecting. The amount of unauthorized collecting of common invertebrate fossils (e.g., trilobites) and impacts associated with off-highway vehicle use would continue to increase as recreation and visitor use increases. Alternative A would not meet the goal for the paleontology program.

Alternative B

Impacts from Paleontology Management Actions. Paleontological resource impacts associated with program-specific management activities would be the same as described for the Proposed RMP.

Impacts from Other Programs. Impacts to paleontological resources associated with renewable energy, travel and off-highway vehicle use, recreation, and geology and mineral extraction would be the same as described for the Proposed RMP.

Lands and Realty. Wider corridors are allowed for under this alternative compared to the Proposed RMP; therefore, additional disturbances could be associated with this alternative.

Conclusion. Paleontological resources would be protected, because they would be allocated and managed for Scientific, Conservation, and/or Public Use. An increase in the number of acres withdrawn from mineral entry and a decrease in lands open to off-highway vehicle use would reduce impacts to paleontological resources. The no-fee registration system would increase the protection of known trilobite localities by tracking the amount of use and associated impacts. Alternative B would meet the goal for the paleontology program.

Alternative C

Impacts from Paleontology Management Actions. Paleontological resource impacts associated with program-specific management activities would be the same as described for the Proposed RMP. The fee-base registration system for trilobite collecting would be expected to reduce the intensity of collecting and impacts to the resource.

Impacts from Other Programs. The level of impacts to paleontological resources associated with lands and realty, renewable energy, travel management and off-highway vehicle use, and geology and mineral extraction would be similar to or the same as those identified for the Proposed RMP. The following interrelated program would result in different impacts compared to the Proposed RMP.

Recreation. Under this alternative, a fee-based registration system would be established for known trilobite localities. It is anticipated that the fee-based registration system would be used as a management tool to track the number of people visiting these localities and associated impacts. If necessary, trilobite collecting localities would be closed if increased use is impacting the resource.

Conclusion. Management of paleontological resources would be the same as the Proposed RMP, with the exception of the registration system. The fee-based registration system could reduce the number of trilobite collectors, as well as increase the protection of trilobite collecting localities and associated impacts by tracking the amount of use and associated impacts. The decrease in lands open to off-highway vehicle use would reduce impacts to paleontological resources. Alternative C would meet the goal for the paleontology program.

Alternative D

Impacts from Paleontology Management Actions. Impacts to paleontological resources as a result of program-specific management activities would be the same as described for the Proposed RMP. Trilobite collecting localities would be closed, further reducing impacts to the resource.

Impacts from Other Programs.

Lands and Realty. There would be no net loss of public lands nor new land use authorizations such as rights-of-way authorizations in the decision area, which would minimize impacts to paleontological resources.

Renewable Energy. With the elimination of discretionary actions and authorizations within the planning area, there would be no wind energy development on public lands and no impacts of such activities to paleontological resources.

Travel Management and Off-highway Vehicle Use. Fewer impacts to paleontological resources would be anticipated, since no areas would be open to off-highway vehicle use and 11.0 million acres would be closed to off-highway vehicle use.

Geology and Mineral Extraction. The entire decision area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario. Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Recreation. All trilobite collecting locations would be closed, which would reduce impacts to the resource compared to the Proposed RMP.

Conclusion. Management of paleontological resources would be the same as the Proposed RMP, with the exception of trilobite collecting. Under this alternative, all trilobite collecting localities would be closed, which would provide a higher level of protection of these fossils compared to all other alternatives. The increase in lands closed to off-highway vehicle use would reduce impacts to paleontological resources. Alternative D would meet the goal for the paleontology program.

4.11 Visual Resources

Impact Issues

The primary impact issue associated with visual resources management is surface disturbing activities that are a result of management actions of other resource programs.

Assumptions for Analysis

None.

Interactions with Other Programs

The visual resources management program within the decision area potentially would be affected by actions within the resource management programs for vegetation, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, fire management, and special designations.

Goal

Manage public land actions and activities in a manner consistent with Ely Field Office visual resource management class objectives.

Objective

To implement multiple use activities within the decision area with mitigation measures consistent with the visual resource management classes.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to visual resources also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. Mitigation measures were considered within the following impact analysis section in response to anticipated impacts. Additional "proposed mitigation" for visual resources is identified in Section 4.29, Proposed Mitigation and Potential Effectiveness. In order to be carried forward as part of the Approved RMP, these "proposed mitigation measures" would have to be incorporated into the final decision documented in the Record of Decision. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis.

These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Visual Resources Management Actions. Under the Proposed RMP, visual resource management would be based on the revised visual inventory compiled for the decision area and presented on **Map 2.4.11-1**, Visual Resources Management Classes Proposed RMP and Alternative B. Acreages for the four visual resource management classes are presented in Section 2.4.11. The change in acreage from current management under the Proposed RMP is summarized in **Table 4.11-1.**

Table 4.11-1
Changes in Visual Resource Management Classification in Proposed RMP from Current Management

Visual Resource Management Class	Approximate Change in Acreage
I	- 0.31 million
II	+ 2.11 million
III	+ 4.20 million
IV	- 2.42 million
No Classification	- 3.58 million

Establishing visual resource management classes for areas that were previously unclassified, increasing the acreage of land in Class II and III, and reducing the acreage of land in Class IV, would preserve or enhance scenic values in the decision area as compared to current management.

By classifying designated utility corridors as Class IV, consistent with their potential future use, project proponents would be encouraged to locate proposed facilities within corridors. The Proposed RMP designates a Class II corridor along the Pony Express Trail. This designation would provide greater protection of scenic values along the trail than current management.

Impacts from Other Programs.

Vegetation. Under the Proposed RMP, the areas identified for potential vegetation treatments would total approximately 7.1 million acres, or 62 percent of the decision area. However, this treatment would be spread over several decades, allowing vegetation in treated areas to recover as new areas are treated. Since the use of fire would be maximized under this alternative, a noticeable change in landscape appearance would occur during the short term on treated areas. However, in the long term, the reestablishment of diverse plant life forms rather than homogenous communities of grasses, shrubs, or trees would improve scenic values. Vegetation treatment areas with linear margins, such as from mechanical treatment, would introduce unnatural visual elements into the landscape. Treating vegetation in wildland/urban interface areas might make these impacts more apparent.

Lands and Realty. Under the Proposed RMP, land and realty actions such as utility rights-of-way and communication site development potentially would impact visual resources. However, objectives for each visual resource management class identified in Section 3.11 would be managed for under the Proposed RMP. Visual resource contrast ratings would be completed as part of the evaluation of any proposed project. This analysis would result in recommended mitigation measures that would meet specific objectives for each visual resource management class in the project area. The objective to locate large linear projects within designated 0.5- to 0.75-mile-wide corridors and to co-locate communication sites would localize impacts to visual resources, but also would potentially increase visual impacts in the viewsheds where these corridors are located. The construction of smaller projects or facilities ancillary for larger projects, such as communication lines, electrical lines, pipelines, and access roads, may take place outside of designated corridors. Such projects would have lesser impacts to visual resources, which may be more effectively mitigated to achieve visual resource management objectives. Approximately 75,600 acres would be available for disposal, and development of disposed lands could lead to visual impacts in these areas. Impacts associated with these activities would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Renewable Energy. Renewable energy development would have impacts on visual resources from the construction of wind turbines and solar collectors. Since biomass utilization would be dependent on vegetation treatment, impacts are contained in the Vegetation section above. Renewable energy projects can potentially cover a large surface area (40,000 acres), resulting in a high degree of impact to the visual setting of a project. It may not be possible to mitigate such impacts to meet the visual resource management objectives for affected areas. The impacts from rights-of-way for ancillary access roads, pipelines, and transmission lines are discussed under Lands and Realty above. Impacts associated with these activities would be mitigated to the extent practicable through management practices from the Wind Energy Programmatic EIS.

Travel Management and Off-highway Vehicle Use. Under the Proposed RMP, travel management and off-highway vehicle use management actions would reduce impacts on visual resources by restricting cross-country off-highway vehicle use on approximately 10.3 million acres (90 percent) of the decision area, initially to existing roads and trails and subsequently to designated roads and trails, as determined through a public process and area-specific analysis. No areas would be classified as open. This management action would reduce impacts from surface disturbances and dust generation. Localized disturbances to visual resources could still occur from off-highway vehicle use.

Recreation. There would be a potential for recreation management to affect visual resources. Development of recreation facilities may occur, potentially causing impacts to visual resources. However, implementation of mitigation measures for developed facilities based on the visual resources management class objectives would minimize these impacts. However, mitigation measures to protect scenic values would be identified in site-specific management plans. By emphasizing these recreation activities in specific areas, impacts to visual resources in other parts of the decision area would be limited.

Livestock Grazing. Livestock grazing activities could impact visual resources. Maintenance and potential construction of fencing and water tanks would have minimal impacts on the visual resources of

existing landscapes. Additionally, grazing activities within riparian areas and other vegetation communities potentially would impact visual resources through vegetation loss and soil exposure in areas of concentrated use. Livestock grazing will continue to be authorized for approximately 424,602 animal unit months on 8.4 million acres for allotments that have been determined to be meeting or progressing toward achievement of the standards for rangeland health. These will continue as needed to meet RMP goals and objectives including the standards for rangeland health. Current livestock grazing will be maintained for 120,665 animal unit months on 3.2 million acres until allotments have been evaluated for progress toward achievement of the standards for rangeland health. Changes to livestock grazing use will be made as needed to meet or progress toward achievement of the standards. These actions would lessen the impacts to the resource.

Forest/Woodland and Other Plant Products. The private and commercial use of forest/woodland and other plant products would have minimal impacts on visual resources. Plant collection activities and Christmas tree collection would have limited impacts on visual resources in and adjacent to collection areas. However, under the forest/woodland products program, all operations would be restricted to areas where resource surveys have been conducted, which would include visual resource management assessment.

Geology and Mineral Extraction. Geology and mineral extraction would impact visual resources. Authorization of surface-disturbing and surface-occupying activities related to mining, oil and gas development, and geothermal development would impact visual resources. However, these impacts would be limited to approximately 17,100 acres of reasonably foreseeable development estimated for the next 20 years (0.14 percent of the planning area). Additionally, mitigation measures would be required for mineral development based on the visual resource management class objectives, thereby reducing overall impacts to visual resources.

Fire Management. Fire management activities have the potential to substantially affect visual resources. Long-term impacts may result from surface-disturbing suppression activities, such as the use of bulldozers to construct fire lines and the driving of fire equipment cross-country. Prescribed fire and wildland fire use activities, which would be maximized under this alternative, may have short-term impacts on visual values. Long-term impacts to visual resources would vary according to spatial arrangement, vegetation mosaics created, and proximity of treatments to high-use locations such as recreation areas.

Special Designations. Special designations would have the potential to reduce impacts to visual resources through special management. Ten of the 20 proposed ACECs would be designated as partially or totally Visual Resource Management Class I areas (see Section 2.4.22). The Blue Mass Scenic Area ACEC would be designated as a Visual Resource Management Class I area, protecting its scenic qualities. Approximately 1.1 million acres of designated wilderness and 81,000 acres in wilderness study areas would be managed as Visual Resource Management Class I. Designating approximately 297,000 acres of new ACECs as right-of-way avoidance areas and 25,000 acres of new ACECs as right-of-way exclusion areas would further protect scenic values in those areas.

Conclusion. Management prescriptions under the Proposed RMP would classify approximately 1.2 million acres as Visual Resource Management Class I and 2.4 million acres as Visual Resource Management Class II. Having classifications for all lands within the decision area would allow for a more comprehensive

framework for preserving and mitigating impacts to visual resources. Maximizing the use of prescribed fire and wildland fire use would create short-term visual impacts that would diminish in the long term after treatments are completed. The Proposed RMP would meet the goal for the visual resources program.

Alternative A

Impacts from Visual Resources Management Actions. Under Alternative A, visual resource management classes would continue to use the visual inventory compiled for the Schell and Caliente Resource Areas, as presented in **Map 2.5.11-1**, Visual Resources Management Classes Alternative A. The balance of the decision area (the Egan Resource area) would remain unclassified, but visual resource management classes would be established on a project-specific level. The lack of comprehensive visual resources management for the entire decision area could reduce visual resource quality due to a lack of coordinated visual resource protection. The lack of comprehensive visual resource management also could result in legal challenges when the classifications are established at the project-specific level.

Impacts from Other Programs. Visual resource impacts associated with renewable energy, livestock grazing, forest/woodland and other plant products, and fire management activities would be similar to those described for the Proposed RMP.

Vegetation. The areas identified for potential vegetation treatments would total approximately 2.9 million acres, or 25 percent of the decision area. The impacts of these treatments to visual resources would be similar to those described for the Proposed RMP.

Lands and Realty. The impacts of land and realty actions on visual resources would be similar to those described for the Proposed RMP. Approximately 31,900 acres would be available for disposal, and development of disposed lands could lead to visual impacts in these areas.

Travel Management and Off-highway Vehicle Use. The open classification for off-highway vehicle use on 9.8 million acres (86 percent) of the decision area would result in impacts to visual resources, including route proliferation, vegetation loss, soil exposure and erosion, and dust emissions.

Recreation. There would be a potential for recreation management to affect visual resources. Existing recreation facilities would be maintained, with minimal impacts to visual resources. Localized impacts to visual resources could result in and around the race routes used for motorcycle and truck events, held under special recreation permits.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that of the Proposed RMP. However, approximately 4 million acres presently are available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP. The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Special Designations. Special designations would have minimal impact on visual resources. While the three existing Desert Tortoise ACECs would be retained, and they contain some Class I areas, no new ACECs are proposed under this alternative.

Conclusion. Management prescriptions for Class I and II areas (approximately 1.5 million acres and 284,000 acres, respectively) would continue to preserve the scenic character of these lands. Although unclassified areas in the historic Egan Resource Area totaling approximately 3.6 million acres (32 percent of the decision area) would be addressed on a project-specific basis, there potentially could be impacts by not having a comprehensive framework for addressing visual resources in place. Continued designation of areas as open to cross-country off-highway vehicle use would result in visual impacts through surface disturbances and dust emissions. Alternative A would not meet the goal for the visual resources program.

Alternative B

Impacts from Visual Resources Management Actions. Impacts from the visual resource management actions would be almost the same as those under the Proposed RMP. The change in acreage from current management under Alternative B is summarized in **Table 4.11-2**.

Table 4.11-2
Changes in Visual Resource Management Classification in Alternative B from Current Management

Visual Resource Management Class	Approximate Change in Acreage
I	- 0.31 million
II	+ 1.98 million
III	+ 4.25 million
IV	- 2.34 million
No Classification	- 3.58 million

Impacts from Other Programs. Visual resource impacts associated with vegetation, renewable energy, travel management and off-highway vehicle use, forest/woodland and other plant products, geology and mineral extraction, fire management, and special designations would be the same as described for the Proposed RMP.

Lands and Realty. The impacts of land and realty actions on visual resources would be similar to those described for the Proposed RMP. Approximately 90,600 acres would be available for disposal, and development of disposed lands could lead to visual impacts in these areas.

Recreation. There would be a potential for recreation management to affect visual resources. Development of recreation facilities may occur, potentially causing impacts to visual resources. However, implementation of mitigation measures for developed facilities based on the visual resources management class objectives would minimize these impacts. Localized impacts to visual resources could result in and around the 844,000 acres of special recreation management areas that have off-highway vehicle recreational values, the 656,000 acres of special recreation permit areas for motorcycle events, and truck event routes. However, mitigation measures to protect scenic values would be identified in site-specific management plans. By emphasizing these recreation activities in specific areas, impacts to visual resources in other parts of the decision area would be limited.

Livestock Grazing. Livestock grazing would be unavailable on approximately 3.8 million acres. Grazing closure over this area could potentially lead to changes in the visual character of the area associated with vegetation cover and productivity.

Conclusion. Management prescriptions under Alternative B would classify approximately 1.2 million acres as Visual Resource Management Class I and 2.4 million acres as Visual Resource Management Class II. Having classifications for all lands within the decision area would allow for a more comprehensive framework for preserving and mitigating impacts to visual resources. Maximizing the use of prescribed fire would create short-term visual impacts that would diminish in the long term after treatments are completed. Alternative B would meet the goal for the visual resources program.

Alternative C

Impacts from Visual Resources Management Actions. Visual resource management would be based on the revised visual inventory compiled for the decision area and presented on **Map 2.7.11-1**, Visual Resources Management Classes Alternative C. Acreages for the four visual resource management classes are presented in Section 2.7.11. The change in acreage from current management under Alternative C is summarized in **Table 4.11-3.**

Table 4.11-3
Changes in Visual Resource Management Classification in Alternative C from Current Management

Visual Resource Management Class	Approximate Change in Acreage
I	- 0.31 million
II	+ 2.14 million
III	+ 4.34 million
IV	- 2.59 million
No Classification	- 3.58 million

By establishing visual resource management classes for areas that were previously unclassified, increasing the acreage of land in Class II and III, and reducing the acreage of land in Class IV, scenic values in the

decision area would be preserved or enhanced compared to current management. The decrease of 310,700 acres (approximately 9 percent) of land in Class I could result in noticeable impacts. Other impacts from the visual resource management actions would be the same as those under the Proposed RMP.

Impacts from Other Programs. Visual resource impacts associated with renewable energy, livestock grazing, geology and mineral extraction, and special designations would be similar to those described for the Proposed RMP.

Vegetation. The areas affected by vegetation treatments would total approximately 7.5 million acres, or 68 percent of the decision area. The impacts of these treatments to visual resources would be similar to those described for the Proposed RMP.

Lands and Realty. The impacts of land and realty actions on visual resources would be similar to those described for the Proposed RMP. However, this alternative would designate utility corridors that are three miles wide, and it would not emphasize the co-location of communication sites. These management actions would lead to greater localized impacts to visual resources, and also would spread the visual impacts in a wider area across the viewsheds where the designated corridors are located. Approximately 295,200 acres would be available for disposal, and development of disposed lands could lead to visual impacts in these areas.

Travel Management and Off-highway Vehicle Use. Management action would designate 32,000 acres of dry lake beds as open to cross-country off-highway use, which could result in surface disturbances and dust generation impacts.

Recreation. There would be a potential for recreation management to affect visual resources. Development of recreation facilities may occur, potentially causing impacts to visual resources. However, implementation of mitigation measures for developed facilities based on the visual resources management class objectives would minimize these impacts. Localized impacts to visual resources could result in and around the 730,000 acres of Special Recreation Management Areas that have off-highway vehicle recreational values the 1.3 million acres of special recreation permit areas for motorcycle events, and truck event routes. However, mitigation measures to protect scenic values would be identified in site-specific management plans. By emphasizing these recreation activities in specific areas, impacts to visual resources in other parts of the decision area would be limited.

Forest/Woodland and Other Plant Products. Increased gathering of forest/woodland and other plant products would impact visual resources in both the short and long term.

Fire Management. Wildland fires would be suppressed, reducing impacts to visual resources in the short term. However, long-term impacts caused by wildland fires could result as fires become larger and more difficult to suppress due to increased fuel accumulation. Surface disturbing suppression activities such as the use of bulldozers to construct fire line and the driving of fire equipment cross-country would be greater for larger fires, and since the fires would be expected to be hotter, restoration of burned areas would take longer.

Conclusion. Management prescriptions under Alternative C would classify approximately 1.2 million acres as Visual Resource Management Class I and 2.4 million acres as Visual Resource Management Class II. Having classifications for all lands within the decision area would allow for a more comprehensive framework for preserving and mitigating impacts to visual resources. Utility corridor widths of 3 miles would create greater impacts in localized areas. Suppression of wildland fires would reduce impacts from fire in the short term until wildland fires became impossible to suppress, which could lead to greater long-term impacts. Alternative C would meet the goal for the visual resources program.

Alternative D

Impacts from Visual Resources Management Actions. The entire decision area would be designated as either Visual Resources Management Class I or Class II, which would protect scenic resources. Class I areas would be limited to designated wilderness. The remainder of the decision area would be designated as Class II (**Map 2.8.11-1**). Acreages for the visual resource management classes under this alternative are presented in **Table 2.9-1**. By designating the entire decision area as Class I or II, substantially greater mitigation would be required for projects to meet visual resource management goals.

Impacts from Other Programs.

Vegetation. The areas identified for potential vegetation treatments would total approximately 3.6 million acres, or 32 percent of the decision area. The impacts of these treatments to visual resources would be similar to those described for the Proposed RMP.

Lands and Realty. There would be no new land use authorizations, which would greatly limit impacts to visual resources. There would be no net loss of public land in the decision area, but where disposals did occur, there would be the potential for impacts to visual resources. Approximately 12,400 acres would be available for disposal, and development of disposed lands could lead to visual impacts in these areas.

Renewable Energy. Renewable energy development would have no impacts on visual resources, because no new land use authorizations would be issued, nor would new utility corridors be designated.

Travel Management and Off-highway Vehicle Use. Eleven million acres (96 percent) of the decision area would be closed to off-highway use, which would eliminate all impacts to visual resources in closed areas. No areas would be classified as open. Localized disturbances to visual resources could still occur from off-highway vehicle use on maintained roads and trails.

Recreation. No Special Recreation Management Areas or Special Recreation Permit areas or routes would be designated. Thus, no visual resource impacts would occur from emphasized recreation activities.

Livestock Grazing. Livestock grazing activities would be virtually eliminated and, thus. would have minimal impact on visual resources.

Forest/Woodland and Other Plant Products. The elimination of the gathering of forest/woodland and other plant products would reduce impacts on visual resources.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario. Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Fire Management. Wildland fires would not be suppressed, potentially increasing impacts to visual resources in the short term, and resulting in long-term impacts as catastrophic fires cause large areas to be denuded.

Special Designations. All special designations except designated wilderness and wilderness study areas would be dropped, but all special designation areas would be managed as Class I. This would result in less protection to visual resources in existing scenic areas.

Conclusion. Management prescriptions under Alternative D would increase the amount of land in Visual Resource Management Class II to approximately 10.3 million acres (90 percent of the decision area). By identifying all areas (11.5 million acres) as either Class I or II, substantial restrictions would be placed on activities that could be allowed under other resource management activities or increase the potential mitigation measures that would be required. The fact that there would be no new land use authorizations, such as rights-of-way, also would reduce impacts in the short and long term. A policy of minimal fire suppression would create short-term visual impacts that would increase over the long term as more catastrophic fires occur. Alternative D would meet the goal for the visual resources program.

4.12 Lands and Realty

Impact Issues

The demand for uses of BLM-administered land within the planning area has grown over the past decade and is expected to continue to grow over the life of the Approved RMP. The challenge for the Ely Field Office would be to accommodate lands and realty needs for community development, rights-of-way, easements, leases, and other permitted uses while minimizing adverse effects on, or conflicts with, other resources.

Assumptions for Analysis

- Land disposals primarily would be limited to lands identified for possible disposal. Requests for possible disposals can be made for any BLM-administered land and would be evaluated on a case-by-case basis.

- Identification of lands for possible disposal does not dictate that these lands would be sold or otherwise disposed.

Interactions with Other Programs

The lands and realty management program within the planning area potentially would be affected by actions within the resource management programs for fish and wildlife, special status species, wild horses, cultural resources, visual resources, recreation, geology and mineral extraction, and special designations.

Goal

Manage public lands in a manner that:

- Allows the retention of public land with high resource values;

- Consolidates public land patterns to ensure effective administration and improve resource management;

- Makes public lands that promote community development available for disposal;

- Meets public, local, state, and federal agency needs for use authorizations such as rights-of-way, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values; and

- Utilizes withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the desired purpose.

Objective

To respond to public, local, state, and federal agency needs for land for community development, utility and other associated rights-of-way, communication sites, and other allowed uses of BLM-administered lands.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Mitigation measures also were considered within the following impact analysis section in response to anticipated impacts. Additional "proposed mitigation" for lands and realty is identified in Section 4.29, Proposed Mitigation and Potential Effectiveness. In order to be carried forward as part of the Approved RMP, these "proposed mitigation measures" would have to be incorporated into the final decision documented in the Record of Decision. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Lands and Realty Management Actions.

Parameter – Retention

Under the Proposed RMP, more lands are identified for retention. Having a more clear definition of lands to retain in order to preserve federally listed threatened and endangered species, fisheries, culturally significant lands, and lands of high recreational value serves to allow better resource management in these areas. The elimination of mandatory retention of big and upland game habitat, and wild horse herd management areas would allow more flexibility in management actions while still preserving lands that contribute to the restoration and health of the land.

Parameter – Disposal (Sales, Exchanges, Recreation and Public Purposes Act, and Airport Conveyances)

Under the Proposed RMP, approximately 110,000 acres would be identified for potential disposal, including approximately 75,600 acres identified for disposal by competitive sales. The remainder would be allocated for direct sales or transfers to other governmental entities. These areas would be withdrawn from mineral entry. Having these areas identified or withdrawn facilitates the disposal of land for promoting community development as compared to current management. Withdrawals for resource protection, watershed health, and administration would help to protect watersheds and consolidate land management. Limitations on disposals in designated critical habitat for threatened and endangered species would allow better resource management in these sensitive areas.

Military Operations Areas. The disposal and possible development of land located under Military Operations Areas has the potential to impact military air operations. Development of any land located under the Military Operations Areas would increase the vulnerability of the Department of Defense to complaints concerning the military operations overhead. These complaints could potentially limit, alter, or cease military operations in those areas, adversely affecting the training and readiness of U.S. military combat forces. There also would be an increased safety risk associated with the development of land under the Military Operations Areas. Mishaps such as aircraft crashes, emergency/accidental jettisoning of external fuel tanks, collisions, etc., are risks present in those areas located under Military Operations Areas. In the event of a mishap, developments under Military Operations Areas could be jeopardized. Mitigation measures designed to protect Military Operations Areas and the vital training they provide are discussed in Section 4.29, Proposed Mitigation and Potential Effectiveness.

Parameter – Acquisitions

Under the Proposed RMP, acquisitions would be limited to situations where no other reasonable alternative exists, managing newly acquired lands in a manner comparable to surrounding public lands (or in conformance with established policies for special management areas), and conducting noxious weed assessments prior to acquisitions would allow adequately effective administration and resource management while minimizing expenditures.

Parameter – Withdrawals

Under the Proposed RMP, all lands identified as being available for potential disposal would be withdrawn from mineral entry. This would eliminate some potential conflicts regarding mineral entry on lands identified for potential disposal that could arise under current management, where only 11,525 acres of lands identified for potential disposal would be recommended for withdrawal from mineral entry.

Parameter – Corridors

Under the Proposed RMP, most corridors would be designated as 0.5 mile wide, with the Southwest Intertie Project Corridor being 0.75 mile wide throughout most of its length, and a utility corridor in the southeastern portion of the planning area being retained as 1,000 feet wide. The additional width of the Southwest Intertie Project Corridor would allow for more rights-of-way to be granted in the major north-south corridor through the planning area.

Parameter – Communication Sites

Under the Proposed RMP, communication site locations would be authorized with an emphasis in co-location of sites. This allows for a more proactive approach to communication site development, which could reduce the impacts associated with the proliferation of communication sites through reducing the total number of communication sites.

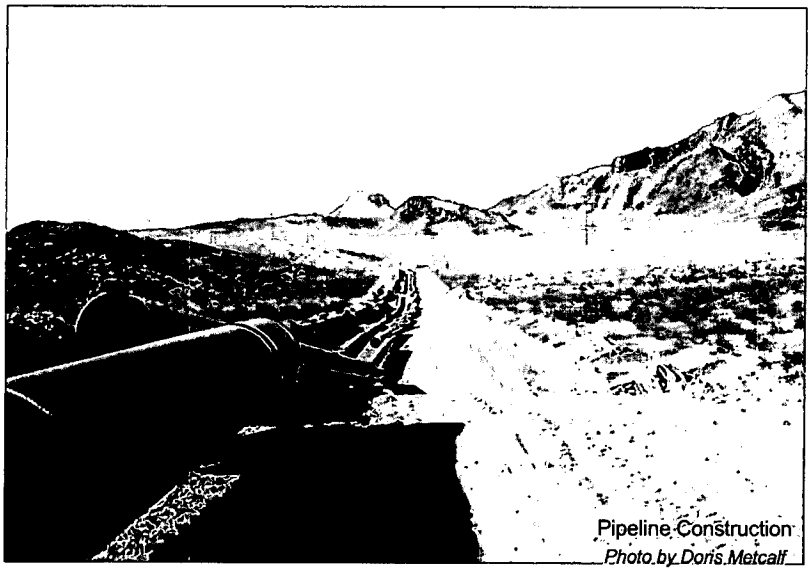
Parameter – Land Use Authorizations (Rights-of-way, Permits, Leases, Easements, and Unauthorized Use)

Establishing more avoidance and exclusion areas for special designation areas, and consolidating new land use authorizations within or adjacent to existing authorizations would reduce the impacts associated with those land use authorizations.

Impacts from Other Programs.

Fish and Wildlife. Seasonal restrictions to protect wildlife during crucial seasons of use and periods of their lives may cause right-of-way applicants to modify their projects which could increase the cost of the project. Requiring right-of-way applicants to improve 2 acres of priority wildlife habitat for every 1 acre disturbed would increase the cost of the project or cause the applicant to change the location of the project. This applies to crucial summer range, winter range, calving/fawning/kidding/lambing grounds, and occupied desert bighorn sheep habitat which total about 3.1 million acres (without adjustment for overlapping categories, or 27 percent of the planning area.

Special Status Species. The presence of a special status species may increase the cost of a project because of surveys that may be needed or mitigating measures that may be required to reduce the impacts to that species. Seasonal restrictions to protect raptor nesting, greater sage-grouse breeding and nesting, and greater sage-grouse on winter range may cause right-of-way applicants to modify their projects which could increase the cost of the project. Requiring right-of-way applicants to improve 2 acres of special status species habitat for every 1 acre disturbed would increase the cost of the project or cause the applicant to change the location of the project. This would apply to all sensitive species habitat, including greater sage-grouse habitat but not desert tortoise habitat, Special status species habitats for which map data are available make up about 38 percent of the planning area with desert tortoise and greater sage-grouse habitats being the primary contributors.



Pipeline Construction
Photo by Doris Metcalf

Seasonal restrictions to protect desert tortoises during their most active period, other management actions to protect desert tortoises and their habitat, and the payment of a remuneration fee based on acres of habitat disturbed, would increase the cost of a project. There are about 726,000 acres of desert tortoise habitat, or about 7 percent of the planning area.

Wild Horses. Management of wild horses would not typically affect land disposals. The reduction of acreage of herd management areas from 5.4 million acres to approximately 3.7 million acres would potentially reduce conflicts with the lands available for disposal for community development.

Cultural Resources. Lands containing cultural resource sites eligible for the National Register of Historic Places would not be available for possible disposal unless mitigation measures were enacted or if these land exchanges serve the national interest and are beneficial to the Ely Field Office programs or support the programs of other agencies. This could potentially reduce the land available for possible disposal for community development, but would maintain or enhance the protection of resources.

Visual Resources. Visual resource management under the Proposed RMP would affect various land use authorizations. Facilities would strive to meet the objectives of the particular visual resource management class in which a project was proposed. The increase in Classes II and III under the Proposed RMP could result in more mitigation measures to preserve scenic qualities for site-specific projects than under current management. The fact that all utility corridors would be designated Visual Resource Management Class IV would reduce mitigation requirements for developments within those corridors.

Recreation. The retention of lands of high recreational value would reduce the amount of land available for potential disposal.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario (see Section 4.18), would be distributed throughout the 11.5 million acres of the planning area. Mineral exploration and development could preclude land disposals and withdrawals. Mining claims could result in validity exams and increased costs to land disposals and withdrawals.

Special Designations. Approximately 1.4 million acres of special designation areas (including designated wilderness, wilderness study areas, and ACECs) (detailed in Section 2.4.22) would be land use authorization limited/avoidance (135,760 acres), avoidance with exception for existing rights (15,600 acres), avoidance (97,350 acres), or exclusion (1,154,740 acres) areas under this alternative. This would create greater limitations on land uses, such as rights-of-way and communication sites in these areas. This acreage is approximately 13 percent of the total decision area.

Conclusion. Approximately 75,600 acres would be available for possible disposal by competitive sales and would be withdrawn from mineral entry. Having these areas identified would facilitate the disposal of BLM-administered lands for community development. Designated critical habitat for federally listed threatened and endangered species, cultural resources, mineral exploration and development, watershed restoration, and special designation areas could preclude the disposal of certain parcels and land use authorizations. The Proposed RMP would allow a higher degree of flexibility in land use authorizations by identifying the new 0.5-mile-wide Spring Valley corridor. Encouraging co-location of land use authorizations would reduce or localize impacts to other resources. Approximately 1.4 million acres would be identified as avoidance or exclusion areas. The Proposed RMP would meet the goals for the lands and realty program.

Alternative A

Impacts from Lands and Realty Management Actions.

Parameter – Retention
Big and upland game habitat and wild horse herd management areas would be retained, reducing flexibility in management actions as compared to the Proposed RMP. Other lands, such as areas with high recreation value or having fisheries would not be identified for retention, potentially leading to the degradation of these resources.

Parameter – Disposal
Approximately 44,000 fewer acres would be identified for disposal by competitive sales, less than one-half the amount in the Proposed RMP. Having fewer areas identified for potential disposal could make the disposal of land for promoting community development more difficult and time-consuming compared to the Proposed RMP.

Parameter – Acquisitions
Impacts from acquisitions would be the same as those for the Proposed RMP.

Parameter – Withdrawal
Approximately 265,000 fewer acres would be withdrawn from mineral entry than under the Proposed RMP (see Section 4.18). Having fewer areas withdrawn could lead to potential conflicts if these areas have mineral entry allowed prior to any application to dispose of them.

Parameter – Corridors
There would be slightly less space available for right-of-way authorizations along the Southwest Intertie Project corridor, and no Spring Valley corridor would be designated. This could make right-of-way authorizations in these areas more difficult and time consuming.

Parameter – Communication Sites
The authorization of communication sites on a case-by-case basis could lead to a proliferation of sites and inefficient siting of communication facilities as compared to the Proposed RMP, which would encourage co-location of sites and identify specially designated areas as avoidance or exclusion areas.

Parameter – Land Use Authorizations (Rights-of-way, Permits, Leases, Easements, and Unauthorized Use)
Land use authorizations would be issued on a case-by-case basis. There would be fewer areas identified as avoidance and exclusion areas, and less emphasis on reclamation and resolution of unauthorized uses, as compared to the Proposed RMP. This could result in less effective resource management than the Proposed RMP.

Impacts from Other Programs.

Fish and Wildlife. The retention of big and upland game habitat would prohibit disposal of certain areas and affect selection of areas available for potential disposal.

Special Status Species. The retention of lands to prevent adverse effects on threatened or endangered species or their habitat would prohibit disposal of certain areas and affect selection of areas available for potential disposal.

Wild Horses. The retention of lands in wild horse herd management areas would prohibit disposal of certain areas and affect selection of areas available for potential disposal.

Cultural Resources. Lands containing cultural resource sites eligible for the National Register of Historic Places would not be available for possible disposal unless mitigation measures were enacted or if these lands were exchanged for lands of equal or greater resource value. This could potentially reduce the land available for possible disposal.

Visual Resources. Since only 1.7 million acres would be classified as Visual Resource Management Class I or II, visual management objectives would have only a limited effect on the location of rights-of-way and communication sites within the decision area.

Recreation. Recreation management actions would have minimal effects on the lands and realty program under current management.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that of the Proposed RMP. However, approximately 4 million acres presently are available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP. The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Special Designations. Existing land use authorization avoidance and exclusion areas identified in Section 2.5.22 would continue to be implemented. This would result in fewer acres being identified as avoidance or exclusion areas (approximately 1.3 million acres) as compared to the Proposed RMP and would have a lesser impact on lands and realty actions.

Conclusion. Under Alternative A, approximately 31,900 acres would be identified for disposal by competitive sales. Having fewer areas identified for potential disposal or withdrawn could make the disposal of land for promoting community development more difficult and time-consuming compared to the Proposed RMP. By not identifying new communication sites or 0.5-mile-wide corridors, the location of future rights-of-way and communication sites would not be addressed proactively and could take longer to occur by being addressed on a case-by-case basis under site-specific NEPA analyses. Alternative A would not meet the goals for the lands and realty program.

Alternative B

Impacts from Lands and Realty Management Actions.

Parameter – Retention
Retentions would be managed in the same way as under the Proposed RMP, with the same impacts.

Parameter – Disposal
Approximately 90,600 acres would be identified for disposal by competitive sales. Impacts would be the same as discussed for the Proposed RMP.

Parameter – Acquisitions
Acquisitions would be managed in the same way as under the Proposed RMP, with the same impacts.

Parameter – Withdrawal
Approximately 209,600 fewer additional acres would be withdrawn from mineral entry as compared to the Proposed RMP.

Parameter – Corridors
Several corridors would be 1 mile wide, as opposed to the 0.5-mile-wide corridors under the Proposed RMP. This would allow more area for right-of-way authorizations within these corridors, though it could lead to greater impacts to other resources.

Parameter – Communication Sites
No new communication sites would be authorized until existing sites had reached maximum capacity. This would reduce the proliferation of communication sites, but also would reduce the ability to establish new sites for community and economic development, as compared to the Proposed RMP.

Parameter – Land Use Authorizations (Rights-of-way, Permits, Leases, Easements, and Unauthorized Use)
Land use authorizations would be managed in the same way as under the Proposed RMP, with the same impacts.

Impacts from Other Programs. Lands and realty impacts associated with vegetation, fish and wildlife, special status species, wild horses, cultural resources, visual resources, renewable energy, recreation,

livestock grazing, geology and mineral extraction, watershed management, and noxious and invasive weed management activities would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Special Designations. Approximately 1.4 million acres of special designation areas (detailed in Section 2.6.22) would be land use authorization avoidance or exclusion areas under this alternative. This would create greater limitations on land use in these areas as compared to the Proposed RMP.

Conclusion. Under Alternative B, there would be 90,600 acres identified for disposal by competitive sales and withdrawn from mineral entry. More area would be available for siting rights-of-way within utility corridors because several corridors would be twice as wide as they would be under the Proposed RMP. This would allow greater flexibility in conducting lands and realty activities. Limitations on siting new communication sites until existing capacity was exceeded would limit the ability to develop new sites to promote community development. Alternative B would meet the goals of the lands and realty program.

Alternative C

Impacts from Lands and Realty Management Actions.

Parameter – Retention
Retentions would be managed in the same way as under the Proposed RMP, with the same impacts.

Parameter – Disposals
Approximately 295,200 additional acres would be identified for disposal by competitive sales while the total amount of land disposed of over the life of the RMP would not change, more flexibility in the disposal of lands would be achieved.

Parameter – Acquisitions
Acquisitions would be managed in the same way as under the Proposed RMP, with the same impacts.

Parameter – Withdrawal
Approximately 11,300 fewer acres would be withdrawn from mineral entry as compared to the Proposed RMP.

Parameter – Corridors
Several corridors would be 3 miles wide, as opposed to the 0.5-mile-wide corridors under the Proposed RMP. This would allow more area for right-of-way authorizations within these corridors, though it could lead to greater impacts to other resources.

Parameter – Communication Sites
Communication site locations that would facilitate community and economic development would be authorized. This, along with the lack of emphasis on co-location, could lead to a greater proliferation of communication sites that could be less efficient than the Proposed RMP.

Parameter – Land Use Authorizations (Rights-of-way, Permits, Leases, Easements, and Unauthorized Use)
Land use authorizations would be processed to facilitate community and economic development. This could lead to a greater number of land use authorizations, though it could lead to a degradation of other resources.

Impacts from Other Programs.
Lands and realty impacts associated with vegetation, fish and wildlife, special status species, wild horses, cultural resources, visual resources, renewable energy, recreation, livestock grazing, geology and mineral extraction, watershed management, and noxious and invasive weed management activities would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Special Designations. Approximately 1.4 million acres of special designation areas (detailed in Section 2.7.22) would be land use authorization avoidance or exclusion areas under this alternative. This would create greater limitations on land use in these areas as compared to the Proposed RMP.

Conclusion. Under Alternative C, there would be 295,200 acres identified for disposal by competitive sales and withdrawn from mineral entry. More area would be available for siting rights-of-way within utility corridors because several corridors would be six times as wide as they would be under the Proposed RMP. This would allow greater flexibility in conducting these lands and realty activities. Lack of emphasis on co-location of siting new communication sites may lead to a greater proliferation of these sites as compared to the Proposed RMP. Alternative C would meet the goals of the lands and realty program.

Alternative D

Impacts from Lands and Realty Management Actions.

Parameter – Retention
There would be no net loss of public lands in the planning area. The lack of criteria for which lands would be retained as compared to the Proposed RMP would make this alternative less effective for resource management.

Parameter – Disposals
No net loss, by acreage, of public land within the planning area would occur, greatly constraining the ability to resolve known unauthorized use of public lands and conduct other lands and realty actions. Alternative D does not identify additional lands for possible disposal that would meet the objectives of the lands and realty program, benefit communities, or the Lincoln County and White Pine County Conservation, Recreation, and Development Acts.

Parameter – Acquisitions
Impacts from acquisitions would be the same as that under the Proposed RMP, with the same impacts.

Parameter – Withdrawals
Impacts from withdrawals would be the same as those under Alternative A.

Parameter – Corridors
Impacts from corridor designations would be the same as that under Alternative A because no new corridors would be designated.

Parameter – Communication Sites
All existing and pending communications sites would be analyzed, potentially increasing the efficiency of the use of these communication sites, but also may potentially reduce the ability to designate new sites for community and economic development in a timely manner, as compared to the Proposed RMP. The possible elimination of existing communication sites would further reduce the ability to address future needs.

Parameter – Land Use Authorizations (Rights-of-way, Permits, Leases, Easements, and Unauthorized Use)
The absence of new land use authorizations would greatly restrict lands actions such as designating rights-of-way.

Impacts from Other Programs. Lands and realty impacts associated with vegetation, special status species, wild horses, cultural resources, renewable energy, watershed management, and noxious and invasive weed management activities would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Fish and Wildlife. Migratory bird corridors would be identified and these areas closed to any communication or energy tower siting, although siting these facilities would already be precluded by the management direction under lands and realty.

Visual Resources. Visual resource management class objectives would not affect the location of rights-of-way and communication sites as siting these kinds of facilities, although siting these facilities would already be precluded by the management actions under lands and realty.

Recreation. The special recreation management areas and all developed recreation sites would be eliminated, creating more acreage for possible disposal as compared to the Proposed RMP. This acreage would still be subject to the no net loss of public land criteria for this alternative.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario. Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Special Designations. There would be no net loss of public lands under this alternative. All special designations except designated wilderness and wilderness study areas would be eliminated as unnecessary. Since no new land use authorizations would be granted, special designations would have no impacts on lands and realty.

Conclusion. Approximately 12,400 acres would be identified for possible disposal. Because there would be no net loss of BLM-administered public land, conducting disposals would be much more difficult and time-consuming, as replacement lands would need to be acquired concurrently or prior to disposal. This would limit the ability of the Ely Field Office to dispose of land for community and economic development, or for other purposes. Because requests for new withdrawals, withdrawal relinquishments, or modifications would be processed on a case-by-case basis, there would not be a proactive effort toward identifying areas of sensitive or high resource values for withdrawal from entry. Limitations on new land use authorizations, and the closure of sites within migratory bird corridors and visually sensitive sites would greatly restrict lands and realty actions in Alternative D. The possible elimination of existing communication sites would further reduce the ability of the lands and realty program to address future needs. Alternative D would not meet the goals of the lands and realty program.

4.13 Renewable Energy

Impact Issues

The primary impact issues associated with renewable energy development are directly related to the large surface area needed for wind, solar, and biomass facilities and infrastructure (geothermal energy is addressed in Section 4.18). Areas that are suitable for renewable energy development are limited to those areas where these resources occur. Thus, conflicts with other resources would have the potential to reduce areas deemed suitable for development. Authorization of renewable energy projects would be evaluated using an interdisciplinary approach, and site-specific NEPA analysis would occur for all renewable energy development projects.

Assumptions for Analysis

- Identification of areas as having high potential for renewable energy does not mean these lands would be developed. The feasibility of development would be determined by project proponents, and all applications for land use authorizations would be subject to site-specific NEPA analysis.

- A reasonably foreseeable development scenario has been assumed for wind energy development based on the current interest in this type of renewable energy development within the planning area. Several projects that may total 5,000 megawatts of electricity output capacity and 40,000 acres of rights-of-way granted by the Ely Field Office are assumed. It also is assumed that 10 percent of the right-of-way area (4,000 acres) would be disturbed for facility construction and operation. (Also see Section 4.28 on cumulative impacts.) Solar and biomass energy developments are more speculative and may not occur during the life of the RMP. No surface disturbance has been assumed for these potential projects.

Interactions with Other Programs

The renewable energy program potentially would be affected by management actions within the resource programs for vegetation, fish and wildlife, special status species, wild horses, cultural resources, visual resources, lands and realty, recreation, livestock grazing, geology and mineral extraction, and special designations.

Goal

Provide opportunities for development of renewable energy sources such as wind, solar, biomass, and other alternative energy sources while minimizing adverse impacts to other resources such as wildlife and visual resources.

Objective

To be responsive to applications for renewable energy sites and associated rights-of-way, as encouraged by current BLM policy.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Renewable Energy Management Actions. Approximately 273,000 acres of moderate to high potential wind development area and 7.2 million acres of potential solar development area are identified within the Ely RMP decision area, although potential development would not be restricted to those areas. Biomass development would be based on the acreage of restoration needed to restore healthy vegetation communities, and biomass harvesting would not take place independently of vegetation treatment. While not authorized in the RMP, an estimated 4,000 acres could be disturbed by renewable energy development within approximately 40,000 acres of rights-of-way. The primary impact of the Proposed RMP would be to identify the development of these renewable energy resources as allowable within the Ely RMP decision area with the exception of avoidance and exclusion areas (e.g., wilderness study areas, designated wilderness, Visual Resource Management Class I areas, and ACECs). There would be no change in how applications for renewable energy development projects are processed.

Impacts from Other Programs.

Vegetation. Approximately 2.8 million acres of pinyon-juniper woodland would be subject to vegetation treatments under the Proposed RMP. These treatments are expected to involve thinning or removal of trees, thus potentially generating substantial quantities of biomass for energy conversion or other uses.

Fish and Wildlife. Wind energy projects would be required to comply with best management practices outlined in the Appendix F, Section 3. Implementation of these best management practices for a specific project could affect either or both facility location and design to minimize impacts to various wildlife resources. Disturbances within priority wildlife habitats would require improvement of 2 acres of priority habitat for each acre disturbed resulting in additional project costs.

Special Status Species. Renewable energy project would be required to implement measures to minimize effects to special status species. Wind energy projects would be required to comply with best

management practices outlined in Appendix F, Section 3. Renewable energy projects would be required to implement measures to reduce raptor collision potential on wind turbines and electrocution potential on electrical lines, potentially adding costs to the development of renewable energy projects. Implementation of these best management practices for a specific project could affect either or both facility location and design to minimize impacts to various special status species. Disturbances within habitats for special status species other than desert tortoise would require improvement of 2 acres of priority habitat for each acre disturbed, resulting in additional project costs. Projects located within desert tortoise habitat would be subject to seasonal restrictions to avoid primary periods of tortoise activity and the payment of a remuneration fee based on the acreage of habitat disturbed.

Wild Horses, Cultural Resources, Visual Resources, Recreation, Livestock Grazing, and Geology and Mineral Extraction. Interactions of renewable energy projects with other resource programs would be evaluated on a case-by-case basis to determine if proposed land use authorizations for such projects would be appropriate. The presence of special status species, wild horses, archaeological or historical resources, visual resource management objectives, recreation resources, livestock range development (e.g., wells and springs), mineral leases or claims could affect the location, design, and implementation of proposed renewable energy projects. It is anticipated that project-specific mitigation measures would be required for site-specific resource conflicts. In the extreme case, conflicts with these resources could preclude the issuing of a land use authorization for a specific project.

Lands and Realty. Renewable energy projects, such as wind farms and concentrated solar power development, could be impacted by land use authorizations for power plants, disposals of land resulting in commercial or residential developments, and other lands and realty actions resulting in siting constraints for these large facilities. Approximately 75,600 acres are identified for possible disposal, which is a small area relative to the 7.2 million acres of high potential for solar energy within the planning area. While the acreage of moderate to high potential for wind energy (approximately 273,000 acres) is considerably less, these areas typically occur along ridge tops. These areas are not types of lands proposed for disposal.

Special Designations. The designation of 20 ACECs (3 existing plus 17 new) would create right-of-way exclusion and avoidance areas that could limit the siting of renewable energy development projects and the transmission lines required to connect them to the transmission grid. Due to the generally small size and dispersed locations of the proposed ACECs, the impact is expected to be small. The three desert tortoise ACECs located in the Mojave Desert region of the planning area (see Section 2.4.22) and areas designated as wilderness also would affect the location of solar energy projects. New roads would not be constructed in desert tortoise ACECs and designated wilderness, reducing impacts to resources protected by these designations. Approximately 74,500 acres of moderate to high wind potential and 513,700 acres of high solar potential occur within ACECs, designated wilderness, and wilderness study areas.

Conclusion. The primary impact of the Proposed RMP would be to facilitate the development of renewable energy resources. Surface disturbance for an assumed wind energy development scenario could total 4,000 acres, about 0.03 percent of the decision area. Wind and solar power developments would have to be compatible with the management prescriptions for other resources and would be evaluated on a project-specific basis. Biomass development would be based on the acreage of vegetation treatment

needed to restore healthy vegetation communities. The Proposed RMP would meet the goal for the renewable energy program.

Alternative A

Impacts from Renewable Energy Management Actions. Renewable energy development would continue to be authorized on a case-by-case basis. The lack of identification of areas of resource conflict as avoidance and exclusion areas would not facilitate the planning of potential development of renewable energy resources by project proponents. The number of potential projects would be the same as the Proposed RMP. There would be no change in how applications for renewable energy development projects are processed.

Impacts from Other Programs. Effects on renewable energy development associated with management actions for fish and wildlife, special status species, wild horses, cultural resources, visual resources, recreation, livestock grazing, and geology and mineral extraction would be the same as described for the Proposed RMP.

Vegetation. Approximately 1.1 million acres of pinyon-juniper woodland would be subject to vegetation treatments under Alternative A. These treatments are expected to involve thinning or removal of trees, thus potentially generating substantial quantities of biomass for energy conversion or other uses.

Lands and Realty. Renewable energy projects, such as wind farms and concentrated solar power development, could be impacted by land use authorizations for power plants, disposals of land resulting in commercial or residential developments, and other lands and realty actions resulting in siting constraints for these large facilities. Approximately 31,900 acres are identified for possible disposal, which is a small percentage of the lands with high potential for renewable energy. By not designating any new utility corridors under Alternative A, the current management would limit the consolidation of new transmission lines into corridors.

Special Designations. No new ACECs would be designated, so there would be fewer right-of-way avoidance and exclusion areas that could influence the siting of renewable energy development projects and transmission lines, as compared with the Proposed RMP. However, the three desert tortoise ACECs and three wilderness study areas would be retained, and wilderness has been designated by Congress. ACECs, wilderness study areas, and designated wilderness would affect 65,000 acres with wind energy potential and 451,000 acres with solar energy potential. New roads would not be constructed in desert tortoise ACECs and designated wilderness, reducing impacts to resources protected by these designations.

Conclusion. The current management actions under Alternative A are not specific for the development of renewable energy projects, which could slightly reduce the likelihood of developing such projects. Alternative A would meet the goal for the renewable energy program.

Alternative B

Impacts from Renewable Energy Management Actions. The management actions under Alternative B would be the same as the Proposed RMP. Thus, impacts would be the same. The primary impact of management actions under Alternative B would be to facilitate the development of renewable energy resources. There would be no change in how applications for renewable energy development projects are processed.

Impacts from Other Programs. Effects on renewable energy development associated with management actions for vegetation, fish and wildlife, special status species, wild horses, cultural resources, visual resources, recreation, livestock grazing, and geology and mineral extraction would be the same as described for the Proposed RMP.

Lands and Realty. Renewable energy projects, such as wind farms and concentrated solar power development, could be impacted by land use authorizations for power plants, disposals of land resulting in commercial or residential developments, and other lands and realty actions resulting in siting constraints for these large facilities. Approximately 90,600 acres are identified for possible disposal, which is a small percentage of the lands with high potential for renewable energy.

Special Designations. The designation of 18 ACECs (3 existing plus 15 new) would create right-of-way exclusion and avoidance areas that could limit the siting of renewable energy development projects and the transmission lines required to connect them to the transmission grid. Due to the generally small size, topographic features, and dispersed locations of the proposed ACECs, the impact is expected to be small. The three desert tortoise ACECs located in the Mojave Desert region of the decision area (see Section 2.6.22) would affect the location of solar energy projects. ACECs, wilderness study areas, and designated wilderness would affect 77,000 acres with wind energy potential and 490,800 acres with solar energy potential.

Conclusion. The primary impact of Alternative B would be to facilitate the development of renewable energy resources. Surface disturbance for an assumed renewable energy development scenario could total 4,000 acres, about 0.3 percent of the decision area. Wind and solar power developments would have to be compatible with the management prescriptions for other resources and would be evaluated on a project-specific basis. Biomass development would be based on the acreage of vegetation treatment needed to restore healthy vegetation communities. Alternative B would meet the goal for the renewable energy program.

Alternative C

Impacts from Renewable Energy Management Actions. The management actions under Alternative C would be the same as the Proposed RMP. Thus, impacts would be the same. The primary impact of management actions under Alternative C would be to facilitate the development of renewable energy resources. There would be no change in how applications for renewable energy development projects are processed.

Impacts from Other Programs. Effects on renewable energy development associated with management actions for vegetation, fish and wildlife, special status species, wild horses, cultural resources, visual resources, recreation, livestock grazing, and geology and mineral extraction would be the same as described for the Proposed RMP.

Lands and Realty. Renewable energy projects, such as wind farms and concentrated solar power development, could be impacted by land use authorizations for power plants, disposals of land resulting in commercial or residential developments, and other lands and realty actions resulting in siting constraints for these large facilities. Approximately 295,200 acres are identified for possible disposal, which is a small percentage of the lands with high potential for renewable energy.

Special Designations. The designation of 20 ACECs (3 existing plus 17 new) would create right-of-way exclusion and avoidance areas that could limit the siting of renewable energy development projects and the transmission lines required to connect them to the transmission grid. Due to the generally small size, topographic features, and dispersed locations of the proposed ACECs, the impact is expected to be small. The three desert tortoise ACECs located in the Mojave Desert region of the planning area (see Section 2.7.22) would affect the location of solar energy projects. ACECs, wilderness study areas, and designated wilderness would affect 75,800 acres with wind energy potential and 491,500 acres with solar energy potential.

Conclusion. The primary impact of Alternative C would be to facilitate the development of renewable energy resources. Surface disturbance for an assumed renewable energy development scenario could total 4,000 acres, about 0.03 percent of the decision area. Wind and solar power developments would have to be compatible with the management prescriptions for other resources and would be evaluated on a project-specific basis. Biomass development would be based on the acreage of vegetation treatment needed to restore healthy vegetation communities. Alternative C would meet the goal for the renewable energy program.

Alternative D

Impacts from Renewable Energy Management Actions. By not allowing land use authorizations for renewable energy projects, Alternative D would essentially prohibit the development of renewable energy within the decision area.

Impacts from Other Programs. Because Alternative D would essentially prohibit the development of renewable energy projects, interactions with the management actions of other resource programs would be inconsequential.

Conclusion. Under Alternative D, renewable energy development on public lands would be effectively eliminated through the prohibition on new land use authorizations. Alternative D would not meet the goal for the renewable energy program.

4.14 Travel Management and Off-highway Vehicle Use

Impact Issues

The primary impact issues associated with transportation is accessibility throughout the planning area and the proliferation of roads developed through use. Additionally, the use of motorized vehicles on public lands is increasing for recreation as well as for personal transportation.

Assumptions for Analysis

- The demand for off-highway vehicle use in the planning area would continue to increase over time.
- Transportation plans for the entire planning area would be completed in approximately 10 years following approval of the RMP.

Interactions with Other Programs

The travel management and off-highway vehicle use program within the planning area potentially would be affected by management actions within the resource programs for lands and realty, renewable energy, recreation, livestock grazing, geology and mineral extraction, and special designations.

Goal

Provide and maintain suitable access to public lands. Manage off-highway vehicle use to protect resource values, promote public safety, provide off-highway vehicle opportunities where appropriate, and minimize conflict. Work closely with local, state, tribal, and other affected parties and other resource users to address off-highway vehicle management including land use and route designations, and monitoring and adaptive management strategies such as applying the Limits of Acceptable Change process.

Objective

To manage motorized vehicle traffic to sustain this type of use while protecting sensitive resources and providing access.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to travel management and off-highway vehicle use also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. Mitigation measures were considered within the following impact analysis section in response to anticipated impacts. Additional "proposed

mitigation" for travel management and off-highway vehicle use is identified in Section 4.29, Proposed Mitigation and Potential Effectiveness. In order to be carried forward as part of the Approved RMP, these "proposed mitigation measures" would have to be incorporated into the final decision documented in the Record of Decision. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Travel Management and Off-highway Vehicle Use Management Actions.

Parameter – Transportation Plan
Under the Proposed RMP, motorized travel on approximately 10.3 million acres (90 percent) of the decision area would be limited initially to existing roads and trails and subsequently to designated roads and trails, as determined through a subsequent public process and area-specific analysis. No areas would be designated as open to cross-country travel. There is a considerable range of public opinion as to how off-highway vehicle use in the planning area should be managed. Some believe that the majority of the planning area should be open to unrestricted cross-country travel, as is the case under current management, while others believe that the entire planning area should be closed to off-highway vehicle use. By preparing area-specific transportation plans over a 10 year period, road and trail designations would be updated to consider current uses and conflicts. While some reduction in access may occur in the short term, the motorized access would be improved in the long term by emphasizing specific needs. The elimination of areas open to cross-country off-highway vehicle use would reduce motorized access to parts of the planning area not served by existing or designated roads and trails in both the short and long terms. However, the Proposed RMP strikes a balance concerning the use of off-highway vehicles and protection of other resources, and this management direction is consistent with BLM policy that is being implemented in other Field Offices as existing RMPs are amended or replaced.

Parameter – Off-highway Vehicles
As discussed above, off-highway vehicle use designations would focus on the elimination of open areas and designating roads and trails in limited areas. Closed areas would be limited to designated wilderness and wilderness study areas. Updating road and trail designations on a watershed basis through the transportation planning process would allow for improved access in the long term, with some reduction in accessibility in the short term, and meet agency, industry, and public transportation and access needs.

Impacts from Other Programs. There are few impacts to travel management from other programs. The implementation-level decisions to be made in travel management, such as the designation of routes as open or closed, would be made with consideration of the competing demands for resource use or protection.

Lands and Realty. The Proposed RMP identifies approximately 75,600 acres for possible disposal in the decision area. The potential transfer of lands to private ownership could impact public motorized access

to public lands. Potential increase in travel demand also could occur due to land use authorizations and induced growth caused by land disposals. Retaining public rights-of-way through potential land disposals could decrease the impact to public access. Impacts associated with these activities would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Renewable Energy. Renewable energy development would have impacts on transportation similar to minerals, oil, gas, and geothermal development. There is the potential for increased road use and the construction of new access roads as renewable energy sites are developed. The areas of high wind potential tend to be located on top of ridge lines, which would require the construction of new access roads to reach due to the lack of roads in these areas. Such roads would be incorporated into existing or newly developed transportation plans. Based on the comparatively small acreage of high potential wind areas within the planning area, it is anticipated that impacts on transportation would be minimal. Impacts associated with these activities would be mitigated to the extent practicable through the best management practices in Appendix F, Section 3.

Livestock Grazing. The location of some range developments for livestock grazing could potentially affect designation or use of roads and trails. Overall, livestock grazing and related developments would be expected to have minimal impacts on travel management and off-highway vehicle use.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario (see Section 4.18), would be distributed throughout the 11.5 million acres of the planning area. Management actions relating to minerals, oil, gas, and geothermal development would have minimal impacts on transportation. Although there is the potential for increased road use as well as the construction of new access roads, based on the total acreage of potential development under the Proposed RMP, transportation would not be substantially impacted by these actions.

Special Designations. The Proposed RMP would manage three wilderness study areas as limited or closed to off-highway vehicles. These closures would reduce opportunities for motorized access. There are 20 ACECs proposed in this alternative. ACEC management prescriptions for five of these areas (Baking Powder Flat, Highland Range, Schlesser Pincushion, Swamp Cedar, and White River Valley) would limit motorized access for the protection of sensitive plant species. Management prescriptions for the three desert tortoise ACECs (Mormon Mesa, Kane Springs, and Beaver Dam Slope) would close or limit the areas to motorized access for the protection of desert tortoise.

Conclusion. The elimination of areas open to cross-country vehicle travel would reduce motorized access to parts of the planning area not served by existing or designated roads and trails in the short and long term. Completing road and trail designations in site-specific travel management plans would improve motorized access and road and trail conditions over the long term. The Proposed RMP would meet the goal for the travel management and off-highway vehicle use program.

Alternative A

Impacts from Travel Management and Off-highway Vehicle Use Management Actions.

Parameter – Transportation Plan
Under Alternative A, motorized vehicle use, including off-highway vehicle use, would be managed in accordance with the current open, limited, and closed designations, allowing cross-country off-highway vehicle use throughout 9.8 million acres (86 percent) of the decision area. Roads and trails would be designated as open or closed on a case-by-case basis, as necessary for resource management. This management approach would result in very limited changes in the transportation and access available in the planning area.

Parameter – Off-highway Vehicles
As discussed above, Alternative A would result in very little change in off-highway vehicle use or motorized access in the planning area. Alternative A would provide the most off-highway vehicle access of all alternatives considered. However, Alternative A also would pose the highest likelihood of potential conflict between off-highway vehicle users and other resource users.

Impacts from Other Programs. Under Alternative A, travel management and off-highway vehicle use impacts associated with renewable energy and livestock grazing activities would be similar to those described for the Proposed RMP.

Lands and Realty. Alternative A identifies approximately 31,900 acres for possible disposal in the decision area. The potential transfer of lands to private ownership could impact public motorized access to public lands. Potential increase in travel demand also could occur due to land use authorizations and induced growth caused by land disposals. Retaining public rights-of-way through potential land disposals could decrease the impact to public access.

Recreation. Recreation management actions would have minimal impacts on transportation under current management.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP (see Section 4.18). The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Special Designations. Vehicle use within the three wilderness study areas would be limited to designated roads and trails or closed. The three existing desert tortoise ACECs also would be designated as limited or closed to off-highway vehicle use. These closures would reduce opportunities for motorized access.

Conclusion. The current management program addresses transportation issues as they arise and on a case-by-case basis. Continuation of an open designation for 9.8 million acres (86 percent) of the decision area provides for the greatest accessibility but would result in increased damage to resources and increased conflicts between other resource users and off-highway vehicle users over time. Alternative A would not meet the goal for the travel management and off-highway vehicle use program.

Alternative B

Impacts from Travel Management and Off-highway Vehicle Use Management Actions.

Parameter – Transportation Plan
Under Alternative B, impacts from the transportation plan management actions would be the same as those discussed for the Proposed RMP.

Parameter – Off-highway Vehicles
Under Alternative B, impacts from the off-highway vehicle use management actions would be the same as those discussed for the Proposed RMP.

Impacts from Other Programs. Travel management and off-highway vehicle use impacts associated with renewable energy, livestock grazing, geology and mineral extraction, and special designations would be similar to those described for the Proposed RMP.

Lands and Realty. Alternative B identifies approximately 90,600 acres for possible disposal in the decision area. The potential transfer of lands to private ownership could impact public motorized access to public lands. Potential increase in travel demand also could occur due to land use authorizations and induced growth caused by land disposals. Retaining public rights-of-way through potential land disposals could decrease the impact to public access.

Recreation. Five special recreation management areas would emphasize motorized recreation. Motorized vehicle routes would be retained in the two special recreation permit areas used for motorcycle race events, and for two competitive truck events. These management actions would enhance motorized access in these 9 areas in the long term.

Conclusion. The elimination of areas open to cross-country vehicle travel would reduce motorized access to parts of the planning area not served by existing or designated roads and trails in the short and long term. Completing road and trail designations in site-specific travel management plans would improve motorized

access and road and trail conditions over the long term. Alternative B would meet the goal for the travel management and off-highway vehicle use program.

Alternative C

Impacts from Travel Management and Off-highway Vehicle Use Management Actions.

Parameter – Transportation Plan
Under Alternative C, impacts from the transportation plan management actions would be the same as those discussed for the Proposed RMP.

Parameter – Off-highway Vehicles
Impacts from the off-highway vehicle use management actions would be very similar to those discussed for the Proposed RMP. This alternative would designate 32,000 acres of dry lake beds as open to cross-country off-highway vehicle use, which would not substantially change the availability of access in the planning area.

Impacts from Other Programs. Under Alternative C, travel management and off-highway vehicle use impacts associated with renewable energy, livestock grazing, geology and mineral extraction, and special designations activities would be similar to those described for the Proposed RMP.

Lands and Realty. Alternative C identifies approximately 295,200 acres for possible disposal in the decision area. The potential transfer of lands to private ownership could impact public motorized access to public lands. Potential increase in travel demand also could occur due to land use authorizations and induced growth caused by land disposals. Retaining public rights-of-way through potential land disposals could decrease the impact to public access.

Recreation. Five special recreation management areas would include an emphasis on future motorized road and trail designations, as well as new motorized trail construction. Motorized vehicle routes would be retained in the four special recreation permit areas used for motorcycle race events, and 12 routes would be designated for competitive truck events. These management actions would enhance motorized access in these 21 areas in the long term.

Conclusion. The reduction of areas open to cross-country vehicle travel from 9.8 million acres to 32,000 acres would reduce motorized access to parts of the planning area not served by existing or designated roads and trails in the short and long term. Completing road and trail designations in site-specific travel management plans would improve motorized access and road and trail conditions over the long term. Alternative C would meet the goal for the travel management and off-highway vehicle use program.

Alternative D

Impacts from Travel Management and Off-highway Vehicle Use Management Actions.

Parameter – Transportation Plan
Under Alternative D, motorized travel would be limited to currently maintained roads and trails. This management action would not provide for current access needs and would greatly restrict the ability of the Ely Field Office to meet future needs for transportation and access.

Parameter – Off-highway Vehicles
Under Alternative D, 11.0 million acres (96 percent) of the decision area would be closed to off-highway vehicle use. This closure would severely limit the access opportunities for all users of the planning area.

Impacts from Other Programs. Under this alternative, discretionary actions and authorizations would be eliminated within the decision area. Because travel management and off-highway vehicle use also would be limited by closure of most of the planning area, decisions related to the few remaining resource programs would have little additional impact on travel and off-highway vehicle use.

Lands and Realty. Alternative D identifies approximately 12,400 acres for possible disposal in the decision area. The potential transfer of lands to private ownership could impact public motorized access to public lands. Potential increase in travel demand also could occur due to induced growth caused by land disposals. Retaining public rights-of-way through potential land disposals could decrease the impact to public access. No new rights-of-way would be granted. This would limit travel management options in the long term.

Renewable Energy. Under Alternative D, rights-of-way for renewable energy development would not be granted. Thus, this program would have no effects on transportation in the planning area.

Recreation. Under Alternative D, no special recreation management areas that emphasize motorized recreation and no motorcycle or truck race courses would be designated. This would further limit motorized travel and off-highway vehicle access opportunities in the short and long term.

Livestock Grazing. Because livestock grazing would be effectively eliminated within the decision area, there would be no impact of this program on travel and off-highway vehicle use.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario (see Section 4.18). Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Special Designations. ACECs would not be designated under Alternative D, so these special designations would not have any effect on travel management. Designated wilderness and wilderness study areas would be managed the same as the Proposed RMP.

Conclusion. The management actions under Alternative D would substantially restrict motorized access in the planning area in the short and long term by limiting off-highway vehicle use to maintained roads and trails. The lack of new land authorizations for roads would reduce accessibility in the long term. Alternative D would not meet the goal for the travel management and off-highway vehicle use program.

4.15 Recreation

Impact Issues

The primary impact issue associated with recreation is related to conflicts with other resource programs. As recreation use in the planning area increases, it is anticipated that recreational activities would have an increasing potential for conflicts with other resources.

Assumptions for Analysis

- Dispersed recreation use in the planning area would continue to increase over time regardless of any management actions proposed in this Proposed RMP.
- Establishing special recreation management areas would increase recreation in these areas.
- All recreation area management plans will incorporate the guidance contained in Appendix C of the BLM Land Use Planning Handbook.

Interactions with Other Programs

The recreation management program within the planning area potentially would be affected by management actions within the resource programs for vegetation, fish and wildlife, special status species, wild horses, cultural resources, paleontological resources, visual resources, lands and realty, renewable energy, travel management and off-highway vehicle use, geology and mineral extraction, noxious and invasive weed management, and special designations.

Goal

Provide quality settings for developed and undeveloped recreation experiences and opportunities while protecting resources. Conduct an assessment of current and future off-highway vehicle demand, and plan for and balance the demand for this use with other multiple uses/users. Develop sustainable off-highway vehicle use areas to meet current and future demands, especially for urban interface areas.

Objective

To provide a wide variety of recreation opportunities to satisfy a growing demand by a public seeking the open, undeveloped spaces that are characteristic of the planning area.

To provide visitor information to familiarize people with recreational opportunities throughout the planning area and encourage minimum impact or "Leave No Trace" and "Tread Lightly" recreational skills and ethics for recreational activities.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to recreation also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Recreation Management Actions.

Parameter – Special Recreation Management Areas

The establishment of four new and retention of one existing special recreation management areas totaling approximately 1.2 million acres across the decision area would be responsive to the shift in recreation demand in eastern Nevada in recent years. These areas would include trail designations in subsequent transportation plans and may consider new trail construction during site-specific planning. The Loneliest Highway Special Recreation Management Area would continue to provide recreation opportunities along U.S. Highway 50.

Off-highway Motorcycle Race
Photo by Jake Rajala

Parameter – Special Recreation Permits

The designation of four motorcycle special recreation permit areas to provide routes for motorcycle competitive events and four truck routes for up to two competitive truck events per calendar year would allow opportunities for competitive motorized vehicle recreation, while providing protection to other resources. Allowing non-competitive off-highway vehicle events on a case-by-case basis would allow flexibility to adapt management to environmental conditions. By monitoring outfitter and guide hunting operations in the planning area over a three-year period, it will be possible to determine if permit special stipulations and conditions are appropriate to protect resources and prevent user conflicts. This system is

not expected to impact the ability of individual outfitters to operate on the planning area, while minimizing the potential for conflicts with other commercial operations.

Impacts from Other Programs.

Vegetation. The areas affected by vegetation treatments would total approximately 7.1 million acres, or 62 percent of the decision area. However, this treatment would be spread over 50 or more years, allowing vegetation in treated areas to recover as new areas are treated. Treatments would result in reduced area available for recreation during the short term after the treatment, but healthier watershed conditions would be present in the long term. Treatment programs that would enhanced aesthetics, such as vegetation management to restore riparian areas and reduce competition in aspen stands, could improve the recreation experience. As watershed restoration occurs, there also is the possibility that closures to motorized vehicles would be required to supplement restoration activities. This could lead to a reduction in recreational opportunities associated with off-highway motorized vehicle use and an increased opportunity for seclusion and primitive recreation.

Fish and Wildlife. Increased species distribution and diversity would enhance aesthetics and increase wildlife viewing opportunities as well as improve fishing and hunting opportunities. Additionally, re-introduction of big game species in cooperation with the Nevada Department of Wildlife would enhance hunting activities. Permitted activities, including special recreation permits, could be restricted during certain periods (e.g., calving/fawning/lambing season and possibly summer or winter) in priority wildlife habitats. This may restrict the scheduling for competitive events within special recreation permit areas.

Special Status Species. Management actions designed to protect special status species (especially greater sage-grouse and desert tortoise) and enhance their habitats would impose some constraints on organized recreational events. For example, permitted activities would be restricted where appropriate from March 1 through May 15 within 2 miles of sage-grouse leks and from May 1 through July 15 within 0.5 miles of raptor nest sites. Within desert tortoise habitat, restrictions include seasonal restriction as well as numerous recreation management actions focused on protection of the species within the three desert tortoise ACECs by limiting number, location, procedures, and timing of events.

Wild Horses. Management for smaller numbers of wild horses would result in a slight reduction in recreation opportunities for viewing wild horses. Where herd management areas overlap with the Chief Mountain Special Recreation Management Area, opportunities for viewing wild horses may be enhanced.

Cultural Resources. The Proposed RMP emphasizes the restoration of at-risk resources. Conservation Use, Scientific Use, and Public Use allocations are being emphasized in this alternative. It is anticipated that these management actions would enhance recreation opportunities and experiences at Public Use sites as compared to current management. They also would place greater recreational use restrictions on Scientific Use and Conservation Use sites.

Paleontological Resources. Management of paleontological resources under the Proposed RMP would have some minimal impacts on recreation through the implementation of a no-fee registration system established for trilobite collecting.

Visual Resources. An increase in Visual Resource Management Class II and III designations and decrease in Class IV designations across the decision area would place higher emphasis on scenic values than current management. Placing more emphasis on preserving the scenic character would enhance recreational experiences in the planning area.

Lands and Realty. Management actions for the lands and realty program would minimally impact recreation through the possible disposal and leasing of lands containing recreation opportunities. The disposal of lands for the express purpose of creating parks would enhance recreation opportunities. The disposal of lands near communities would move public lands, and the recreational opportunities afforded by those public lands, further away from those living in or visiting those communities. This effect would be partially offset if lands disposed of near communities were designated for recreational purposes.

Renewable Energy. Renewable energy development could have localized impacts on recreation. Although applications for renewable energy development would be processed on a case-by-case basis, the large surface area required for wind (up to 40,000 acres) or solar development would likely exclude recreation in the permitted area.

Travel Management and Off-highway Vehicle Use. The Proposed RMP designates all wilderness study areas as closed to off-highway vehicle use. The remainder of the decision area would be limited to designated roads and trails as determined through subsequent site-specific plans and analyses. These changes in off-highway vehicle designations would enhance opportunities for non-motorized recreation in wilderness study areas and other areas that are remote from designated roads and trails. Changing travel designations from open to limited would reduce opportunities for motorized recreation in the short term, but enhance motorized recreation experiences in the long term by closing poorly engineered and constructed roads and trails and designating or constructing better engineered roads and trails.

Geology and Mineral Extraction. Management actions relating to minerals, oil, gas, and geothermal development would have minimal impacts on recreation. Based on the reasonably foreseeable development scenario, approximately 17,100 acres would be disturbed by mineral activities with a minimal chance for interaction with recreation activities.

Fire Management. Prescribed fire, wildland fire use (approximately 8.9 million acres available) and other tools would be used to the greatest extent practical under the Proposed RMP. During project implementation, wildland fire use events, and suppression activities associated with wildland fires, recreational opportunities could be temporarily displaced from the area.

Noxious and Invasive Weed Management. Management of noxious and invasive weeds would have minimal impacts on recreation. The elimination of weed infestations would make treated areas more attractive for recreation.

Special Designations. Three existing ACECs, 17 new ACECs, and two new Back Country Byways would be designated. ACECs would be managed to protect the resources for which they were designated. Such management could restrict certain types of recreation (motorized activities for example), but it also may facilitate other types of recreation such as sight seeing. Thus, recreation impacts from ACEC designations are anticipated to be minimal. The Proposed RMP would close all designated wilderness and close or limit wilderness study areas to off-highway vehicle use, affecting recreation activities that use off-highway vehicles as a method of transportation. The Back Country Byways would facilitate motorized viewing of some of the most scenic areas in the planning area.

Conclusion. The Proposed RMP would constitute a comprehensive program that addresses the trend of increasing recreational use as well as provides the opportunity to develop management strategies for anticipated future conditions. Five special recreation management areas totaling approximately 1.2 million acres (10 percent of the decision area) would be designated. Elimination of areas designated as open to cross-country off-highway vehicle use would reduce off-highway motorized recreational opportunities. However, these transportation restrictions also would provide an increased opportunity for seclusion and primitive recreational experiences. A sufficient number of routes would be designated to accommodate motorcycle and truck competitive events. The Proposed RMP would meet the goal for the recreation program.

Alternative A

Impacts from Recreation Management Actions.

Parameter – Special Recreation Management Areas
The Loneliest Highway Special Recreation Management Area would continue to provide recreation opportunities along U.S. Highway 50. However, failure to establish additional special recreation management areas would create a lesser range of recreational opportunities as compared to the Proposed RMP. Existing recreation facilities would be maintained and recreation area management plans would be developed on an as-needed basis. But as recreation use continues to increase over time, the limited number of recreation sites eventually could lead to increased competition for recreation opportunities. With only one special recreation management area in the decision area, which would not emphasize opportunities for motorized recreation, and no further creation of developed recreation sites, the ability to manage recreation as a primary objective in areas with high recreation potential would be constrained.

Parameter – Special Recreation Permits
The failure to create motorcycle special recreation permit areas and truck race routes, while still permitting up to 12 motorcycle and 2 truck events per year, would allow opportunities for competitive motorized vehicle recreation but could cause damage to race routes and other resources due to the number of competitive events being allowed each year. Allowing non-competitive off-highway vehicle events on a case-by-case basis would allow the flexibility to adapt management to environmental conditions. The failure to create a proactive system of managing outfitter and guide permits could lead to the degradation of resources and the recreational experience for all hunters.

Impacts from Other Programs. Recreation impacts associated with special status species, lands and realty, renewable energy, and noxious and invasive weed management activities would be the same as described for the Proposed RMP.

Vegetation. The areas affected by vegetation treatments would total approximately 2.9 million acres, or 25 percent of the decision area. The impacts of these treatments to recreation would be similar to those described for the Proposed RMP.

Fish and Wildlife. This alternative would not involve identification of priority wildlife habitats or recreational constraints in these areas; therefore impacts to recreation from the fish and wildlife program would be substantially less than with the Proposed RMP.

Wild Horses. The current management of wild horses would have minimal impact on recreational viewing opportunities as all existing herd management areas would be retained.

Cultural Resources. Alternative A is primarily a program of monitoring selected sites and managing for future cultural resource use allocations. Restrictions to access of cultural resources of scientific value, such as cave restrictions or closures, would restrict access for recreational activities. However, opportunities for cultural resources interpretation would result in increased interpretive recreation opportunities.

Paleontological Resources. Management of paleontological resources under Alternative A would have minimal impacts on recreation. No registration system would be in place for trilobite collecting, which could lead to over-collection of trilobites and degradation of that recreational resource.

Visual Resources. Having no visual resource management class designations on 3.6 million acres of the decision area would have minimal effects on recreation within the unclassified area. Less land would be managed for Visual Resource Management Class I and II objectives, foregoing indirect enhancement of recreation.

Travel Management and Off-highway Vehicle Use. Approximately 9.8 million acres (86 percent of the decision area) would remain classified as open to off-highway vehicle use. Only the designated wilderness would be closed to vehicle use, while vehicle use would be limited to designated roads and trails in all wilderness study areas and within the Desert Tortoise ACECs. These travel management actions would continue to provide a substantial recreation opportunity for motorized off-highway vehicle use, as well as hunting and other types of recreation activities that would use off-highway vehicles as a transportation method. However, Alternative A also would pose the highest likelihood of conflicts between off-highway vehicle users and other non-motorized recreation users.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be similar to that in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the

8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP (see Section 4.18). The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development. Like the Proposed RMP, this level of expected development would have minimal effect on either permitted recreation events or dispersed recreation.

Fire Management. Prescribed fire, wildland fire use (approximately 3.6 million acres available) and other tools would be used to the greatest extent practical. During project implementation, wildland fire use events, and suppression activities associated with wildland fires, recreational opportunities could be temporarily displaced from the area.

Special Designations. Under Alternative A, special designations impacts would continue as under the current management program since no new special designations would be proposed. Three existing ACECs would be retained, and no new ACECs or back country byways would be designated. Designated wilderness would be closed to vehicles, and all wilderness study areas and ACECs would be closed or limit off-highway vehicles to designated roads and trails. The rest of the planning area would remain designated as open to off-highway vehicle use. Effects on off-highway vehicle use would be minimal, but the benefits of designations to other recreational users would not be realized.

Conclusion. As recreation use continues to increase over time, the limited number of recreation sites in Alternative A eventually would lead to increased competition for recreation opportunities. With only one 750,000-acre special recreation management area in the decision area and no further creation of developed recreation sites, the ability of the Ely Field Office to manage recreation as a primary objective in areas with high recreation potential would be constrained. About 9.8 million acres (86 percent of the decision area) would remain open to cross-country off-highway vehicle travel, resulting in no reduction in off-highway motorized recreational opportunities. No routes would be designated for motorcycle and truck competitive events, but such events would still be permitted. Alternative A would not meet the goal for the recreation program.

Alternative B

Impacts from Recreation Management Actions.

Parameter – Special Recreation Management Areas

The establishment of nine special recreation management areas totaling approximately 2.7 million acres would create a broad range of recreational opportunities. The establishment of three special recreation management areas with off-highway vehicle emphasis totaling 844,000 acres would offset the elimination of all areas designated as open to cross-country off-highway vehicle use. Other impacts would be similar to those discussed for the Proposed RMP.

Parameter – Special Recreation Permits
The creation of two motorcycle special recreation permit areas and permitting up to two competitive truck events per calendar year would allow opportunities for competitive motorized vehicle recreation, while providing protection to other resources. Allowing non-competitive off-highway vehicle events on a case-by-case basis would allow the flexibility to adapt management to environmental conditions. The failure to create a proactive system of managing outfitter and guide permits could lead to the degradation of resources and the recreational experience for all hunters.

Impacts from Other Programs. Under Alternative B, recreation impacts associated with vegetation, fish and wildlife, special status species, wild horses, cultural resources, paleontological resources, visual resources, lands and realty, renewable energy, travel management and off-highway vehicle use, geology and mineral extraction, fire management, and noxious and invasive weed management activities would be the same as described for the Proposed RMP.

Special Designations. Under Alternative B, 3 existing ACECs, 15 new ACECs, and 1 new back country byway would be designated. The impacts of these designations to recreation would be similar to those described for the Proposed RMP.

Conclusion. Alternative B would constitute a comprehensive program that addresses the trend of increasing recreational use as well as provides the opportunity to develop management strategies for anticipated future conditions. Nine special recreation management areas totaling approximately 2.7 million acres (24 percent of the decision area) would be designated. Elimination of areas designated as open to cross-country off-highway vehicle use would reduce off-highway motorized recreational opportunities. However, these transportation restrictions also would provide an increased opportunity for seclusion and primitive recreational experiences. A reduced number of routes would be designated for motorcycle and truck competitive events, but such events would still be permitted. The Proposed RMP would meet the goal for the recreation program.

Alternative C

Impacts from Recreation Management Actions.

Parameter – Special Recreation Management Areas
The establishment of nine special recreation management areas totaling approximately 2.6 million acres would create a broad range of recreational opportunities. The establishment of four special recreation management areas with off-highway vehicle emphasis totaling 1.1 million acres would offset the elimination of nearly all areas designated as open to cross-country off-highway vehicle use. Other impacts would be similar to those discussed for the Proposed RMP.

Parameter – Special Recreation Permits
The creation of four motorcycle special recreation permit areas and 12 truck race routes for up to 8 competitive truck events per calendar year would allow opportunities for competitive motorized vehicle

recreation, while providing protection to other resources. There would likely be more damage to race routes and other resources due to a greater number of competitive events being allowed each year as compared to the Proposed RMP. Allowing non-competitive off-highway vehicle events on a case-by-case basis would allow the flexibility to adapt management to environmental conditions. The creation of a competitive bid system for issuing outfitter and guide permits would allow the market to determine who receives these permits. This, and the fact that a monitoring system has not been established to determine the number of permits to be issued, could lead to outfitters and guides with less local knowledge acquiring these permits, which could possibly lead to the degradation of resources and hunter conflicts.

Impacts from Other Programs. Under Alternative C, recreation impacts associated with fish and wildlife, special status species, wild horses, visual resources, lands and realty, renewable energy, geology and mineral extraction, and noxious and invasive weed management activities would be the same as or similar to those described for the Proposed RMP, although the acreage of lands proposed for disposal would be substantially greater.

Vegetation/Watershed Management. Under the Alternative C, the areas affected by vegetation treatments would total approximately 7.5 million acres, or 66 percent of the decision area. The impacts of these treatments to recreation would be similar to those described for the Proposed RMP.

Cultural Resources. Alternative C emphasizes responsible commercial activities. Fee sites would be implemented to cover the cost of public site management for several types of cultural sites open to public use. If no fee sites are established for these types of sites, there would be no public use of the sites, and they would be designated for conservation or scientific use. Those sites designated for conservation use might impact areas designated for developed recreation. Overall, the treatment of cultural/archaeological resources under Alternative C could have the impact of reducing access to recreation.

Paleontological Resources. Management of paleontological resources under Alternative C could have slight impacts on recreation. A fee-based registration system would be established for trilobite collecting. This could reduce recreational trilobite collection due to inconvenience and cost of obtaining a permit.

Travel Management and Off-highway Vehicle Use. Travel management actions would be the same as the Proposed RMP with the exception that approximately 32,000 acres would be designated as open to cross-country off-highway vehicle use in dry lake beds. These open areas would provide for the type of motorized recreation that is not drawn to roads and trails.

Fire Management. The fire management approach to wildland fires would involve aggressive suppression where possible. This would reduce effects of fire management on recreational activities in the short term, but could lead to increased effects at some future date when fuel conditions reach the point where suppression of larger fires is not possible. As with the Proposed RMP, impacts of fire management on the recreation program would involve temporary displacement of recreational pursuits during suppression activities and site rehabilitation.

Special Designations. Under Alternative C, 3 existing ACECs, 17 new ACECs, and 2 new back country byways would be designated. The impacts of these designations to recreation would be similar to those described for the Proposed RMP.

Conclusion. Alternative C would constitute a comprehensive program that addresses the trend of increasing recreational use as well as provides the opportunity to develop management strategies for anticipated future conditions. Nine special recreation management areas totaling approximately 2.6 million acres (22 percent of the decision area) would be designated. Reduction but not elimination of areas designated as open to cross-country off-highway vehicle use would reduce off-highway motorized recreational opportunities. However, these transportation restrictions also would provide an increased opportunity for seclusion and primitive recreational experiences. An increased number of routes would be designated to accommodate motorcycle and truck competitive events. The Proposed RMP would meet the goal for the recreation program.

Alternative D

Impacts from Recreation Management Actions.

Parameter – Special Recreation Management Areas
Under Alternative D, all special recreation management areas and existing developed recreation sites would be eliminated. The overall effect of management under this alternative would be a large reduction in recreation opportunities across a broad spectrum.

Parameter – Special Recreation Permits
Under Alternative D, no special recreation permit areas would be established for motorcycle events, and routes would not be designated or permits issued for truck events. With a decrease in areas available in Clark County for organized off-highway competitive events due to protection of the desert tortoise and its habitat, more races have shifted to the planning area. The loss of special recreation permits in the planning area would further restrict opportunities for this type of motorized recreation. Participants would have to travel longer distances for races in areas on public or private land where such activity is authorized. Outfitter and guide permits would no longer be issued. This would eliminate outfitter/guide-supported hunting but would not affect self-supported hunting.

Impacts from Other Programs. Under Alternative D, recreation impacts associated with special status species, wild horses, cultural resources, and noxious and invasive weed management activities would be similar to those described for the Proposed RMP. Impacts associated with fish and wildlife management activities would be similar to Alternative A.

Vegetation/Watershed Management. Under Alternative D, the areas affected by vegetation treatments would be similar to Alternative A, but areas of fire rehabilitation would likely be greater as the suppression of wildland fires would be minimized under this alternative. This would result in reduced access for recreation following treatments or catastrophic wildland fires.

Paleontological Resources. Management of paleontological resources under Alternative D would prohibit trilobite collecting, eliminating a potential recreation opportunity.

Visual Resources. Designation of the entire decision area as Visual Resource Management Class I or II would place the highest emphasis on scenic values, thus preserving the scenic character and enhancing recreational experiences in the planning area.

Lands and Realty. Under this alternative, the extent of lands available for disposal (approximately 12,400 acres) and the area affected by corridors and land use authorizations would be substantially less than in the Proposed RMP. Thus, effects to recreation, likewise, would be substantially reduced.

Renewable Energy. Under Alternative D, no renewable energy projects would be authorized, so there would be no impacts to recreation.

Travel Management and Off-highway Vehicle Use. Management actions for off-highway vehicles would restrict motorized vehicles to mechanically maintained roads and trails. This would subsequently reduce recreation opportunities in the planning area.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario (see Section 4.18). Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Special Designations. Removal of all special designations would have moderate impacts on recreation. Special designations are designed to protect resources and prevent conflicts among resource users. Loss of resources and increased conflicts would impact recreation users in the planning area. Further, the elimination of back country byways would reduce recreation opportunities.

Conclusion. Under Alternative D, the spectrum of recreation opportunities on BLM-administered lands would be greatly reduced, as there would be no special recreation management areas designated, no special recreation permits issued, and all existing developed recreation sites would be eliminated. Alternative D would not meet the goal for the recreation program.

4.16 Livestock Grazing

Impact Issues

Almost all of the 11.5 million acres of public land within the planning area, with the exception of 203,670 acres within the three existing ACECs, currently are available for livestock grazing, based on decisions included in previous land use plans prepared for the Egan, Schell, and Caliente resources areas that are now administered by the Ely Field Office. Suitability of the public lands administered by the Ely Field Office for livestock grazing is a decision addressed in previous land use plans and is not addressed in this planning document except as related to specific areas considered within individual alternatives.

The primary impact issues associated with livestock grazing relate to the potential reductions in area available for general livestock grazing or for grazing of specific types of livestock in certain areas (see **Table 4.16-1**). These additional constraints generally relate to land disposals, fire rehabilitation, and protection of habitat for special status species (both within and outside of ACECs). Additionally, livestock grazing may be affected to lesser degrees on areas remaining available for grazing through competition or conflict with other resource users (e.g., mineral development, recreation, wild horses, and wildlife), or through the need to properly protect other resources such as soils, vegetation, and wildlife habitat. Adjustments in season of grazing, grazing intensity, kind and class of livestock, or type of grazing system may be necessary in relation to some of these conflicts.

Table 4.16-1
Summary of Lands Unavailable for Livestock Grazing by Alternative

	Acreages Available or Unavailable for Grazing by Alternative[1]				
Acreage Category	**Proposed RMP**	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Total Public Land in Planning Area	11,500,000	11,500,000	11,500,000	11,500,000	11,500,000
Lands Unavailable for Grazing					
ACECs					
Existing ACECs	203,670	203,670	203,670	203,670	0
New ACECs	120	0	14,900	6,400	0
Private/Utah Allotment	4,400	4,400	4,400	4,400	0
Area West of Highway 93	6,900	6,900	6,900	6,900	0
Leased public land near Coyote Springs Development	6,200	6,200	6,200	6,200	0
Desert Tortoise Habitat Outside ACECs	0	0	542,100	0	0
Bighorn Sheep Habitat	0	0	3,038,100	0	0
General Elimination of Livestock Grazing	0	0	0	0	11,500,000
Total Area Unavailable to All Livestock Grazing	221,290	221,170	3,816,270	227,570	11,500,000
Total Area Available for Livestock Grazing	11,278,710	11,278,830	7,683,730	11,272,430	0

[1] Exclusive of potential losses associated with additional land disposal actions. Numbers rounded to simplify presentation.

Assumptions for Analysis

- Market demands for livestock products are highly variable. It is assumed that current market demands for livestock products would continue throughout the next several decades with a continuing demand for grazing of the public lands.

- Livestock grazing use would be authorized dependent on forage availability.

- The Nevada Department of Wildlife would manage populations of big game (i.e., mule deer, elk, pronghorn antelope, and bighorn sheep) commensurate with available forage and with consideration of other multiple uses.

- Appropriate management level for wild horse herds would be achieved and maintained for all alternatives except Alternative D.

Interactions with Other Programs

The livestock grazing management program within the planning area potentially would be affected by actions within the resource management programs for vegetation, special status species, wild horses, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, forest/woodland and other plant products, geology and mineral extraction, watershed management, fire management, noxious and invasive weed management, and special designations.

Goal

Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health.

Northeastern Great Basin Area Standards

- Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form.

- Riparian and wetland areas exhibit a properly functioning condition and achieve State water quality criteria.

- Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

Mojave-Southern Great Basin Area Standards

- Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

- Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation

should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Objective

To allow livestock grazing to occur in a manner and at levels consistent with multiple use, sustained yield, and the standards for rangeland health.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to livestock grazing also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Livestock Grazing Management Actions. The authorization of 545,267 animal unit months on 11.3 million acres of public lands within the Ely planning area is expected to meet the RMP goals and objectives.

Approximately 424,602 animal unit months on 8.4 million acres (72 percent of the Ely planning area) would be authorized on grazing allotments that have been determined to be currently meeting or making progress toward achievement of standards for rangeland health (see **Table 2.4-15**). Approximately 42,576 animal unit months (part of the 424,602 animal unit months) would be continued on grazing allotments within desert tortoise habitat, but outside the three desert tortoise ACECs (see **Table 2.4-14**). Maintenance and improvement in the desired range of conditions for vegetation will continue. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in grazing preference, authorized season of use, and kinds of livestock. Over the long term, such changes will continue to meet RMP goals and objectives, including the standards for rangeland health.

The authorization of 120,665 animal unit months on 3.2 million acres (27 percent of the Ely planning area) would be maintained on grazing allotments pending their evaluation for meeting rangeland health standards which will be completed by 2009 (see **Table 2.4-16**). In the short term, there may be impacts from livestock grazing that would be considered a causal factor in not attaining or making progress towards the rangeland health standards. As the grazing allotments are evaluated and changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, may lead to changes in grazing preference, authorized season of use, or kinds of livestock. Over the long term, the implementations of such changes are expected to continue to meet RMP goals and objectives, including the standards for rangeland health.

Approximately 5,658 animal unit months on 203,670 acres (2 percent of the Ely planning area) will remain unavailable for livestock grazing in the Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs and associated grazing allotments (see **Map 2.4.16-1**).

Protection of newly designated ACECs would result in another 120 acres being unavailable to livestock grazing. Additional rangeland improvements, changes in season of use, or livestock numbers may be required in the short term to ensure protection of the ACECs.

Other areas of public lands unavailable for livestock grazing include the Private/Utah Allotment, lands west of Highway 93 at the south end of the planning area, and leased lands near Coyote Springs Development. As shown in **Table 4.16-1**, these areas total approximately 17,500 acres.

In accordance with current BLM policy, management of domestic sheep and goats in areas of occupied bighorn sheep habitat could potentially be affected. Management changes affecting domestic sheep and goats may occur when proposed changes to BLM grazing permits are considered. **Table 4.16-2** presents the potential animal unit months for domestic sheep and goat grazing that could be affected in association with occupied desert and Rocky Mountain bighorn sheep habitat. Adjustments to animal unit months for sheep and goat grazing will be subject to review on a case-by-case basis.

The Proposed RMP provides for the management of allotments that become vacant where it is consistent with protection of watershed health and multiple use objectives. In the short term, this could offset effects of temporary fire rehabilitation closures, implementation of other vegetation improvement activities, and, in some cases, drought relief. In the long term, relinquished permits will meet RMP goals and objectives including the standards for rangeland health.

Table 4.16-2
Potential Effect of Desert and Rocky Mountain Bighorn Sheep Management of Occupied Habitat on Domestic Sheep Allotments

Allotment Name	Use Area	Map Unit Number[1]	Allotment Area (Acres)	Percent of Allotment in Occupied Habitat	Occupied Habitat (Acres)	Potential Domestic Sheep Use Affected (Animal Unit Months)
Crescent N-4		48	61,470	9	5,716	88
Duckwater		66	856,980	3	23,306	635
Fox Mountain		74	73,414	16	11,456	986
Hamblin Valley		88	105,831	2	2,155	167
Irish Mountain		99	83,463	6	2,050	180
Majors Allotment		110	99,193	2	4,791	259
Narrows		133	7,136	56	4,003	300
South Spring Valley		198	79,323	0	73	6
Wilson Creek	Deadman	230c	61,914	37	22,739	ND[3]
Wilson Creek	Dry Lake Valley	230e	104,898	3	2,812	ND[3]
Wilson Creek	Muleshoe/Maloy	230i	121,891	15	18,401	ND[3]
Wilson Creek	Thorley	230o	27,507	9	2,539	ND[3]
Totals					**100,041**	

[1] Map Unit Number refers to map units shown on **Map 2.4.16-1**.
[2] Sheep use not determined for individual use areas.

Implementation of specific management actions (e.g., seasons of use and levels of allowable use) on grazing allotments in desert tortoise habitat will aid in the recovery plan for desert tortoise. In the short term, restricting utilization limits on available forage in specific seasons of use will allow for more available forage for desert tortoise. Continued monitoring of desert tortoise habitat to ensure that a minimum of 15 percent canopy cover remains within each ecological site, adjustment of livestock stocking levels in the event of unusual climatic conditions, and removal of livestock on areas unavailable to livestock grazing will, in the long term, improve habitat for desert tortoise.

Impacts from Other Programs.

Vegetation. The area identified for potential vegetation treatments under the Proposed RMP is more than twice that of current management. It is expected that the area treated each year also would be substantially greater under the Proposed RMP. It is estimated that a total area in excess of 100,000 acres could be affected at a given time under the Proposed RMP. This could require short-term changes to livestock use such as temporary reductions in livestock grazing and temporary closure of the treatment areas on affected allotments. Treatment areas or portions of allotments would be unavailable until objectives are met or other determinations are made by the line officer. Livestock grazing use could be authorized on other areas of the allotment and not require temporary reductions in stocking levels. It is unlikely, however, that all of the treated areas would involve seeding or other activities that would interfere with continuing a livestock grazing program. Selection of areas and methods for treatment would occur at the watershed analysis stage, with efforts being made to prevent excessive areas being treated concurrently within the same grazing allotment or watershed.

Special Status Species. The three desert tortoise ACECs (totaling 203,670 acres) will continue to be unavailable for livestock grazing and livestock grazing management will be adjusted as necessary to maintain quality habitat in areas of desert tortoise habitat outside the three ACECs. This includes constraints on season of use and level of use by livestock, as well as other specific desert tortoise mitigation measures outlined in Section 2.4.16. Grazing would be permitted from March 1 to October 31 with use not to exceed 40 percent on key perennial plant species. Between November 1 and February 28/29, utilization would be allowed to reach 50 percent on key perennial grasses and 45 percent on key shrubs and forbs. Livestock grazing within the Lower Meadow Valley Wash ACEC would be controlled by terms and conditions and season of use restrictions on the grazing permits to avoid impacts during the nesting season to the Southwestern willow flycatcher and the yellow-billed cuckoo.

Livestock use also would be adjusted to maintain quality habitat for greater sage-grouse and various other special status species. This could affect season of use, level of use, and kind of livestock. Needed adjustments would be determined through the watershed analysis process.

Wild Horses. Under the Proposed RMP, several of the existing herd management areas would be eliminated and wild horse management would focus on those areas where conditions exist to sustain viable populations in a thriving natural ecological balance. This change in management would eliminate wild horse competition and conflicts with livestock in those areas. Management to maintain wild horse populations on the remaining herd management areas to the appropriate management levels would limit the degree of competition with livestock in those areas. Domestic horse grazing permits will not be authorized within wild horse herd management areas, thus limiting where such use could occur.

Lands and Realty. Under the Proposed RMP, approximately 75,600 acres would be available for possible disposal (see Section 2.4.12.2 for details). Adjustment or elimination of affected livestock grazing allotments would occur if and when these lands are sold. Impacts from land disposal would be long term or permanent. Changes to livestock grazing use resulting from reduced land acreage due to land disposals could include one or more of the following actions: reductions in stocking levels; distribution of livestock to other areas; a shorter grazing period; more intensive grazing practices (e.g. water hauling, fencing, and water development); or no changes in grazing management practices.

Renewable Energy. Under the Proposed RMP, development of renewable energy would be allowed, with the possibility that such development may, to a limited degree, conflict with current livestock grazing. These conflicts may include removal of specific facility areas from grazing, construction of access roads and utility rights-of-way, and increased vehicle traffic in remote areas. Although some surface disturbances and vegetation removal may result from renewable energy development (up to 4,000 acres for wind energy), such disturbances generally would be limited in magnitude and extent. Thus, the impacts to livestock grazing from such development are expected to be inconsequential. Impacts associated with these activities would be mitigated to the extent practicable through management practices from the Wind Energy Programmatic EIS (Appendix F, Section 3).

Travel Management and Off-highway Vehicle Use. Off-highway vehicle use would be limited to designated roads and trails as determined through a subsequent public process and area-specific analysis.

Transportation plans for the planning area would be updated and unnecessary roads may be closed and rehabilitated. The reduction of areas open to cross-country off-highway vehicle use would result in substantially fewer conflicts with livestock grazing than under current management. The off-highway vehicle designations and travel management provisions of the Proposed RMP would require permittees to have a special stipulation in their permit to allow cross country motorized travel. This could have a greater effect on the level of effort required by permittees for daily operations than under current management.

Recreation. Increasing recreational demand would continue to create new conflicts with livestock grazing, particularly in the southern portion of the planning area where the greatest recreational demand is expected to occur. Under the Proposed RMP, five special recreation management areas totaling approximately 1.2 million acres would be established in the decision area. With continued grazing in these areas and increased recreational use of the same areas, increased conflicts between recreation and livestock grazing are expected to occur.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario (see Section 4.18), would be distributed throughout the 11.5 million acres of the planning area. The impact to livestock from minerals development could involve temporary removal of vegetation and short-term limitation of grazing. Reclamation would restore vegetation in most cases, but there could be some irretrievable loss of range land or a change in vegetation communities. Site-specific analysis and best management practices would provide further mitigation and protection of range sites.

Watershed Management. Any additional forage produced beyond meeting rangeland health standards as a result of fire rehabilitation or other vegetation manipulation would be allocated to livestock and wild horses, watershed maintenance, and reserved for wildlife on a balanced basis. The level of additional forage resulting from vegetation treatments under the Proposed RMP is expected to be of a magnitude that would largely offset potential reductions in livestock numbers during the treatment process.

Fire Management. Prescribed fire, wildland fire use (approximately 8.9 million acres available) and other tools would be used to the greatest extent practical under the Proposed RMP. Short-term livestock grazing use on treatment areas would be temporarily displaced during treatment recovery and emergency stabilization and rehabilitation efforts. Long-term livestock grazing opportunities would improve in the treatment areas. Restoration of vegetation resilience and return to historical fire regimes would reduce future impacts to livestock grazing when wildland fires occur.

Noxious and Invasive Weed Management. The spread of noxious and invasive weeds into grazing allotments could result in the temporary closure of affected grazing lands in order to expedite treatment and eradication measures. Livestock grazing may be used to reduce noxious weed infestations and their impacts.

Special Designations. Livestock grazing would be unavailable on approximately 203,670 acres in five ACECs including the three desert tortoise ACECs. Grazing would be restricted in a variety of the other

proposed ACECs through grazing permit terms and conditions. These restrictions are expected to have minimal effects on grazing operations.

Conclusion. Approximately 11.3 million acres would remain available for grazing following closures on all or portions of five ACECs. Approximately 424,602 animal unit months on 8.4 million acres would be authorized on grazing allotments that have been determined to be meeting or progressing toward achievement of standards for rangeland health. Approximately 120,665 animal unit months on 3.2 million acres would be authorized on grazing allotments pending their evaluation for meeting rangeland health standards. The total acreage available for grazing is subject to change based on approximately 75,600 acres identified for potential sale. Although portions of these lands may continue to be grazed after they are sold, they would no longer be administered as part of the BLM livestock grazing program. Vegetation treatments and protection of freshly seeded areas also could temporarily affect grazing on substantial areas during the treatment process, but it is expected that increased forage production on previously treated areas would offset temporary reductions in those allotments. The Proposed RMP would achieve the stated goal for this program.

Alternative A

Allotment evaluations are being completed primarily in conjunction with grazing term permit renewal and the watershed analysis process. Allotment evaluations and watershed assessments are being conducted to determine if the standards and fundamentals for rangeland health are being achieved. A determination also is made as to whether livestock grazing is maintaining or progressing toward the achievement of standards for rangeland health and if livestock grazing is a significant factor in failing to achieve the standards. Standards and guidelines developed for the planning area include the Northeastern Great Basin Area and the Mojave-Southern Great Basin Area. Standards and guidelines would be implemented through terms and conditions of grazing permits, leases and annual authorizations.

Impacts from Livestock Grazing Management Actions. Grazing allotment allocation would be the same as the Proposed RMP.

Approximately 5,658 animal unit months on 203,670 acres (2 percent of the Ely planning area) will remain unavailable for livestock grazing in the Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs and associated grazing allotments (see **Map 2.4.16-1**). The continuance of managing the available forage in the ACECs will, in the long term, aid in the recovery of the desert tortoise.

Domestic sheep and goats would continue to be managed in accordance with current BLM policies for management of domestic sheep and goats in bighorn sheep habitat when proposed changes to BLM grazing permits are being considered.

Implementation of specific management actions on grazing allotments in desert tortoise habitat will aid in the recovery plan for desert tortoise. In the short term, restricting utilization limits on available forage in specific seasons of use will allow for more available forage for desert tortoise. Continued monitoring of desert tortoise habitat to ensure that a minimum of 15 percent canopy cover remains within each ecological site,

adjustment of livestock stocking levels in the event of unusual climatic conditions, and removal of livestock for areas unavailable to livestock grazing will, in the long term, improve habitat for desert tortoise.

Impacts from Other Programs. Impacts to livestock grazing from the renewable energy program and noxious and invasive weed management would be the same as described for the Proposed RMP.

Vegetation. Vegetation restoration or watershed treatment activities are expected to continue at the same levels as the present under Alternative A (i.e., approximately 10,000 acres per year based on a historical average). Since seedling establishment and soil stabilization period of at least 2 to 3 years is typically projected for seeding projects, such projects could result in an approximate 20,000 to 30,000-acre (minimum) temporary reduction in available forage at any given point in time until these areas can be safely grazed.

Special Status Species. The three desert tortoise ACECs (totaling 203,670 acres) would continue to be unavailable for livestock grazing, and livestock grazing management outside the ACECs would be similar to the Proposed RMP, except that the restricted period of activities would be 1 month shorter (March 15 to October 15 instead of March 1 to October 31). The Lower Meadow Valley Wash would remain available for livestock grazing. Thus, overall effects of special status species on livestock grazing would be less restrictive than under the Proposed RMP.

Wild Horses. Current competition between wild horses and livestock for forage likely would intensify with any additional deterioration of rangeland health and forage availability. This competition would be alleviated in those herd management areas where wild horse populations are reduced to and maintained at appropriate management levels.

Lands and Realty. To the extent that grazing allotments overlap with lands identified as available for possible disposal (31,900 acres identified for potential disposal under this alternative; see Section 2.4.12 for details), these allotments may be affected (modified or eliminated) by disposal, resulting in a reduction of lands available for grazing.

Travel Management and Off-highway Vehicle Use. The construction of new roads and trails would be relatively limited. Thus, new or additional conflicts between livestock grazing and road construction are expected to be few. However, since the majority of the planning area (about 9.8 million acres) would remain open to off-highway vehicle use and the demand is expected to grow substantially, conflicts with such traffic on existing trails are expected to occur at an ever increasing frequency. Off-highway vehicle traffic, when not using roads and trails, impacts vegetation growth, extent of vegetation cover, and erosion patterns, resulting in secondary impacts on livestock behavior and use patterns.

Recreation. Increasing recreational demand, especially for off road vehicle use, would create new conflicts with livestock grazing. This is especially true in the southern portion of the planning area, where population demographics suggest the greatest future recreational demand. One special recreation management area along Highway U.S. 50 of approximately 750,000 acres would remain in the decision area and would have minimal effects on grazing.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP (see Section 4.18). The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Watershed Management. Any additional forage produced within the Schell Resource Area as a result of fire rehabilitation or other vegetation manipulation would be allocated at a ratio of 70 percent to livestock and wild horses and 30 percent reserved for wildlife. In the remainder of the planning area, additional or surplus forage would be allocated proportionately among all qualified users. The level of additional forage resulting from vegetation treatments under Alternative A is not expected to be of a magnitude that would result in noticeable changes in livestock numbers following such allocations.

Fire Management. The impacts under Alternative A would be similar to those under the Proposed RMP except on a smaller scale. This, in the long-term, would result in fewer acres with improved ecological health, vegetation resilience, and overall improved forage quality. Fuels would continue to accumulate in untreated areas, and the probability of major, uncontrollable, stand-replacing fire events would continue. This would result in greater areas being unavailable for livestock grazing during emergency stabilization and rehabilitation efforts.

Special Designations. No additional ACECs (beyond the three desert tortoise ACECs) or other special designations that would result in areas being unavailable for livestock grazing are proposed. As a result, there would be no additional impact to livestock grazing as a result of special designations management activities.

Conclusion. Approximately 11.3 million acres would remain open to grazing. Approximately 424,602 animal unit months on 8.4 million acres would be authorized on grazing allotments that have been determined to be meeting or progressing toward achievement of standards for rangeland health. Approximately 120,665 animal unit months on 3.2 million acres would be authorized on grazing allotments pending their evaluation for meeting rangeland health standards. Potential land disposals would affect total acreage available for grazing.

Alternative B

Impacts from Livestock Grazing Management Actions. Under Alternative B, livestock grazing would continue on approximately 7.7 million acres within the planning area (prior to potential land disposals). Livestock grazing would be authorized on those allotments that have been determined to be meeting the standards for rangeland health. Livestock grazing also would be authorized on allotments pending their evaluation for meeting the standards. The authorization of additional possible land disposal under this alternative may result in the modification or elimination of individual allotments. In addition to those areas previously unavailable for grazing under the Desert Tortoise Amendment to the Caliente MFP, this alternative would render unavailable to grazing the remaining desert tortoise habitat within the Mojave Desert (approximately 523,900 acres), approximately 3.0 million acres of bighorn sheep habitat, and 14,900 acres within new ACECs. These actions would affect a total of 189 of the 234 existing allotments (see **Map 2.4.16-1**).

The non-use relinquished permits could be used for such purposes as establishing forage reserves or providing improved watershed protection. In comparison to Alternative A, this approach would provide: 1) greater flexibility for allocation of increased forage resulting from watershed treatments; 2) a shift toward managing on a watershed rather than an allotment basis; and 3) greater flexibility of management toward achievement of the Resource Advisory Council standards and guidelines (Appendix B).

Additional forage available on treated areas would not be allocated to livestock or reserved for wildlife. Alternately, the additional forage production would contribute toward meeting watershed goals and rangeland health standards.

Impacts from Other Programs. Livestock grazing impacts associated with vegetation, wild horses, renewable energy, travel management and off-highway vehicle use, geology and mineral extraction, fire management, noxious and invasive weed management, and special designations would be the same as described for the Proposed RMP. The following programs would have different impacts on the livestock grazing program in comparison to the Proposed RMP.

Special Status Species. Livestock grazing would be unavailable in the Kane Springs, Mormon Mesa, and Beaver Dam Slope desert tortoise ACECs, and all desert tortoise habitats outside the desert tortoise ACECs (see **Table 4.16-1**) for a total of approximately 727,600 acres removed from grazing for special status species protection.

Lands and Realty. Under Alternative B, approximately 90,600 acres would be available for possible disposal (see Section 2.6.12 for details). Adjustment or elimination of affected livestock grazing allotments would occur if and when these lands are sold. Impacts from land disposal would be long term or permanent.

Recreation. Escalating recreational demand would continue to create new conflicts with livestock grazing, particularly in the southern portion of the planning area where the greatest future recreational demand is expected to occur. Under Alternative B, nine special recreation management areas totaling approximately 2.7 million acres would be established in the decision area. While management of these

areas would not preclude grazing, the conflicts between grazing use and recreation are expected to increase on and around these areas.

Watershed Management. Any additional forage produced beyond meeting rangeland health standards as a result of fire rehabilitation or other vegetation manipulation would be reserved for watershed maintenance and wildlife, not allocated to livestock.

Conclusion. Approximately 3.8 million acres of additional grazing area affecting 189 total allotments would be unavailable for grazing due to desert tortoise habitat, bighorn sheep habitat, acquisition of former U.S. Forest Service allotments that are currently unavailable for grazing, and new ACECs (beyond the 203,670 acres already unavailable in the existing desert tortoise ACECs) resulting in long-term impacts to livestock grazing. Livestock grazing would be authorized on those allotments that have been determined to be meeting the standards for rangeland health. Livestock grazing also would be authorized on allotments pending their evaluation for meeting the standards. Vegetation treatments and protection of freshly seeded areas also could temporarily affect grazing on substantial areas during the treatment process causing short-term impacts. It is expected, however, that increased forage production on previously treated areas would offset temporary reductions in these allotments. Because this alternative would effectively render one-third of the planning area unavailable for livestock grazing, it is questionable as to whether the alternative could be considered as meeting the program goal, even though the goal would be met on the remainder of the area.

Alternative C

Impacts from Livestock Grazing Management Actions. Areas available for grazing under Alternative C would be the same as Alternative A except that 6,400 additional acres would be unavailable for grazing in four new ACECs. The authorization of additional possible land disposals under this alternative totaling approximately 295,200 acres (see Section 2.7.12 for details) may result in modification or elimination of allotments if and when these lands are sold.

The authorization of 545,267 animal unit months on 11.3 million acres within the Ely planning area is expected to meet the RMP goals and objectives. Grazing allotment allocation would be the same as the Proposed RMP.

Approximately 5,658 animal unit months on 203,670 acres (2 percent of the Ely planning area) will remain unavailable for livestock grazing in the Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs and associated grazing allotments (see **Map 2.4.16-1**). The continuance of managing the available forage in the ACECs will, in the long term, aid in the recovery of the desert tortoise.

Domestic sheep and goats would continue to be managed in accordance with current BLM policies for management of domestic sheep and goats in bighorn sheep habitat when propose changes to BLM grazing permits are being considered.

Implementation of specific management actions on grazing allotments in desert tortoise habitat will aid in the recovery plan for desert tortoise. In the short term, restricting utilization limits on available forage in specific seasons of use will allow for more available forage for desert tortoise. Continued monitoring of desert tortoise habitat to ensure that a minimum of 15 percent canopy cover remains within each ecological site, adjustment of livestock stocking levels in the event of unusual climatic conditions, and removal of livestock for areas unavailable to livestock grazing will, in the long term, improve habitat for desert tortoise.

Approximately 7,843 acres in the Haypress Allotment would be disposed of if Congressional direction is provided in the future.

Livestock grazing would not be eliminated from bighorn sheep ranges. Management in these areas would be the same as Alternative A. This approach would have little or no change in impacts to rangeland resources or the grazing permittees.

Alternative C would provide the flexibility for BLM to use relinquished permits for the creation of forage reserves available for research or temporary use by permittees who are displaced for any reason. The Tamberlaine Allotment, if relinquished, would be managed as a forage reserve. This alternative would generate positive benefits for other permittees within the planning area.

Impacts from Other Programs. Livestock grazing impacts associated with wild horses, renewable energy, geology and mineral extraction, noxious and invasive weed management, and special designations activities would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Vegetation. Effects of vegetation treatments on livestock grazing would be essentially the same as the Proposed RMP during the period of treatment and restoration. After the first few years of treatments, however, the additional forage produced in these areas would be allocated to livestock (see watershed management) and could, at least partially, offset the reduction in available acreage. Thus, impacts from vegetation treatment would typically be short term on a given allotment.

As a result of vegetation treatments particularly in sagebrush, mountain shrub and mountain mahogany plant communities, short-term reductions in authorized livestock use, restriction or exclusion of livestock, changes in period of use, or other management actions may occur in order to implement restoration actions. Authorized use may increase following the restoration activity based on additional forage produced and achievement of rangeland health objectives. Restoration and maintenance of vegetation communities to achieve desired range of conditions and varying vegetation states or mosaics of the plant communities across the landscape would increase herbaceous production. Effects of vegetation treatments on livestock grazing also may be essentially the same as Alternative B following treatment. Management actions may be required prior to treatment in order to allow and promote treatment effects and restoration. These may include; changes in permitted use within the project area, restriction or exclusion of livestock or other management actions.

Treatment of pinyon-juniper woodlands and quaking aspen stands also may require adjustments to stocking levels, periods of use or other actions in order to implement actions necessary to maintain or improve pinyon-juniper woodlands and quaking aspen stands. Such impacts would typically be of short duration.

In those vegetation types (e.g., Mojave Desert, salt desert shrub, and riparian/wetland) where the vegetation treatments primarily would be passive in nature (i.e., biological treatments), livestock grazing would be adjusted if current management does not allow for the maintenance or measurable progress toward achieving the desired range of conditions. These impacts could be either short or long term depending on the situation involved.

Special Status Species. The three desert tortoise ACECs (totaling 203,670 acres) would continue to be unavailable for livestock grazing, and livestock grazing management outside the ACECs would be similar to the Proposed RMP, except that the restricted period of activities would be 1 month shorter (March 15 to October 15 instead of March 1 to October 31). Thus, overall effects of special status species on livestock grazing would be less restrictive than under the Proposed RMP within desert tortoise habitat outside the ACECs. Livestock grazing within the Lower Meadow Valley Wash ACEC would be the same as the Proposed RMP and would be controlled by terms and conditions and season of use restrictions on the grazing permits to avoid impacts during the nesting season to the Southwestern willow flycatcher and the yellow-billed cuckoo.

Lands and Realty. Under Alternative C, approximately 295,200 additional acres would be available for possible disposal. Adjustment or elimination of affected livestock grazing allotments would occur if and when these lands are sold. Such impacts would be long term or permanent in nature.

Travel Management and Off-highway Vehicle Use. Under Alternative C, approximately 730,000 acres of special recreation management areas would be identified for off-highway vehicle emphasis areas and 32,000 acres of dry lake beds would be open to cross-country off-highway vehicle use. The remainder either would be closed to off-highway vehicle use or limited to use only on designated roads and trails. The reduced area available for off-highway vehicle use under this alternative likely would result in fewer conflicts with livestock grazing than under Alternative A but more than under the Proposed RMP.

Recreation. Escalating recreational demand would continue to create new conflicts with livestock grazing, particularly in the southern portion of the planning area, where the greatest future recreational demand is expected to occur. Nine special recreation management areas totaling approximately 2.6 million acres would be established in the decision area. While management of these areas may not preclude grazing, the conflicts between grazing use and recreation are expected to increase on and around these areas.

Watershed Management. Any additional forage produced beyond meeting rangeland health standards as a result of fire rehabilitation or other vegetation manipulation would be allocated to livestock. The level of additional forage resulting from vegetation treatments under the Alternative C is expected to be of a magnitude that largely would offset potential reductions in livestock numbers during the treatment process.

Fire Management. Under Alternative C, full suppression of wildland fires would occur and, therefore, the initial affected area of interaction with livestock grazing would be less than or similar to the Proposed RMP and Alternative A. However, with continued fire management under this approach, it is expected that accumulation of heavy fuels in untreated areas would eventually lead to situations where suppression would become impractical, if not impossible, resulting in large-scale, intense fire events. Thus, on a long-term basis, fire impacts to livestock grazing would be greater than either the Proposed RMP or Alternative A.

Conclusion. Approximately 11.3 million acres would remain available for grazing in 234 existing allotments, subject to potential land sales of up to 295,200 acres. These areas would become unavailable for grazing when they are sold. Long-term fire impacts to grazing would be substantial. Vegetation treatments and protection of freshly seeded areas also could temporarily affect grazing on substantial areas during the treatment process, but it is expected that increased forage production on previously treated areas would offset temporary reductions in these allotments. Alternative C would achieve the goal for the livestock grazing program.

Alternative D

Under Alternative D, no livestock grazing would be permitted in the planning area. Therefore, livestock grazing per se would cease to impact or be impacted by other resource uses and users. The termination of livestock grazing, however, would generate substantial impacts to current allotment permittees and to revenues received by the BLM for grazing fees (addressed under Economic and Social Conditions). It also would affect numerous other resource programs. These effects are addressed in those various resource discussions.

Since this decision would not be consistent with current regulations and agency policy, selection of this alternative would require Congressional approval for implementation.

Conclusion. Elimination of the livestock grazing program within the planning area would constitute a major change in policy with attendant impacts to livestock grazing, other resource uses, and users. Since Alternative D does not provide for livestock grazing as a component of multiple use of the public lands, it would not achieve the stated goal for this program.

4.17 Forest/Woodland and Other Plant Products

Impact Issues

Forest/woodland and other plant products would be affected by activities that modify the quantity and quality of vegetation resources either directly or indirectly.

Assumptions for Analysis

- Forest/woodland and other plant products may originate from forest, woodland, or non-woodland plant communities. Demand for forest/woodland and other plant products are expected to increase as population increases.

General Impacts from Vegetation Treatment Tools and Techniques

Please refer to Section 4.5, Vegetation, for general impacts from vegetation tools and techniques. Tools and techniques that may positively or negatively affect availability of forest/woodland and other plant products include fire, mechanical and chemical treatments, and grazing management.

Interactions with Other Programs

The forest/woodland and other plant product management program within the planning area potentially would be affected by actions within the resource management programs for vegetation, lands and realty, renewable energy, travel management and off-highway vehicle use, fire management, and special designations.

Goal

Provide opportunities for traditional and non-traditional uses of vegetation products on a sustainable, multiple-use basis.

Objective

To make healthy forest/woodlands and populations of other plants available for the responsible harvesting of forest/woodland and other plant products by the public, commercial interests, and American Indians and allow access for traditional and non-traditional uses.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. After completion and approval of the RMP, during project implementation, additional mitigation

measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Forest/Woodland and Other Plant Products Management Actions.

Parameter – General Forest/Woodland and Other Plant Product Management
Prior to, and shortly after (up to nearly 5 years) vegetation treatments are implemented, approximately 3.7 million acres would be available for forest/woodland product use in the planning area. This includes approximately 2.8 million acres of pinyon-juniper woodland, approximately 1.2 million acres of pinyon-juniper vegetation currently occupying sagebrush ecological sites (see **Map 4.5-2**), and approximately 17,000 acres of high elevation conifers (e.g., white fir) and 2,100 acres of aspen. Based on these estimates, the following forest/woodland products would be available within the planning area:

- 11 to 22 million cords of fuelwood (average production – 3 to 6 cords per acre);
- 16.7 million Christmas trees (average production – 15 singleleaf pinyon trees per acre; singleleaf pinyon occur within approximately 30 percent of pinyon-juniper woodlands and within sagebrush areas invaded with pinyon and juniper);
- 56 to 111 million posts and poles (average production – 15 to 30 posts and poles per acre); and
- 167 to 333 million pounds of pinyon nuts (average production during favorable years – 150 to 300 pounds per acre).

Management actions of the Proposed RMP allow harvest of these products while protecting a variety of rare or unique species (e.g., bristlecone pine, limber pine, and swamp cedar). Harvest of desert vegetation (e.g., cactus and yucca) would be allowed primarily on a salvage basis subject to state law and Section 7 consultation with the U.S. Fish and Wildlife Service where appropriate, thus, preventing over-harvest of such species.

Parameter – Fuelwood Collection
The forest/woodland products program for this parameter would allow widespread collection of pinyon, juniper, and mountain mahogany. Additional species (e.g., aspen, ponderosa pine, and white fir) would be made available on a case-by-case basis for fuelwood. Greater availability of species would provide increased choices and encourage additional public use of forest and woodland species and products. The increased number of species available for harvest also would allow greater flexibility in using fuelwood harvest as at tool in the management of these additional forest/woodland communities. By allowing harvest of these additional species on a case-by-case basis, the BLM can control the level of harvest of these species to prevent undue damage to other resources in the harvest area.

Fuelwood cutting would be permitted anywhere within the planning area except in closed areas. This would continue to provide opportunities for personal and commercial use of the woodland/forest resource. Over the past 7 years, the Ely Field Office has issued fuelwood permits for an average of 1,875 cords per year with a high of 2,390 cords in 1998 to a low of 1,515 cords in 2000. Fuelwood cutting is generally conducted within short distances from roads. Allowing harvest of pinyon, juniper, and mountain mahogany across most of the planning area would assist in protecting watersheds and communities from wildland fire as most harvesting would be concentrated in those areas. Harvesting that occurs in areas away from the communities also would reduce fire potential for native vegetation communities. The greatest demands have been for pinyon pine and juniper. This harvest trend would cause tree densities to decrease more near roads that are in close proximity to communities. Tree densities away from roads would begin decreasing as available wood is harvested near roads. Based on the cords estimated in the planning area, the rate at which woodlands are reportedly increasing, and low public demand, this level of green tree fuelwood harvest appears to be more than sustainable, particularly for pinyon and juniper.

Parameter – Pinyon Pine Nut Harvesting

Management actions of the Proposed RMP would allow harvest of pinyon pine nuts for both individual and commercial use with limited changes from current policy. Harvestable pinyon pine nut production in the planning area commonly meets or exceeds harvest demand in favorable years, but this situation will likely change as demand continues to grow in future years. The proposed management actions specify designation of areas for harvest that provide adequate control of commercial harvest levels to ensure that adequate quantities of pinyon pine nuts remain following harvest to provide for wildlife usage and seedling recruitment.

Parameter – Christmas Tree Harvesting

The forest/woodland products program for this parameter would allow private and commercial harvest of pinyon and juniper throughout the planning area, private harvest of white fir throughout the planning area, and commercial harvest of white fir on a site-specific case-by-case basis to help meet vegetation management objectives. Availability of the additional species (white fir) would provide increased choices and encourage additional public use of forest and woodland species and products to achieve management objectives for forested stands. This flexibility would facilitate meeting vegetation objectives for plant communities. By limiting the commercial harvest of this additional species to selected areas, the BLM would have greater flexibility in the management of applicable forest/woodland communities.

Parameter – Post and Pole Harvesting

The forest/woodland products program for this parameter would be similar to current management except additional species (aspen, fir, spruce) would be made available for posts and poles on a case-by-case basis. Greater availability of species would provide increased choices and encourage additional public use of forest and woodland species and products. The availability of additional species for harvest would allow greater flexibility in the management of these forest/woodland communities to enhance understory regeneration and meet site-specific objectives.

Parameter – Seed Collection

Seed collection would be available for commercial purposes on a case-by-case basis. Commercial collection of seed is unlikely to occur at a substantial level under this alternative, because activities are limited to hand and limited mechanical collection only. Limiting seed collection to no more than 50 percent of the annual seed crop would ensure that an adequate quantity of seed remains for continued regeneration and recruitment of other plant species.

Parameter – Other Vegetation Products Collection

By allowing the harvest of other vegetation products (e.g., wildings and boughs) on a case-by-case basis with limited collection methods, the level of harvest would be controlled and undue damage to other resources in the harvest area would be prevented. Based on current and past use, availability of these products far exceeds demand.

Impacts from Other Programs.

Vegetation. Under the Proposed RMP, woodlands would be treated and managed to achieve the range of healthy conditions identified in Section 2.4.5. This management direction would allow for extensive reductions in tree densities, which would have potential for personal and commercial uses.

As noted in the vegetation section, approximately 2.8 million acres of pinyon-juniper woodlands would be identified for potential treatment. All of the estimated 1.2 million acres of sagebrush ecological sites invaded by pinyon-juniper would most likely be treated. Therefore, approximately 3.3 million acres (77 percent of 2.8 million treated acres of pinyon-juniper woodland and all of sagebrush invaded sites) would be identified for eventual treatment. Assuming treatment over a period of 50 to 100 years (extending well beyond the current planning period), this would allow for an average of 33,000 to 66,000 acres of pinyon-juniper vegetation to be treated annually. Based on annual treatment estimates, and production estimates as listed previously in this section, the following forest/woodland products would be available annually in treated areas:

- 110,000 to 440,000 cords of fuelwood;
- 167,000 to 334,000 Christmas trees;
- 0.5 to 2.2 million posts and poles; and
- 1.7 to 6.7 million pounds of pinyon nuts.

The above products would still be available for product use during the short term (approximately 5 years). Over the long term, production of pinyon nuts, Christmas trees and other products should increase in pinyon-juniper woodland sites as competition is removed and resilience is restored. Woodland product availability after treatments would still meet expected demand.

The removal of pinyon and juniper trees to meet landscape objectives potentially could affect their relative availability for public and commercial use in some areas. How much and what type would depend on many factors such as method of treatment and methods of slash disposal. Tree removal activities implemented in close proximity to roads and communities would provide increased slash and fuelwood for public use. Slash

removal methods involving burning, chipping, or hauling could reduce woodland product availability depending on location. Where vegetation treatments are remote, forest product availability would be less affected. Management activities would include the treatment of approximately 2.8 million acres of pinyon-juniper woodland and maintenance of approximately 827,000 acres that are currently in desired states. General impacts of the vegetation management program to forest/woodland products would be to make quantities of products readily available to the public. On a long-term basis, the production of forest/woodland products from restored and resilient communities is expected to exceed current levels.

Lands and Realty. Approximately 75,600 acres would be designated for possible disposal, but less than 20 percent of this total is occupied by woodlands. These areas would remain available for public uses unless and until a site-specific land transaction is approved. Additional utility rights-of-way may provide additional public access into woodland areas. Land authorizations for rights-of-way and communication sites could provide potential salvage of cactus and yucca.

Renewable Energy. Areas that are developed for renewable energy (up to 40,000 acres for wind energy) may affect the availability of woodland and other vegetation products. Renewable energy development may provide access to new areas of product availability depending on site specific characteristics, type of technology, and the nature of the proposed development.

Travel and Off-highway Vehicle Use. Limiting off-highway vehicle travel to designated roads and trails on approximately 10.3 million acres through subsequent public planning would reduce access to forest/woodland and other plant products through cross-country off-highway travel. Reduced access would reduce the amount of harvesting in outlying areas and increase harvest along designated roads.

Fire Management. Prescribed fire, wildland fire use (approximately 8.9 million acres available), and other tools would be used to the greatest extent practical under the Proposed RMP. This analysis would likely reduce the amount of pinyon-juniper woodland and forest/woodland products provided from these areas over the long term. However, the availability of forest/woodland products from other pinyon-juniper woodlands within the planning area would continue to exceed the demand for forest/woodland products in the long term. The amount and diversity of seed available for collection would likely remain the same or slightly increase in the long term with the greater frequency and extent of fire. With the restoration of vegetation resilience and return to historical fire regimes and condition classes, impacts to woodland vegetation would be reduced when fires occur.

Special Designations. There is no fuelwood potential within 8 of the 20 proposed ACECs. The remaining 12 ACECs, encompassing a total of 84,400 acres, would be encouraged as open, limited, or closed for availability of forest/woodland and other plant products. Given the broad availability of these resources within the decision area, these restrictions should have minimal effects on the utilization of plant products.

Conclusion. The Proposed RMP would expand the number of species permitted for use as fuelwood, posts and poles, and Christmas trees, providing a greater opportunity for personal and commercial use and greater flexibility in the management of these woodland communities. The increased availability is not likely

to affect the overall resource supply for any of the species involved. Availability of woodland biomass products would continue to exceed demand on both short and long term basis. Green biomass availability would be replaced with dead wood during treatments, but overall product availability would remain relatively constant. Christmas tree availability would likely be reduced as treatments are implemented in more productive sagebrush ecological sites. Pine nut production would be reduced during the short term after treatments, but should maintain or exceed current production rates in the long term as woodland sites are restored and become resilient. Forest/woodland and other plant product availability would be affected in high priority watershed areas prior to other watersheds. The harvest of forest/woodland products would continue to have minimal effects on the woodland communities involved. The management actions of the Proposed RMP would achieve the goal for this program.

Alternative A

Impacts from Forest/Woodland and Other Plant Products Management Actions.

Parameter – General Forest/Woodland and Other Plant Product Management
Approximately 5.0 million acres would be available for forest/woodland product use in the planning area, of which approximately 3.6 million acres is pinyon-juniper woodland and 1.2 million acres is pinyon-juniper vegetation that has invaded into low elevation sagebrush communities. Rowland et al. (2003) estimated that approximately 35 percent of the sagebrush communities in the planning area are at moderate or high risk for replacement by pinyon-juniper woodlands. Based on these estimates as discussed in detail in Section 3.17.1, the following forest/woodland products would be available within the planning area:

- 15 to 30 million cords of fuelwood (average production – 3 to 6 cords per acre);
- 23 million Christmas trees (based on 15 trees per acre and singleleaf pinyon occurring within 30 percent of the pinyon-juniper woodlands);
- 75 to 150 million posts and poles (average production – 15 to 30 posts and poles per acre); and
- 225 to 450 million pounds of pinyon nuts (average production during favorable years – 150 to 300 pounds per acre).

Management actions of Alternative A allow harvest of these products while protecting a variety of rare or unique species (e.g., bristlecone pine, limber pine, and swamp cedar). Cactus and succulent collection would continue to be allowed for personal use only, primarily on a salvage basis subject to state law and Section 7 consultation with the U.S. Fish and Wildlife Service where appropriate. The collection of these plants only during salvage opportunities is a conservative practice that contributes to the perpetuation of affected plant populations.

Parameter – Fuelwood Collection
Fuelwood cutting for live and dead pinyon, juniper, and mountain mahogany would be permitted anywhere within the planning area except in closed areas. This would continue to provide opportunities for personal

and commercial use of the pinyon-juniper resource. The decision in 2000 to allow fuelwood harvest of live pinyon and juniper throughout the decision area facilitates ease of public harvest and has not led to major increases in overall harvest volumes. Harvesting has shifted from designated cutting areas to areas closer to communities, but harvest levels have been low compared to availability. Impacts associated with the decision to allow pinyon and juniper fuelwood harvest throughout the planning area (except in some areas) would be the same as the Proposed RMP. With designated fuelwood cutting areas, impacts are concentrated in specific areas. Allowing fuelwood harvest throughout the planning area has indirectly minimized impacts within previously designated areas by reducing harvest activities in these areas. Since harvest levels have not increased after the 2000 decision, impacts from fuelwood harvest are expected to be less in previously designated areas as harvest will be spread throughout the planning area. Impacts within the planning area are expected to be minimal based on current and future demand. Over the past 7 years, the Ely Field Office has issued fuelwood permits for an average of 1,875 cords per year with a high of 2,390 cords in 1998 to a low of 1,515 cords in 2000. Fuelwood cutting is generally conducted within short distances from roads, and the greatest demands have been for pinyon pine and juniper. By increasing public access to the fuelwood resources, it is anticipated that hazardous fuels would be reduced around communities, increasing protection for the communities. Based on the cords estimated in the planning area, the rate at which woodlands are reportedly increasing, and low public demand, the current level of green tree fuelwood harvest appears to be more than sustainable.

Parameter – Pinyon Pine Nut Harvesting

Permit sales over the past 7 years for pinyon nuts ranged from 0 pounds in 2000 and 2003 to 26,000 pounds in 2002. Level of production varies widely from year-to-year based on precipitation, fires, insects, and other factors. In high production years demand may not reach supply, while in low production years the available supply may not satisfy the demand. By regulating the availability of commercial harvest contracts, the BLM can ensure that in favorable years an adequate seed supply remains following harvest to provide for wildlife and woodland regeneration.

Parameter – Christmas Tree Harvesting

Permit sales over the past 7 years included Christmas trees ranging from 540 trees in 2004 to 4918 trees in 1999. This level of pinyon and juniper harvest is sustainable with the production level of such trees within the planning area. Identification of designated areas for commercial harvest allow the BLM to use such harvest as a management tool in the vegetation treatment of these communities.

Parameter – Post and Pole Harvesting

Permit sales the past 7 years for posts ranged from 1500 posts in 2002 to 3118 posts in 1998. This level of harvest is sustainable with the production level of such trees within the planning area.

Parameter – Seed Collection

Seed collection would be available for commercial purposes on a case-by-case basis. Commercial collection of seed is unlikely to occur at a substantial level under this alternative, because activities are limited to hand and limited mechanical collection only.

Parameter – Other Vegetation Products Collection

By allowing the harvest of other vegetation products (e.g., wildings and boughs) on a case-by-case basis with limited collection methods, the level of harvest would be controlled and undue damage to other resources in the harvest area would be prevented. Based on current and past use, availability of these products far exceeds demand.

Impacts from Other Programs.

Vegetation. Pinyon and juniper management in sagebrush communities tends to involve removal of young, small trees with a low volume of wood products. Where these trees are mature with closed canopy in sagebrush communities, thresholds have been crossed that would make restoration costly and difficult.

The planning area has averaged about 10,000 acres per year of fire rehabilitation and other vegetation treatments including aerial seeding. Continued removal of pinyon and juniper trees at the current rate is unlikely to affect their relative availability for public and commercial use. Tree removal activities implemented in close proximity to roads and communities may provide increased slash for public use. Slash removal methods involving burning, chipping, or hauling could reduce woodland product availability depending on location. Where vegetation treatments are remote, forest product availability would be even less affected.

Management activities would include the treatment of approximately 1.1 million acres of pinyon-juniper woodland and maintenance of approximately 2.4 million acres that are currently in desired states. Impacts to pinyon-juniper woodlands from the vegetation treatments would be relatively limited in the short term (next decade) and would gradually increase as more areas are treated over the next 10 to 100 years. Treatment and maintenance activities within pinyon-juniper woodland would likely increase the availability of forest/woodland products, especially if areas are located within close proximity of existing roads. The availability of forest/woodland products from treated and maintained pinyon-juniper woodlands would continue to exceed the demand for forest/woodland products in the long term.

Lands and Realty. Lands currently designated for possible disposal are described in Section 2.5.12.2. Rights-of-way often go through woodlands in remote areas, but access to rights-of-way also can open up woodland access for public use. Approximately 31,900 acres would be available for possible disposal, but only a small portion of this is occupied by woodlands.

Renewable Energy. The impacts of providing opportunities for renewable energies would be the same or similar to those described for lands and realty program, namely creation of additional utility rights-of-way and access roads.

Travel Management and Off-highway Vehicle Use. The woodland and other vegetation products program is largely tied to and dependent upon the transportation system in the planning area. Approximately 9.8 million acres are open to off-highway vehicle use under current management. Current transportation planning accommodates public demand for products, as it is currently perceived. No permanent road closures are planned under Alternative A; although temporary closures could occur for construction, repair, or special events. User conflicts between woodland product activities, including pinyon pine nut collecting,

and off-highway vehicle use or other recreation have not been identified, presumably due to the low level of public activity in the planning area. Forest/woodland and other plant products would still be available through off-road travel access.

Fire Management. Under Alternative A, prescribed fire, wildland fire use (approximately 3.6 million acres available) and other tools would not be used to the greatest extent practical as under the Proposed RMP. The impacts under Alternative A would be similar to those under the Proposed RMP except on a smaller scale. This, in the long-term, would result in fewer acres with improved ecological health, vegetation resilience, and overall improved habitat quality. Because fuels would continue to accumulate in untreated areas; the probability of major, uncontrollable, stand-replacing fire events would continue.

Special Designations. The three desert tortoise ACECs have no fuelwood resources and, therefore, would have no effect upon woodland product availability. Plant collecting is limited within these three areas and would preclude harvest of most, if not all, personal and commercial plant products within a total of 203,670 acres.

Conclusion. Current supplies of forest/woodland and other plant products including fuelwood, posts and poles, Christmas trees, pinyon pine nuts, various native seeds, and live plants of selected species for transplantation are adequate to meet existing demands. It is expected that availability of these forest/woodland products would continue to exceed the expected demand. Thus, this alternative would meet the program goal.

Alternative B

Impacts from Forest/Woodland and Other Plant Products Management Actions.

Parameter – General Forest/Woodland and Other Plant Product Management
Approximately 4.6 million acres would be available for forest/woodland product use in the planning area, including approximately 3.2 million acres of pinyon-juniper woodland and approximately 1.2 million acres of pinyon-juniper vegetation that has invaded into low elevation sagebrush communities (see **Map 4.5-2**). The majority of treatment within pinyon-juniper woodland would occur in the overmature sites where canopy cover would be reduced from an average of approximately 40 percent to an average of approximately 20 to 40 percent. In addition, approximately 4,200 acres of aspen communities (Forestland Ecological Site Description – 28BY055) would be available for fuelwood collection. Fuelwood collection within aspen communities would continue to occur and would be used as a tool for overall management and regeneration of aspen stands in the planning area. Based on these estimates, the following forest/woodland products would be available within the planning area:

- 14 to 28 million cords of fuelwood (average production – 3 to 6 cords per acre);
- 21 million Christmas trees (average production – 15 singleleaf pinyon trees per acre; singleleaf pinyon occur within 30 percent of the pinyon-juniper woodlands);

- 69 to 138 million posts and poles (average production – 15 to 30 posts and poles per acre);
- 210 to 400 million pounds of pinyon nuts (average production during favorable years – 150 to 300 pounds per acre); and
- 21,000 to 84,000 cords of aspen fuelwood (average production – 5 to 20 cords per acre).

Management actions of Alternative B allow harvest of these products while protecting a variety of rare or unique species (e.g., bristlecone pine, limber pine, and swamp cedar). Harvest of desert vegetation (e.g., cactus and yucca) would be allowed primarily on a salvage basis subject to state law and Section 7 consultation with the U.S. Fish and Wildlife Service where appropriate, thus, preventing over-harvest of such species.

Parameter – Fuelwood Collection

The forest/woodland products program for this parameter would be similar to the Proposed RMP except additional species (Gambel's oak and spruce) would be made available for fuelwood as well as aspen, ponderosa pine, white fir, pinyon, juniper, and mountain mahogany. Greater availability of species would provide increased choices and encourage additional public use of forest and woodland species and products. However, fuelwood collection would only be allowed in designated areas. This constraint, coupled with the increased number of species available for harvest, would allow greater flexibility in using fuelwood harvest as at tool in the management of these forest/woodland communities. By allowing harvest of live trees of the additional species, beyond those allowed in current management, on a case-by-case basis, the BLM can control the level of harvest of these species to prevent undue damage to other resources in the harvest area.

Parameter – Pinyon Pine Nut Harvesting

Management actions of Alternative B would allow harvest of pinyon pine nuts for both individual and commercial use with limited changes from current policy. Harvestable pinyon pine nut production in the planning area commonly meets or exceeds harvest demand in favorable years, but this situation will likely change as demand continues to grow in future years. The proposed management actions specify designation of acres for harvest that provide adequate control of commercial harvest levels to ensure that adequate quantities of pinyon pine nuts remain following harvest to provide for wildlife usage plus seedling recruitment.

Parameter – Christmas Tree Harvesting

The forest/woodland products program for this parameter would allow private and commercial harvest of pinyon and juniper throughout the planning area, private harvest of white fir throughout the planning area, and commercial harvest of white fir on a site-specific case-by-case basis to help meet vegetation management objectives. Availability of the additional species (white fir) would provide increased choices and encourage additional public use of forest and woodland species and products to achieve management objectives based on watershed analyses. By limiting the commercial harvest of this additional species to selected areas, the BLM would have greater flexibility in the management of applicable forest/woodland communities.

Parameter – Post and Pole Harvesting

The forest/woodland products program for this parameter would be similar to current management except additional species (aspen, fir, spruce) would be made available for posts and poles on a case-by-case basis. Greater availability of species would provide increased choices and encourage additional public use of forest and woodland species and products. The availability of additional species for harvest would allow greater flexibility in the management of these forest/woodland communities to enhance understory regeneration.

Parameter – Seed Collection

Alternative B would permit flexibility in the use of mechanical methods for commercial seed harvesting, which would increase the availability of seed for collection over the current policy. Mechanical harvest of seed would be permitted for personal and commercial purposes where compatible with watershed and plant community objectives, potentially making seed resources widely available. This is unlikely to occur on a large-scale based on the existing levels of livestock grazing that occur throughout the planning area precluding seed production on herbaceous grasses and forbs in large areas. For herbaceous plants, there also is unlikely to be large-scale opportunity because of the small stands to harvest from in most areas. Where shrubs such as mountain mahogany are dense, commercial harvest opportunities could be substantial.

The restriction on seed collection in restoration areas would help ensure adequacy of seed supplies for regeneration of desirable species. Limiting seed collection to no more than fifty percent of the annual seed crop would ensure that an adequate quantity of seed remains for continued regeneration and recruitment of other plant species.

Parameter – Other Vegetation Products Collection

By allowing the harvest of other vegetation products (e.g., wildings and boughs) on a case-by-case basis with limited collection methods, the level of harvest would be controlled and undue damage to other resources in the harvest area would be prevented. Based on current and past use, availability of these products far exceeds demand.

Impacts from Other Programs. Impacts to forest/woodland and other plant products associated with vegetation, renewable energy, and fire management activities would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Lands and Realty. Impacts would be the same as the Proposed RMP except approximately 90,600 acres would be designated for possible disposal, but less than 20 percent of this total is occupied by woodlands. These areas would remain available for public uses unless and until a site-specific land transaction is approved.

Travel and Off-highway Vehicle Use. Cross-country off-highway vehicle use would not be allowed and 844,000 acres of the planning area would be designated as off-highway vehicle emphasis areas. The

combination of these classifications would reduce the availability of forest/woodland and other plant products.

Special Designations. There is no fuelwood potential within the three existing ACECs established in Lincoln County. The designation of 15 additional ACECs totaling approximately 134,350 acres would not affect the availability of forest/woodland and other plant products.

Conclusion. Alternative B would expand the number of species permitted for use as fuelwood, posts and poles, and Christmas trees, providing a wider opportunity for personal and commercial use. The increased availability is not likely to affect the overall resource supply for any of the species involved. Availability of forest/woodland products would exceed the expected demand. On a long-term basis, the production of forest/woodland products from restored and resilient communities is expected to exceed current levels. This alternative would achieve the program goal.

Alternative C

Impacts from Forest/Woodland and Other Plant Products Management Actions.

Parameter – General Forest/Woodland and Other Plant Product Management
Approximately 3.4 million acres would be available for woodland product use in the planning area, including approximately 3.0 million acres of pinyon-juniper woodland and approximately 1.2 million acres of pinyon-juniper vegetation that has invaded into low elevation sagebrush communities. In addition, approximately 2,800 acres of aspen and 11,200 acres of high elevation conifer communities (Forestland Ecological Site Description – 28BY063) would be available for fuelwood collection. Based on these estimates, the following forest/woodland products would be available within the planning area:

- 11 to 20 million cords of fuelwood (average production – 3 to 6 cords per acre);
- 15 million Christmas trees (average production – 15 singleleaf pinyon trees per acre; singleleaf pinyon occur within 30 percent of the pinyon-juniper woodlands);
- 51 to 102 million posts and poles (average production – 15 to 30 posts and poles per acre);
- 153 to 306 million pounds of pinyon nuts (average production during favorable years – 150 to 300 pounds per acre);
- 14,000 to 56,000 cords of aspen fuelwood (average production – 5 to 20 cords per acre); and
- 448,000 to 560,000 cords of white and limber pine fuelwood (average production – 40 to 50 cords per acre).

Management actions of Alternative B allow harvest of these products while protecting a variety of rare or unique species (e.g., bristlecone pine, limber pine, and swamp cedar). Harvest of desert vegetation

(e.g., cactus and yucca) would be allowed primarily on a salvage basis subject to state law and Section 7 consultation with the U.S. Fish and Wildlife Service where appropriate, thus, preventing over-harvest of such species.

Parameter – Fuelwood Collection

The forest/woodland products program for this parameter would be similar to current management except additional species (e.g., aspen, Gambel's oak, ponderosa pine, spruce, and white fir) would be made available as well as pinyon, juniper, and mountain mahogany throughout the planning area except in closed areas. Greater availability of species would provide increased choices and encourage additional public use of forest and woodland species and products. This management approach would encourage demand for a variety of species that are not currently harvested for fuelwood. The increased number of species available for harvest also would allow greater flexibility in using fuelwood harvest as a tool in the management of these additional forest/woodland communities.

This management approach would provide opportunities for personal and commercial use of the most woodland/forest resources. Over the past 7 years, the Ely Field Office has issued fuelwood permits for an average of 1,875 cords per year with a high of 2,390 cords in 1998 to a low of 1,515 cords in 2000. Fuelwood cutting is generally restricted to short distances from roads, and the greatest demand has been for pinyon pine and juniper. Based on the cords estimated in the planning area, the rate at which woodlands are reportedly increasing, and low public demand, this level of green tree fuelwood harvest appears to be more than sustainable, particularly for pinyon and juniper.

Parameter – Pinyon Pine Nut Harvesting

Level of production varies widely from year-to-year based on precipitation, fires, insects, and other factors. In high production years demand may not reach supply, while in low production years the available supply may not satisfy the demand. By allowing mechanical harvest, the Ely Field Office can enable greater use of the available resource in years of high productivity. By regulating the availability of commercial harvest contracts, the BLM can ensure that in favorable years an adequate seed supply remains following harvest to provide for wildlife and woodland regeneration.

Parameter – Christmas Tree Harvesting

The forest/woodland products program for this parameter would be similar to current management except two additional species (spruce and white fir) would be made available for Christmas trees and both personal and commercial harvest would be allowed throughout the planning area. Availability of these additional species would provide increased choices and encourage additional public use of forest and woodland species and products. The absence of designated commercial harvest locations, however, would reduce the management utility of such harvests in relation to desired vegetation treatments.

Parameter – Post and Pole Harvesting

The forest/woodland products program for this parameter would be similar to current management except additional species (aspen, fir, spruce) would be made available for personal and commercial harvest of posts and poles throughout the planning area with emphasis on areas identified for disposal. Greater availability of species would provide increased choices and encourage additional public use of forest and

woodland species and products. The availability of additional species for harvest would allow greater flexibility in the management of these forest/woodland communities to enhance understory regeneration.

Parameter – Seed Collection

Alternative C would permit flexibility in the use of mechanical methods for commercial seed harvesting, which would increase the opportunity for seed collection over the current policy. Mechanical harvest of seed would be permitted for personal and commercial purposes where compatible with watershed and plant community objectives, potentially making seed resources widely available. This is unlikely to occur on a large-scale based on the small stands and existing levels of livestock grazing that occur throughout the planning area precluding large quantities of seed production on herbaceous grasses and forbs in large areas. For herbaceous plants, there also is unlikely to be large-scale opportunity because of the small stands to harvest from in most areas. Where shrubs such as mountain mahogany are dense, commercial harvest opportunities could be substantial.

The restriction on seed collection in restoration areas would help ensure adequacy of seed supplies for regeneration of desirable species. Limiting seed collection to no more than fifty percent of the annual seed crop would ensure that an adequate quantity of seed remains for continued regeneration and recruitment of other plant species.

Parameter – Other Vegetation Products Collection

By allowing commercial harvest of other vegetation products (e.g., wildings and boughs) throughout the planning area with limited collection methods, it is expected that the level of harvest would increase, but undue damage to other resources in the harvest area would be prevented. Based on current and past use, availability of these products far exceeds demand.

Other Programs Impacts. Impacts to forest/woodland and other plant products associated with vegetation, renewable energy, and special designations management activities would be the same as or similar to those described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Lands and Realty. Impacts would be the same as the Proposed RMP, except that approximately 295,200 acres would be designated for possible disposal. Of these, less than 20 percent would be woodland.

Travel and Off-highway Vehicle Use. Impacts would be similar to those described for the Proposed RMP, except that approximately 1.1 million acres would be designated as off-highway vehicle emphasis areas. Implementation of Alternative C would greatly reduce the area open to off-road activities from the current management situation. This would not be consistent with allowing fuelwood to be collected throughout the decision area because only the fuelwood within extremely short distances of roads would be accessible.

Fire Management. The suppression of fire would increase the availability of pinyon-juniper woodland for woodland product harvesting in the short term and in the long term until these areas burn. However, the

long-term increase in natural fuels would increase the probability of widespread wildland fires within the planning area, which may ultimately reduce the availability of pinyon-juniper woodland for woodland product harvesting.

Conclusion. Alternative C would expand the number of species permitted for use as fuelwood, posts and poles, and Christmas trees and areas in which these products could be collected, thus, providing a greater opportunity for personal and commercial use. The increased availability is not likely to affect the overall resource supply for any of the species involved. Availability of forest/woodland products would exceed the expected demand until major fires eliminated large blocks of pinyon-juniper woodlands. This alternative would achieve the program goal in the short-term, but may fail to achieve sustainability over the long term.

Alternative D

Impacts from Forest/Woodland and Other Plant Products Management Actions.

Parameter – General Forest/Woodland and Other Plant Product Management
Program-specific management activities would not allow the consumptive harvest of woodland/forest and other plant products, except for pinyon nut harvesting for personal use (including American Indians) and hand collection of seeds for personal use. Thus, the supply of forest/woodland and other plant products would increase over the long term. However, the majority of these products would not be available for public use.

Parameter – Fuelwood Collection
No fuelwood harvest would be allowed; therefore, there would be no impacts from such collection.

Parameter – Pinyon Pine Nut Harvesting
Only hand collection of pinyon pine nuts for personal consumption would be allowed, thus, impacts would be inconsequential.

Parameter – Christmas Tree Harvesting
No Christmas tree harvest would be allowed; therefore, there would be no impacts from such activities.

Parameter – Post and Pole Harvesting
No post and pole harvest would be allowed; therefore, there would be no impacts from such activities.

Parameter – Seed Collection
Only hand collection of seed for personal use would be allowed, thus, impacts would be inconsequential.

Parameter – Other Vegetation Products Collection
No collection of other vegetation products would be allowed; therefore, there would be no impacts from such activities.

Impacts from Other Programs. Impacts to forest/woodland and other plant products associated with vegetation, lands and realty, renewable energy, and special designations management activities would be the same as or similar to those described for Alternative A.

Travel Management and Off-highway Vehicle Use. Under Alternative D, off-highway vehicle use would be restricted to maintained roads and trails. This would be a substantial reduction in area open to such use as compared to the other alternatives. This constraint would impose limitations on the areas accessible for woodland product harvest.

Fire Management. Fire management under Alternative D would involve minimal suppression activities. This, coupled with the likely increase in invasive species and current presence of overmature pinyon-juniper woodlands would result in a high risk of catastrophic fire events that would remove considerable acreages of woodlands and result in conversion of these areas to the herbaceous state. With the increase of annual grasses and weeds, fire occurrence would increase, and the reestablishment of forest/woodland and other plant species would be hindered.

Conclusion. It is highly probably that major fires at an early date under this alternative would substantially reduce the long-term supply of forest/woodland products. The harvest constraints under Alternative D would fail to provide the desired opportunities for traditional and non-traditional use of the resource outlined in the program goal.

4.18 Geology and Mineral Extraction

Geological resources are either managed under special designations for unique geological features (see Section 4.22, Special Designations) or under mineral development, as discussed in this section. Impacts to the minerals program are the result of management actions that limit the availability of lands for minerals development or involve restrictions on land use and activities. These impacts vary depending on the type of minerals that would be developed. For leasable minerals, lands may be closed to leasing as well as several categories of restrictions for lands open to leasing. For locatable and mineral materials, management actions by other resource programs would result in either lands being open or proposed for withdrawal from mineral development. Mineral materials (salable minerals) are discretionary and subject to denial of the action where there are unavoidable resource concerns. All mineral actions are subject to mitigation measures to prevent unnecessary and undue degradation of public lands.

Oil/Gas Drilling
Photo by Mark Barber

The reasonable foreseeable development scenarios for individual categories of minerals are summarized in **Table 4.18-1** with more detailed explanation in the following text sections.

Table 4.18-1
Summary of Anticipated Disturbance from Mineral Extraction

Type of Mineral Development	Approximate Disturbance Acreage	
	(Short-term)	(Long-term)
Fluid Leasable Minerals	8,400	1,400
Solid Leasable Minerals	0	0
Geothermal Development	200	100
Locatable Minerals	7,500	7,500
Mineral Materials	1,000	1,000
Totals Disturbance Acreage	**17,100**	**10,000**

Impact Issues

Fluid Leasable Minerals. The impact issues for fluid minerals result from the management actions for the protection of other resources. There are several categories of restrictions on fluid minerals that are a consequence of protecting those other resources. The categories include: 1) areas open to leasing, subject

to standard lease terms and conditions; 2) areas open to leasing, subject to moderate constraints; 3) areas open to leasing, subject to major constraints such as no surface occupancy; and 4) areas closed to leasing.

The levels of restrictions from "open subject to standard lease terms and conditions" to "closed" have varying levels of impacts on the exploration and development of fluid minerals. The standard lease terms and conditions are provided in Section 6 of BLM's fluid mineral lease form. Stipulations also are attached to the lease form for those areas that have restrictions. Detailed discussions regarding restrictions and closures proposed for each alternative are presented in Chapter 2.0. All fluid mineral developments would be governed by the best management practices contained in the Gold Book: Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development (U.S. Department of the Interior and the U.S. Department of Agriculture 2006). Prior best management practices specific to the Ely Field Office also would be retained and those are included in the Geology and Mineral Extraction section in Appendix F, Section 1. Geophysical exploration operations also would be conducted under the best management practices of the Gold Book and prior best management practices; however, such operations may have additional proposed requirements depending on the alternative as described in Sections 2.4.18, 2.5.18, 2.6.18, 2.7.18, and 2.8.18, Geology and Mineral Extraction.

The restrictions placed on fluid mineral development to protect other resources can affect the ability to develop the mineral resources. Lands open to leasing under standard terms and conditions would represent impacts of little consequence to fluid minerals. Closure of lands to leasing, no surface occupancy designations, and overlapping timing restrictions, however, could result in the loss of the fluid mineral resource, employment opportunities, revenue from production royalties, and taxes.

The lease stipulations have been developed to provide protection for a number of resources such as cultural resources, lands and realty, paleontological resources, recreation, special status species, visual resources, and wildlife resources. The requirements of the stipulations can include restrictions on seasonal access, designation of buffers around sensitive areas, or other mitigations that would be critical to protecting a particular resource.

The Ely Field Office has strived to use the least restrictive constraint to meet the resource protection objective. For example, areas containing resources that require protection from all surface disturbance have generally been designated as no surface occupancy rather than closed. Large ACECs that would need protection through closure also would have their outer half mile designated as a no surface occupancy. The no surface occupancy zone would allow some exploration and production from beneath the protected surfaces through directional and extended reach drilling.

Some areas may be closed to fluid mineral leasing because of statutory requirements. For example, designated wilderness and wilderness study areas are closed to mineral entry. If a wilderness study area is designated as wilderness, then it would continue to be closed to mineral development. If it is dropped from consideration, it could be open to leasing. Others areas can be closed to fluid minerals leasing because of special designations, recreation areas, lands withdrawals, cultural resources, or as part of an ACEC.

Solid Leasable Minerals. The solid leasable category includes minerals such as coal, oil shale, phosphorus, sodium, and locatable minerals on acquired lands. The decision area has few if any commercially extractable solid leasable mineral resources. However, planning must consider possible leasing for each of the alternatives. The impact issues for solid leasable minerals result from the management actions for the protection of other resources that could result in the closure of lands available for solid leasable mineral leasing.

Locatable Minerals. The impact issues for locatable minerals are associated with the management actions for the protection of other resources, which could result in the proposed withdrawal of lands available for locatable mineral exploration and development. Other issues include restrictions governing locatable mineral exploration and development.

Mineral Materials. The impact issues for mineral materials are associated with the management actions for the protection of other resources that could result in administrative and discretionary closure of lands available for mineral materials exploration and development. Other impacts may result from restrictions governing mineral material exploration and development.

Assumptions for Analysis

Impacts are analyzed in this section on the basis of reasonable foreseeable development scenarios for each category of minerals. These development scenarios are applied in total in the least constraining alternative and scaled downward in other alternatives as various constraints limit the area of lands available for development in a particular mineral category.

Fluid Leasable Minerals. Fluid mineral development potential in the decision area is based on reasonable foreseeable development scenarios for oil and gas and geothermal energy and was developed in conformance with BLM Instruction Memorandum No. 2004-089 (BLM 2004b). This analysis is based largely on the reasonably foreseeable development scenarios presented in detail in the mineral report prepared for the RMP/EIS (ENSR 2004a). Various additional assumptions have been incorporated based on changes in the mineral markets in the recent past. The minerals report is available at the Ely Field Office. It is impossible to predict with certainty how resource development would occur in the future. The interaction of prices, markets, technology, and environmental concerns all play a role. The reasonable foreseeable development scenarios were developed based on past exploration activities and estimates of future exploration and development activity given the potential occurrence of the resources.

Reasonable Foreseeable Development Scenario – Oil and Gas. The following is a list of major assumptions upon which the reasonable foreseeable development scenario is based:

- There would be no major regulatory changes in federal or state statutes, regulations, policy, and guidance that govern the exploration and development of fluid minerals, including lease royalty provisions and lease rental fees.

- Oil prices would remain sufficiently high to stimulate continued exploration and drilling. Recent historic highs in the price of oil may stimulate exploration activity above levels of the recent past. It is possible that higher prices may persist for the next few years. The reasonable foreseeable development scenario (ENSR 2004a) is a planning tool that was developed to accommodate the maximum development that could reasonably be expected to occur. However, actual activity levels, as with prices, cannot be predicted with certainty.

- The amount of federal oil and gas acreage under lease in the decision area would range between 1.0 and 1.5 million acres. Increases in the lease inventory above 1.5 million acres would be driven by commodity prices and availability of land for leasing. As of January 2005, there were 459 federal oil and gas leases covering approximately 1.0 million acres in the decision area. In the next year or two, leases may increase to as much as 3 million acres. This would be due to the unprecedented spike in the price of oil, recent discoveries in similar geologic plays in other parts of the Great Basin, and the availability of additional lands for leasing that have not been available for several years due to the lack of appropriate NEPA analysis.

- Based on 2000 to 2004 numbers, additional federal lease sales are projected to average approximately 220,000 acres per year for the next several years. Due to the factors outlined above, lease sales could average as much as 400,000 acres per year within the next 1 to 2 years.

- It cannot be predicted at this time how much acreage eventually would be held by production, which is entirely dependent on the discovery of commercial oil and gas fields.

- Past oil and gas exploration has concentrated on oil plays within valley floors. New regional discoveries and a recent oil and gas resource assessment, however, indicate that a large amount of exploration could take place in the mountains (see **Map 4.18-1**) (U.S. Geological Survey 2005).

- Seismic surveys are a critical part of oil and gas exploration. If new discoveries are made or new plays are developed, seismic activity would increase. It is assumed that approximately 30 miles of seismic survey would be conducted per year, based on recent experience.

- New field discoveries would be similar in size and surface disturbance to the Trap Springs and Kate Springs oil fields within Railroad Valley.

- The reasonably foreseeable development scenario is made without respect to any existing or proposed leasing stipulations and conditions of approval in accordance with BLM guidance.

- Actual locations of potential exploration wells and field development are unknown. The impacts associated with these activities are likely to occur anywhere within the planning area that is of high or moderate, or even low, potential for oil and gas resources.

As shown on **Table 4.18-2**, a total of 448 wells would be drilled resulting in total short-term (5 to 10 years) disturbance of approximately 8,400 acres and a long-term (about 20 years for producing wells) disturbance

of approximately 1,400 acres. Short-term disturbance as defined for the reasonably foreseeable development scenario includes locations for wells in the plugged and abandoned category that would be reclaimed immediately after drilling or construction.

Table 4.18-2
Summary of Surface Disturbance Resulting from Anticipated Oil and Gas Well Drilling Activity

Facility Type	Number or Facilities	Short-term Disturbance Factor[1]	Long-term Disturbance Factor[1]	Short-term[2] Disturbance (acres)	Long-term Disturbance (acres)
Seismic Survey	30 miles/yr	<2 acres/mile	0	<1,000	0
Exploratory Well Disturbance					
Exploratory well pads	200 wells	3.7 acres/well	1.5 acres/well	740	300
Exploratory well access roads	1,000 miles	4.8 acres/mile	2.9 acres/mile	4,800	290
Total Disturbance for Exploration Drilling				**5,600**	590
Small Field Development					
Active well pads[3]	40 wells	3.7 acres/well	1.5 acres/well	148	60
Abandoned well pads	48 wells	3.7 acres/well	0	178	0
Central processing facilities	4 facilities	5 acres/facility	5 acres/facility	20	20
Access roads	24 miles	6.3 acres/mile	4.4 acres/mile	151	106
Service roads	32 miles	4.8 acres/mile	2.9 acres/mile	154	93
Pipelines	8 miles	1.8	0	14	0
Gravel pits	4 pits	20 acres/pit	20 acres/pit	80	80
Total Disturbance, Development of Four Small Fields				745	359
Large Field Development					
Active well pads	100	3.7 acres/well	1.5 acres/well	370	150
Abandoned well pads	60	3.7 acres/well	0	222	0
Central processing facilities	4 facilities	5 acres/facility	5 acres/facility	20	20
Access roads	12 miles	6.3 acres/mile	4.4 acres/mile	76	53
Service roads	43 miles	4.8 acres/mile	2.9 acres/mile	206	125
Pipelines	10 miles	1.8 acres/mile	0 acre/mile	18	0
Gravel pits	2 pits	42 acres/pit	42 acres/pit	84	84
Total Disturbance, Development of Two Large Fields				996	432
Associated Facilities					
Refinery	1 Facility	20 acres/site	20 acres/site	20	20
Refinery pipeline	25 miles	1.8 acres/mile	0	45	0
Total Disturbance for Associated Facilities				65	20
Total Disturbance				8,406	1,401

[1] BLM 1992b and 1999b.
[2] Short-term applies to effects occurring in the immediate future and persisting for approximately 5 to 10 years or less; long-term applies to effects lasting or occurring beyond 10 years.
[3] Active wells include producers, injectors, and disposal wells.

Reasonable Foreseeable Development Scenario – Geothermal. The following is a list of major assumptions upon which the reasonable foreseeable development scenario for geothermal resources is based:

- There would be no major regulatory changes in federal or state statutes, regulations, policy, and guidance that govern the exploration and development of fluid minerals, including lease royalty provisions and lease rental fees.

- Geothermal development potential is moderate in the valley areas and low in the mountain areas (**Map 4.18-2**). The moderate potential areas cover about 49 percent of the decision area. **Table 4.18-3** summarizes the disturbances resulting from geothermal development.

Table 4.18-3
Summary of Surface Disturbance from Anticipated Geothermal Project Development

Types of Facilities	Number of Facilities	Short-term Disturbance Factor	Long-term Disturbance Factor	Short-term Disturbance[1] (acres)	Long-term Disturbance[1] (acres)
Geothermal gradient well pads	30 wells	0.07 acre/well	N/A	2	0
Gradient well access roads	5 miles	4.8 acres/mile	N/A	24	0
Exploratory well	1 well	3.7 acres/well	1.5	4	1
Exploratory well roads	5 miles	4.8 acres/mile	2.9 acres/mile	24	14
Development well pads	2 wells	3.7 acres/well	1.5 acres/well	7	3
Development well roads	6 miles	6.3 acres/mile	4.4 acres/mile	38	26
Power plant	1 plant plus ancillary facilities	40 acres/plant and facilities	40 acres/plant and facilities	40	40
Pipelines	8 miles	1.8 acres/miles	0	15	0
Electrical transmission lines	50 miles	1.0 acre/mile	1.0 acre/mile	50	50
Total				**204**	**134**

N/A – Not applicable.

[1] Short-term applies to effects occurring in the immediate future and persisting for approximately 5 to 10 years or less; long-term applies to effects lasting or occurring beyond 10 years.

- As of March 2004, the geothermal leasehold in the decision area is approximately 1,000 acres in a single lease. Geothermal leasing in the future is not expected to greatly increase in the short term, but potential exists for a variety of low-temperature geothermal uses.

- Very limited geothermal exploration and development are expected in the short term.

- If high-temperature geothermal resources are discovered, the reasonably foreseeable development scenario assumes the maximum development would consist of a power plant within a 10- to 15-megawatt generating capacity and associated greenhouse or dehydration facilities.

- Geothermal exploration could take 5 years, development could take 2 to 10 years, and production could last for 30 years.

Solid Leasable Minerals.

Reasonable Foreseeable Development Scenario. There would be no major regulatory changes in federal or state statutes, regulations, policy, and guidance that govern the exploration and development of solid leasable minerals. Although there is a small probability that such minerals are present in commercially exploitable deposits, the Ely Field Office would provide a program for the development of such commodities if solid leasable minerals are found to be commercially developable.

Locatable Minerals.

The following summarizes the locatable mineral development potential in the decision area based on reasonable foreseeable development scenarios for locatable minerals and were developed in conformance with applicable BLM policies. This analysis is presented in detail in the mineral potential report prepared for the RMP/EIS (ENSR 2004b). This document is available at the Ely Field Office. It is difficult to predict with certainty how resource development would occur in the future. The interaction of prices, markets, technology, and environmental concerns all play a role. The reasonable foreseeable development scenarios were developed based on past exploration activities and estimates of future exploration and development activity given the potential occurrence of the resources.

Reasonable Foreseeable Development Scenario. The following is a list of major assumptions from the reasonable foreseeable development scenario (ENSR 2004b) for locatable minerals resources:

- There would be no major regulatory changes in federal or state statutes, regulations, policy, or guidance that govern the exploration and development of locatable minerals.

- Recent historic highs in the price of metallic minerals may stimulate exploration activity above levels of the recent past. It is possible that higher prices may persist for the next few years. The reasonable foreseeable development scenario (ENSR 2004b) is a planning tool that was developed to accommodate the maximum development that could reasonably be expected to occur. However, actual activity levels, as with prices, cannot be predicted with certainty.

- Commodity prices in the future would provide sufficient economic incentive to support the production of locatable mineral commodities.

- Surface mining is expected to remain the primary method of locatable mineral resource extraction in the decision area. Underground methods would be used to mine deeper deposits.

- New ore bodies will continue to be developed to replace reserves as they are mined out. This would be accomplished through both the discovery and development of new mines and expansions of existing mines.

- It is anticipated that one large open-pit mine would be developed or undergo a major expansion during the next 20 years. A large open-pit mine often consists of either one large pit or a number of smaller pits in close proximity to one another. It is assumed that the mine would encompass about 3,000 acres including pits, waste rock piles, processing facilities, roads, exploration drill pads, and operations facilities. These disturbance areas are expected to be long-term effects.

- It is anticipated that three medium sized open-pit mines would be developed or undergo moderate expansion during the next 20 years. The mines would consist of pits, waste rock piles, processing facilities, roads, exploration drill pads, and operations facilities. Each medium open-pit mine would

disturb about 700 acres resulting in a total disturbance of 2,100 acres that would be of long-term duration.

- It is expected that as many as six small mines would be developed or undergo moderate expansion during the next 20 years. The mines each would consist of small pits, waste rock piles, processing facilities, roads, exploration drill pads, and operations facilities. Each small mine would cover an area of as much as 400 acres resulting in a total disturbance of as much as 2,400 acres. These disturbances could be either short- or long-term in their duration, depending on the specific operation. In this analysis, they are assumed to be long-term in nature.

- Total disturbance during the next 20 years from locatable mining development associated with the above operations would be approximately 7,500 acres, or 0.07 percent of the decision area.

- Reclamation of post-mining disturbance areas would be required by both federal and state regulations.

Mineral Materials. Mineral materials development potential in the decision area is based on reasonable foreseeable development scenarios developed in conformance with applicable BLM policies. This analysis is presented in detail in the mineral potential report prepared for the RMP/EIS (ENSR 2004b). This document is available at the Ely Field Office. It is impossible to predict with certainty how resource development would occur in the future. The interaction of prices, markets, technology, and environmental concerns all play a role. The reasonable foreseeable development scenarios were developed based on known occurrences of mineral materials and estimates of future demand and development.

Reasonable Foreseeable Development Scenario. The following is a list of major assumptions upon which the reasonable foreseeable development scenario for mineral materials is based:

- There would be no major regulatory changes in federal or state statutes, regulations, policy, or guidance that govern the exploration and development of mineral materials.

- The disposal of mineral materials, such as sand, gravel, and decorative rock, which depend on market conditions and demand, would increase because of growth in the decision area and Clark County. In spite of the long haulage distances, mineral materials from the decision area would be competitive with sources closer to Las Vegas. In the near term, the most likely areas to have development of mineral material deposits would be in southern Lincoln County and the larger rural communities.

- The Nevada Department of Transportation would continue to mine gravel resources for road maintenance and construction. The exact location of the pits used by the Nevada Department of Transportation would be dictated by specific construction and maintenance needs.

- Additional Community Pits would be developed for the needs of expanding local communities.

- Current development of mineral materials is estimated at approximately 2,200 acres in approximately 400 existing pits. Projected additional development during the next 20 years is estimated at 1,000 acres.

Interactions with Other Programs

The minerals management program of the Ely Field Office is affected primarily by closures, restrictions, and mitigations as a result of other resource programs.

Goal

Allow for meeting the Nation's energy needs while providing environmentally responsible production of fluid leasable minerals and geophysical exploration for energy resources on public lands. Allow development of solid leasable and locatable minerals in a manner to prevent unnecessary or undue degradation. Allow development of mineral materials in a manner that would prevent unnecessary or undue degradation, meet public demand, and minimize adverse impacts to other resource values.

Objective

To provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to geology and mineral extraction also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Geology and Mineral Extraction Management Actions.

Parameter – Fluid Leasable Minerals

The Proposed RMP would use traditional surface use and timing restrictions to estimate the location and acres of the stipulations. As much as possible, sensitive resource areas were designated as "no surface occupancy" as opposed to "closed." For very large areas of sensitive resources, the outer 0.5 mile would be designated as "no surface occupancy" while the core area would be designated as "closed" since this would be essentially unavailable for operations. Exceptions to many of the no surface occupancy designations in

the Proposed RMP were written into the individual site specific stipulations (see Appendix F, Section 2). The Proposed RMP would give the best balance between protecting the resource and allowing maximum flexibility and availability to the operator.

Under the Proposed RMP, approximately 1.5 million acres (13 percent of the decision area) would be closed to leasing and about 10.0 million acres (about 87 percent) would be open for leasing (see **Table 2.4-18**). Designated wilderness and wilderness study areas, totaling 1.1 million acres, are closed to all mineral entry and are considered non-discretionary closures. The Proposed RMP has discretionary closures totaling about 311,300 acres (2.7 percent of the decision area) outside of designated wilderness and wilderness study areas. Approximately 6.1 million acres (53 percent of the decision area) would be available for leasing under standard lease terms and conditions, 3.7 million acres (32 percent of the decision area) would be available to leasing subject to moderate constraints or surface use and timing stipulations (see **Table 2.4-19**), and approximately 233,600 acres (2.1 percent of the decision area) would be available to leasing subject to major constraints or no surface occupancy (see **Table 2.4-20** and **Map 2.4.18-1**).

About 9.3 million acres (80 percent) of the Ely decision area are considered high to medium potential for oil and gas. For the Proposed RMP, approximately 71 percent of the areas closed or with no surface occupancy restrictions would occur in areas that have a high to moderate potential for the occurrence of fluid minerals. About half of these acres occur in designated wilderness and wilderness study areas. Discretionary closures and no surface occupancy areas make up about 5 percent of the decision area.

Some of the no surface occupancy restrictions in current management were not carried forward to the proposed RMP. A list of these sites is shown in **Table 4.18-4**. These sites did not meet special management criteria and would be adequately protected under the standard lease terms and conditions as well as best management practices, conditions of approval, and site specific mitigations.

Lease notices related to the Pony Express Trail, the Sunshine Locality National Register District and desert tortoise habitat are carried forward to the Proposed RMP from current management. Additional cultural lease notices were identified for the Proposed RMP.

Additional areas of no surface occupancy that met the criteria for an ACEC have been proposed that were not included in Alternative A. **Table 4.18-5** lists all of the ACECs proposed for no surface occupancy.

Other areas proposed for No Surface Occupancy in the Proposed RMP did not meet ACEC criteria, but were selected for no surface occupancy restriction because they may not be adequately protected under standard lease terms and conditions. **Table 4.18-6** lists these areas with the rationale.

Table 4.18-4
No Surface Occupancy Areas not Carried Forward from Current Management

Area	Acres
Antelope Summit Recreation Sites	80
Bald Eagle Habitat	45
Bassett Lake Recreation Site	214
Black Point Recreation Site	1,204
Bonneville Cutthroat Trout Threatened and Endangered	460
Comins Lake Recreation Site	120
Ferruginous Hawk Nest Sites (40 acres each)	9,058
Highway 6 Threatened and Endangered Species Habitat	247
Huntington Valley Archeology Site	623
Little Smokey Valley Antelope Wall	345
Little Smokey Valley Paleo Indian Quarry	3,100
Monte Neva Paintbrush Threatened and Endangered	154
Newark Cave	120
Newark Valley Tui Chub Threatened and Endangered	40
Orchard Canyon Riparian Area	360
Ragged Ridge Scenic Area	2,200
Railroad Valley Springfish Threatened and Endangered	2
Sunnyside Green Gentian Threatened and Endangered[1]	640
Welshes Cateye Threatened and Endangered	650
White River Spinedace Threatened and Endangered	360
Total	**20,022**

[1] Incorporated into new White River Valley ACEC.

Table 4.18-5
ACECs proposed for No Surface Occupancy in the Proposed RMP

Name (ACEC)	Acres
Baker Archeology Site Proposed ACEC	80
Baking Powder Flat Proposed ACEC	6,620
Beaver Dam Slope ACEC[1]	36,800
Blue Mass Scenic Area Proposed ACEC	950
Condor Canyon Proposed ACEC	2,880
Hendry's Creek/Rock Animal Corral Proposed ACEC	3,625
Highland Range Proposed ACEC	3,700
Honeymoon Hill/City of Rocks Proposed ACEC	3,900
Lower Meadow Valley Wash Proposed ACEC	25,000
Mormon Mesa ACEC[1]	66,400
Mount Irish Proposed ACEC	8,000
Pahroc Rock Art Proposed ACEC	2,400
Rose Guano Bat Cave Proposed ACEC	40
Schlesser Pincushion Proposed ACEC	4,930
Shooting Gallery Proposed ACEC	5,800
Shoshone Ponds Proposed ACEC	1,240
Snake Creek Indian Burial Cave Proposed ACEC	40
Swamp Cedar Proposed ACEC	3,200
White River Valley Proposed ACEC	13,100
Total	**188,705**

[1] Subject to exception. See Appendix F, Section 2.

Table 4.18-6
Additional No Surface Occupancy for Fluid Mineral Leasing

Name	Acres	Rationale
Andies Mine Trilobite Site	180	Important fossil resource
Ash Springs Proposed Withdrawal	80	Previously applied for withdrawal to protect site
Caliente Field Station	2	Protect administration site
Cleve Creek Recreation Area	90	Important recreation site
Egan Crest Trailhead	250	New recreation site
Garnet Hill Recreation Area	160	Protect recreation site
Illipah Reservoir	290	Previously closed to leasing in Alternative A
Kirch Wildlife Management Area	5,000	New Recreation Development Act
Pony Springs Fire Station	10	New lands decision
Sacramento Pass Recreation Area	440	New recreation site
Sunshine Locality National Register District	6,460	High density of sensitive artifacts
Greater Sage-Grouse Leks	31,520	Provide protection to greater sage-grouse and consistency with national policy
Ward Mountain Recreation Site	240	Smaller area than Alternative A
White Pine County Shooting Range	255	Previously closed in Alternative A
White River Archaeological District	230	Protect new development areas
Total	**45,207**	

Some areas closed to leasing in current management were not brought forward as recommendations for closure in the Proposed RMP. These sites did not meet special management criteria and would be adequately protected under the standard lease terms and conditions as well as best management practices, conditions of approval, and site specific mitigations. These areas are shown in **Table 4.18-7**.

Table 4.18-7
Areas Currently Closed to Leasing That Are Not Closed in the Proposed RMP

Area	Acres
Cave Valley Cave	40
Cold Creek Reservoir Recreation Area	220
Nevada Division of Forestry Honor Camp	180
Total	**440**

Additional areas would be closed in the proposed RMP that are not listed under current management. These areas include core areas of large ACECs that could not be accessed if the entire area were to be designated as no surface occupancy. Other areas are protective withdrawals around communities. These areas are summarized in **Table 4.18-8**.

Geophysical exploration would be conducted under the best management practices described in Appendix F, Section 1. Notices of Intent submitted for the conduct of geophysical surveys would be evaluated on case-by-case basis.

Table 4.18-8
Other Areas Closed to Fluid Mineral Leasing in the Proposed RMP

Name	Acres
Baker Proposed Withdrawal	6,720
Baking Powder Flat Proposed ACEC	7,020
Condor Canyon Proposed ACEC	1,625
Highland Range Proposed ACEC	3,200
Kane Spring ACEC	57,190
Coyote Springs leased public lands (Congressional)	6,200
Lincoln County Conservation, Recreation, and Development Act State Park	4,775
Lincoln County Conservation, Recreation, and Development Act Utility Corridors	113,425
Lincoln County Proposed Disposals	57,000
Mount Irish Proposed ACEC	7,100
Murry Spring Watershed	1,260
Shooting Gallery Proposed ACEC	9,800
Steptoe Valley Wildlife Management Area Expansion	6,265
Sunshine Locality National Register District	12,640
White Pine County Conservation, Recreation, and Development Act Airport Expansion	1,260
White Pine County Conservation, Recreation, and Development Act Industrial Park Expansion	200
White Pine County Conservation, Recreation, and Development Act Additional Withdrawals	98,125
White Pine County Conservation, Recreation, and Development Act Disposals	18,600
Total*	**412,405**

* Total acres differ from summary table due to overlap among individual areas and categories.

Parameter – Solid Leasable Minerals

Under the Proposed RMP, approximately 9.9 million acres (86 percent of the decision area) would be available to solid leasable minerals and 1.6 million acres (14.3 percent of the decision area) would be closed. Of the closed acreage, 1.1 million acres would be in designated wilderness and wilderness study areas and approximately 494,500 acres (4.3 percent of the decision area) would be discretionary closures (see **Map 2.4.18-2**).

The analysis of closed acres as compared to the proposed action is the same as for locatable minerals. The impact of those closed acres on the solid leasable program is almost inconsequential because the current and future potential for these minerals is extremely low. Currently, there is no solid leasable activity on the decision area and potential is very low.

Parameter – Locatable Minerals

Impacts from Geology and Mineral Extraction Management Actions. Under the Proposed RMP, approximately 9.9 million acres (86 percent of the decision area) would be open to locatable mineral development and 1.6 million acres (14.3 percent of the decision area) would be proposed for closure (**Table 2.4-23**). The proposed closures would include approximately 494,500 acres (4.3 percent of the decision area) outside of designated wilderness and wilderness study areas (see **Map 2.4.18-2**).

About 3.5 million acres (31 percent) in the decision area are considered to be high to medium potential for some type of locatable mineral. Within this, about 14 percent of the area closed to locatable minerals would be in areas with high to medium potential. Over half these acreages are within designated wilderness.

All areas withdrawn from mineral entry in the current management will be brought forward in the RMP.

Additional areas are proposed for withdrawal in the Proposed RMP that are not listed under Alternative A. **Table 4.18-9** lists these areas and their rationale for closure.

Table 4.18-9
Areas Not Closed in Current Management (Alternative A), but Proposed for Withdrawal for Locatable Mineral and Mineral Material Disposal under the Proposed RMP

Name	Acres	Rationale
Andies Mine Trilobite Site	180	High density of sensitive artifacts
Baker Archaeological Site Proposed ACEC	80	High density of sensitive artifacts
Baker Proposed Withdrawal	6,720	Community withdrawal
Baking Powder Flat Proposed ACEC	13,640	Proposed for ACEC
Beaver Dam Slope ACEC	36,800	Closed for consistency with other ACECs and to provide better protection to the desert tortoise
Condor Canyon Proposed ACEC	4,500	Proposed for ACEC
Coyote Springs Leased Public Lands	6,200	Congressional decision
Egan Crest Trailhead	250	Important recreation site
Garnet Hill	160	Important recreation site
Hendry's Creek Rock Animal Corral Proposed ACEC	3,625	Proposed for ACEC
Highland Range Proposed ACEC	6,900	Proposed for ACEC
Honeymoon Hill / City of Rocks Proposed ACEC	3,900	Proposed for ACEC
Kirch Wildlife Management Area	5,000	Important priority habitat
Lincoln County Disposals (difference)	53,400	Proposed for disposal/withdrawal
Lower Meadow Valley Wash Proposed ACEC	25,000	Proposed for ACEC
Mormon Mesa ACEC	66,430	Proposed for ACEC
Mount Irish Proposed ACEC	15,100	Proposed for ACEC
Pahroc Rock Art Proposed ACEC	2,400	Proposed for ACEC
Schlesser Pincushion Proposed ACEC	4,930	Proposed for ACEC
Shooting Gallery Proposed ACEC	15,600	Proposed for ACEC
Steptoe Valley WMA Expansion	6,265	Carried forward for withdrawal
Swamp Cedar Proposed ACEC	3,200	Proposed for ACEC
Ward Mountain Recreation Site	240	Important recreation site
White Pine County Proposed Disposals	18,600	Community withdrawals
White Pine County Shooting Range	255	Important recreation site
White River Archaeological District	230	High density of sensitive artifacts
White River Valley Proposed ACEC	13,100	Proposed for ACEC
Total	**312,705**	

Parameter – Mineral Materials

Under the Proposed RMP, about 9.9 million acres (86 percent of the decision area) would be open to possible disposal for mineral materials development, but subject to discretionary closures and best management practices. Approximately 1.6 million acres (14 percent of the decision area) would be closed to mineral materials development, including 488,800 acres (4.2 percent of the decision area) outside of

designated wilderness and wilderness study areas (see **Map 2.4.18-2**). The list of additional closures in the Proposed RMP as compared to Alternative A is shown in **Table 4.18-9**.

Additional site-specific and discretionary closures may be developed with implementation plans that could close some areas to mineral material disposal. Where closures are due to land disposals, there could be an increased demand for mineral materials in the surrounding areas.

Impacts from Other Programs

The management actions in the Proposed RMP contain provisions to protect other resources through stipulations, best management practices, or closures that have varying degrees of impact on the recovery of mineral resources. However, since the majority of the decision area would remain open to leasing, mineral entry, or disposal of mineral materials, the minerals program would not be unduly limited by the proposed management direction.

Fish and Wildlife. Protection measures associated with priority habitats for wildlife would impose constraints on the geology and mineral extraction program. Key examples include the timing stipulations on fluid leasable mineral development activities within the various priority wildlife habitats (e.g., big game crucial winter range, big game calving/fawning/kidding/lambing areas, desert bighorn sheep habitat) (see **Table 2.4-19**). Additionally, operators would be required to improve or replace 2 acres of comparable quality habitat for each acre of priority habitat disturbed.

Special Status Species. Protection measures for several special status species would impose constraints on the geology and mineral extraction program. Key examples include the timing stipulations on fluid leasable mineral development activities within the various habitats managed for the benefit and protection of special status species (e.g., greater sage-grouse nesting habitat, greater sage-grouse winter habitat, raptor nest sites, and desert tortoise habitat) (see **Table 2.4-19**). Disturbances within desert tortoise habitat would require compensation through remuneration fees established under the desert tortoise Biological Opinion.

Cultural Resources and Paleontological Resources. Protection measures associated with cultural and paleontological resource sites outside of ACECs and other special designations (e.g., White River Archaeological District and Andies Mine Trilobite Site) would impose constraints on the geology and mineral extraction program through no surface occupancy stipulations for fluid mineral development and closure to other types of mineral development (see **Tables 2.4-20** and **2.4-23**).

Recreation. Various recreation sites will be removed from potential mineral development through no surface occupancy stipulations on fluid mineral development and closure to other types of minerals (see **Tables 2.4-20** and **2.4-23**). These removals would have minimal effect on mineral development.

Special Designations. Designated wilderness, wilderness study areas, ACECs, the White River Archaeological District, and the Garnet Hill Rock Hounding Area impose closures or various types of constraints on mineral development (see **Tables 2.4-20**, **2.4-21**, and **2.4-23**).

Conclusions. The majority of the decision area would be open to fluid mineral exploration and development. The areas proposed for closure to leasing or those with no surface occupancy restrictions that are outside of wilderness, yet within high to moderate potential is less than 5 percent of the decision area. Therefore, the proposed management would allow for the exploration and development of oil and gas while protecting important resource values.

The decision area has a low potential for the occurrence of solid leasable mineral resources, so the closure of the lands described would likely have little impact on the exploration and development of solid leasable minerals.

Less than 5 percent of the decision area would involve discretionary closures to locatable minerals within high to medium potential. This small percentage of withdrawn areas is not expected to have a major impact on the recovery of locatable minerals. Therefore, the Proposed RMP would allow for the exploration and development of locatable minerals while protecting important resource values.

Because mineral material occurrences are so common and widespread, there should be little impact to the availability of these deposits despite the proposed closures and areas where discretionary closures are likely. It is expected that there would be sufficient resources available to meet local, regional, and national needs, while providing for the protection of other resources and uses.

Alternative A

Impacts from Geology and Mineral Extraction Management Actions.

Parameter – Fluid Leasable Minerals

Under Alternative A, only the areas covered by the Egan Oil and Gas Leasing Amendment and the Desert Tortoise Amendment would be available for leasing. This involves only about 40 percent of the decision area. Approximately 6.9 million acres would be unavailable to fluid minerals leasing because the impacts of leasing have not been analyzed in this area. Within the areas that are available for leasing, there would be about 2.7 million acres (60 percent of the current leasing area or 24 percent of the decision area) under standard terms and conditions.

Lease Notices. Alternative A has cultural notices for the Pony Express Trail and for the Sunshine Locality National Register District. The Pony Express Trail lease notice lets the operator know that there could be special visual mitigations required within the view shed of the Pony Express Trail. The Sunshine Locality Lease Notice surrounds the core area of the Sunshine Locality National Register District, which has a no surface occupancy designation. The lease notice lets the operator know that there could still be a high density of potentially significant cultural artifacts around that core area that may require consultation, mitigation, or treatment plans.

In desert tortoise habitat a lease notice is in effect which informs the lessee that Section 7 consultation will be completed prior to any surface disturbance. **Table 2.5-12** shows the areas that are listed as lease notices in Alternative A.

Moderate Restrictions – Traditional Surface Use/Timing. There would be approximately 1.2 million acres (26 percent of the leasing area or 10 percent of the decision area) open for leasing with surface use and/or timing restrictions. Surface use and/or seasonal timing restrictions would be in place for the protection of greater sage-grouse leks and greater sage-grouse winter habitat, ferruginous hawk nesting territories, and desert tortoise habitat as shown in **Table 2.5-13** and **Map 2.5.18-1**. Timing restrictions for the protection for other raptors, big game, and desert bighorn sheep habitat would be applied as best management practices during ground disturbing activities.

Major Restrictions – No Surface Occupancy. Major restrictions under this alternative consist of 46,000 acres (1 percent of the leasing area or 0.4 percent of the decision area) of no surface occupancy for the resources shown in **Table 2.5-14** and **Map 2.5.18-1**.

Closed to Leasing. There would be approximately 591,700 acres (13.0 percent of the leasing area or 4.5 percent of the decision area) closed to leasing within the limited leasing area. The areas closed to leasing include approximately 471,900 acres within designated wilderness and wilderness study areas, and 119,800 acres (2.6 percent of the leasing area) of additional closures outside of the designated wilderness/wilderness study areas as shown in **Table 2.5-15** and **Map 2.5.18-1**.

In Alternative A there is high to medium oil and gas potential within about 92 percent of the entire area considered for leasing. The areas designated as "closed" and "no surface occupancy" occupy about 13 percent of this high and medium potential with about 80 percent of those acres in designated wilderness.

Parameter – Solid Leasable Minerals

Under Alternative A, about 10.1 million acres (88 percent of the decision area) would be open to solid leasable mineral leasing and 1.4 million acres (12 percent of the decision area) would be closed. Most of the closed acreage would involve designated wilderness and wilderness study areas (about 1.1 million acres), while approximately 212,400 acres would be closed in areas outside of the designated wilderness and wilderness study areas (see **Map 2.5.18-2**). The analysis of closed acres as compared to the proposed action is the same as for locatable minerals. The impact of those closed acres on the solid leasable program is almost inconsequential because the current and future potential for these minerals is extremely low. Currently there is no solid leasable activity on the decision area and potential is very low. Locatable minerals on acquired lands would be managed as solid leasable minerals. However, this would not be any different than in the locatable mineral program because the same areas would be withdrawn in both programs.

Parameter – Locatable Minerals

Under Alternative A, about 10.1 million acres (88 percent of the decision area) would be open to locatable mineral development and 1.4 million acres (12 percent of the decision area) would be proposed for withdrawal including approximately 212,400 acres (1.8 percent of the decision area) outside of wilderness study areas (see **Map 2.5.18-2**).

The majority (88 percent) of the decision area is open to locatable minerals and solid leasable minerals. High to medium mineral potential of all types of locatable minerals and solid leasables encompass about 31 percent of the decision area. Within this high to medium potential area there are about 13 percent of the area that would be withdrawn or proposed for withdrawal. About 92 percent of the withdrawn areas in high to medium potential are in designated wilderness. The relative small percentage of acreage proposed for withdrawal outside of designated wilderness would not have a major impact on locatable mineral development in general.

Parameter – Mineral Materials

In Alternative A, approximately 10.0 million acres (87 percent of the decision area) would be open to possible disposal for mineral material development. Another 1.5 million acres (13 percent of the decision area) would be closed to mineral material development, including 391,300 acres outside of designated wilderness and wilderness study areas (see **Map 2.5.18-3**).

Impacts from Other Programs. The fluid minerals program is affected by provisions to protect other resources through stipulations, standard operating procedures, and Standard Terms and Conditions for Mineral Development within the Ely District, Appendix J and Appendix M, respectively, of the Draft Ely RMP/EIS (July 2005) that have varying degrees of impact on the recovery of fluid minerals. Therefore, the fluid minerals program would not be adversely affected by additional management direction unique to other resource programs within this alternative.

As for the program involving leasable solid minerals, locatable minerals, and mineral materials, protection of other resources has been incorporated into the management direction for the minerals program through closures, standard operating procedures, and Standard Terms and Conditions for Mineral Development within the Ely District, Appendix J and Appendix M, respectively, of the Draft Ely RMP/EIS (July 2005), and mitigations that may occur during site-specific NEPA analysis. Thus, the minerals program would not be adversely affected by additional management direction unique to other resource programs within this alternative. Because mineral material actions are discretionary, additional management directions in other resource programs could be developed to further mitigate or relocate mineral material disposals within this alternative.

Special Status Species. Protection measures for several special status species would impose constraints on the geology and mineral extraction program. Key examples include the timing and surface use stipulations on fluid leasable mineral development activities within the various habitats managed for the benefit and protection of special status species (e.g., greater sage-grouse nesting habitat, greater sage-grouse winter habitat, ferruginous hawk nest sites, Bonneville cutthroat trout habitat, Railroad Valley springfish habitat, and desert tortoise habitat) (see **Tables 2.5-13** and **2.5-14**).

Fish and Wildlife. Alternative A does not include specific protection measures associated with priority habitats for wildlife. Concerns related to wildlife species would be addressed through the site-specific NEPA analysis associated with individual projects.

Cultural Resources and Paleontological Resources. Protection measures associated with cultural resource sites outside of ACECs and other special designations (e.g., Sunshine Locality National Register District, Snake Creek Indian Burial Cave and City of Rocks Archaeological Site) would impose constraints on the geology and mineral extraction program through no surface occupancy stipulations for fluid mineral development and closure to other types of mineral development (see **Tables 2.5-14** and **2.5-18**). No specific paleontological sites are identified for protection under this alternative.

Recreation. Various recreation sites will be removed from potential mineral development through no surface occupancy stipulations on fluid mineral development and closure to other types of minerals (see **Tables 2.5-14** and **2.5-18**). These removals will have minimal effect on mineral development.

Special Designations. Designated wilderness, wilderness study areas, desert tortoise ACECs, various archaeological sites, various recreation sites, and natural areas impose constraints on mineral development (see **Tables 2.5-14**, **2.5-15**, and **2.5-18**) either in terms of areas open for development of the types of activities that are allowed.

Conclusions. Alternative A limits the oil and gas program mostly due to the small percentage of the decision area that is available to leasing due to the limited coverage of previous NEPA analyses. It is difficult to compare Alternative A with the Proposed RMP because of the difference in acres available for leasing. Looking only at the areas available for leasing in both programs, the differences are small. The Proposed RMP identifies more ACECs and emphasizes the use of no surface occupancy more often than in Alternative A. In Alternative A there is high to medium oil and gas potential within about 92 percent of the entire area considered for leasing. The areas designated as "closed" and "no surface occupancy" occupy about 13 percent of this high and medium potential with about 80 percent of those acres in designated wilderness. Under current management there would be noticeable impact on the ability to develop oil and gas resources because over half the decision area is currently not available for leasing.

The decision area has a low potential for the occurrence of solid leasable mineral resources so the closure of the lands described would likely have little impact on the exploration and development of solid leasable minerals.

About 1.8 percent of the decision area in Alternative A as compared to about 4.3 percent in the Proposed RMP would involve discretionary closures to development of locatable minerals within high to medium potential. This small percentage of withdrawn areas is not expected to have a major impact on the recovery of locatable minerals. Therefore, Alternative A might allow for slightly more opportunities (2.5 percent of the decision area) for the exploration and development of locatable minerals but would not protect important resource values as well as the Proposed RMP.

The total acreage open to mineral materials disposal would be about 87 percent of the decision area. Most of the closed areas are non-discretionary closures for designated wilderness or wilderness study areas and not subject to the management of the Ely Field Office. Proposed discretionary closures would be about 3.4 percent of the decision area. Because mineral material occurrences are so common and widespread,

there should be little impact to the availability of these deposits despite the proposed closures and areas where discretionary closures are likely.

Alternative B

Impacts from Geology and Mineral Extraction Management Actions.

Parameter – Fluid Leasable Minerals

Alternative B attempted to target broad areas with programmatic stipulations that would be dependent on finding the species or resource of concern in the site-specific area for the stipulation to be in effect. The idea was to provide maximum flexibility to the operator while providing better protection to the resource, especially wildlife resources that frequently move. The main concern with this concept was that it created larger areas subject to a potential stipulation as compared to the smaller areas of traditional timing stipulations that would be in effect regardless of whether or not the resource was present.

Geophysical exploration would not occur in areas closed to leasing or designated as no surface occupancy. Where allowed, geophysical exploration would be subject to the standard operating procedures and Standard Terms and Conditions for Mineral Development within the Ely District, Appendix J and Appendix M, respectively, of the Draft Ely RMP/EIS (July 2005).

Under Alternative B, approximately 10.0 million acres (87 percent of the decision area) would be open to leasing. Of this, 1.1 million acres (9.5 percent of the decision area) would be available for leasing under standard terms and conditions, and 8.5 million acres (74 percent of the decision area) would be subject to moderate constraints under programmatic stipulations for wildlife and cultural resources. Approximately 429,600 acres (3.8 percent of the decision area) would be available to leasing subject to moderate constraints with traditional surface use and timing restrictions, and 32,300 acres (0.3 percent of the decision area) would be available to leasing subject to major constraints (no surface occupancy) (see **Map 2.6.18-1**). Approximately 1.6 million acres (13 percent of the decision area) would be closed to leasing with 1,153,500 acres as non-discretionary designated wilderness and wilderness study areas and 347,800 acres (3.0 percent of the decision area) closed as additional discretionary closures.

Under Alternative B, approximately 67 percent of the 1.4 million acres that would be closed to leasing or have a no surface occupancy restriction would occur in areas that were high to moderate for fluid mineral potential. Of this area, over half is in designated wilderness.

Parameter – Solid Leasable Minerals

Under Alternative B, the same statistics that are described for locatable minerals would apply to solid leasable minerals (see **Map 2.6.18-2**).

Parameter – Locatable Minerals

Under Alternative B, about 10.0 million acres (87 percent of the decision area) would be open to locatable mineral development and 1.5 million acres (13 percent of the decision area) would be proposed for closure

to mineral entry. The withdrawal acreage would include about an additional 375,100 acres (3.3 percent of the decision area) outside of designated wilderness and wilderness study areas (see **Map 2.6.18-2**).

About 16 percent of the acres closed to locatable minerals would be in areas with high to medium potential for some type of locatable mineral with over half these acres within designated wilderness.

Parameter – Mineral Materials

Under Alternative B, about 9.3 million acres (81 percent of the decision area) would be open to possible disposal for mineral materials development, but subject to standard operating procedures and Standard Terms and Conditions for Mineral Development within the Ely District, Appendix J and Appendix M, respectively, of the Draft Ely RMP/EIS (July 2005). Approximately 2.2 million acres (19 percent of the decision area) would be closed to mineral materials development, including 1.0 million acres (8.9 percent of the decision area) outside of designated wilderness and wilderness study areas (see **Map 2.6.18-3**).

Impacts from Other Programs. The management actions proposed in Alternative B contain provisions to protect other resources through stipulations, standard operating procedures, and Standard Terms and Conditions for Mineral Development within the Ely District, Appendix J and Appendix M, respectively, of the Draft Ely RMP/EIS (July 2005), or closures that have varying degrees of impact on the recovery of mineral resources. However, since the overwhelming majority of the decision area would remain open to leasing, mineral entry, or disposal of mineral materials, the minerals program would not be unduly limited by the proposed management direction. Because mineral material actions are discretionary, additional management directions in other resource programs could be developed to further mitigate or relocate mineral material disposals within this alternative.

Special Status Species. Protection measures for several special status species would impose constraints on the geology and mineral extraction program similar to the Proposed RMP. Key examples include the timing stipulations on fluid leasable mineral development activities within desert tortoise habitat, greater sage-grouse habitat, and near ferruginous hawk nests (see Section 2.6.18).

Fish and Wildlife. Protection measures associated with occupied habitat for bighorn sheep would impose timing stipulations on fluid mineral development activities (see Section 2.6.18).

Cultural Resources. Protection measures associated with cultural resource sites outside of ACECs and other special designations (e.g., Garrison Archaeological Site, Ward Charcoal Ovens) would impose constraints on the geology and mineral extraction program through closure to leasing or no surface occupancy stipulations for fluid mineral development and closure to other types of mineral development (see Section 2.6.18).

Recreation. Various recreation sites will be removed from potential mineral development through closure to leasing or no surface occupancy stipulations on fluid mineral development and closure to other types of minerals (see Section 2.6.18). These removals would have minimal effect on mineral development.

Special Designations. Designated wilderness, wilderness study areas, ACECs, scenic areas, natural areas, and other types of special designations impose closures or various types of constraints on mineral development (see Section 2.6.18).

Conclusions. The percentage of closed and no surface occupancy areas are not substantially different than for the Proposed RMP. The main difference would be in how the stipulations were applied. All other conclusions would be the same as for the Proposed RMP.

Since the potential for solid leasable minerals in the Ely decision area is extremely low, and there are no current or reasonably foreseeable operations, the areas of closures would have little impact on the exploration and development of solid leasable minerals.

Alternative B would have approximately 119,400 fewer acres withdrawn from locatable mineral entry and a lower percentage of closed areas within areas of high to medium potential in comparison to the Proposed RMP. Alternative B would have slightly less impact to the development of locatable minerals but would not have the more defined protection of critical resources that are found in the Proposed RMP.

Alternative B closes about three quarters of the acreage of discretionary closures for locatable minerals in comparison with the Proposed RMP. The proposed management actions in Alternative B would meet the stated goal of the minerals program to provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses.

Alternative C

Impacts from Geology and Mineral Extraction Management Actions.

Parameter – Fluid Leasable Minerals

In comparison with the Proposed RMP, Alternative C would offer fewer acres available for leasing under standard terms and conditions mostly due to an increase in the proposed community withdrawals for this alternative. Moderate constraints such as timing and surface use stipulations would be similar to the Proposed RMP. Alternative C has surface use restrictions on some recreation sites rather than a no surface occupancy or closed designation as in the Proposed RMP.

Geophysical exploration would be considered in areas closed to leasing, designated as "no surface occupancy," or subject to timing restrictions. Impact analyses would be conducted on a site-specific basis. Geophysical exploration would be subject to the best management practices as described in Appendix M of the Draft Ely RMP/EIS (July 2005). As a result, this alternative would provide for greater geophysical exploration/development potential.

Under Alternative C, 3.5 million acres (30 percent of the decision area) would be available for leasing under standard terms and conditions, 682,900 acres (5.9 percent of the decision area) would be available subject to moderate constraints with programmatic lease stipulations; 5.6 million acres (48 percent of the decision

area) would be available to leasing subject to moderate constraints with traditional timing and surface use stipulations; 27,300 acres (0.2 percent of the decision area) would be available to leasing subject to major constraints (no surface occupancy); and 1.7 million acres (15 percent of the decision area) would be closed to leasing (see **Map 2.7.18-1**). Under Alternative C, approximately 68 percent of the 1.7 million acres that would be closed to leasing or have a no surface occupancy restriction would occur in areas that are high to moderate fluid mineral potential. Of this, over half is in designated wilderness.

Parameter – Solid Leasable Minerals
Under Alternative B, the same statistics that are described for locatable minerals would apply to solid leasable minerals (see **Map 2.7.18-2**).

Parameter – Locatable Minerals
Under Alternative C, about 9.8 million acres (85 percent of the decision area) would be open to locatable mineral development and 1.7 million acres (15 percent of the decision area) would be proposed for withdrawal. The withdrawal acreage would include 569,000 acres (4.9 percent of the decision area) withdrawn from mineral entry outside of wilderness study areas (see **Map 2.7.18-2**).

About 18 percent of the acreage closed to locatable minerals would be in areas with high to medium potential for some type of locatable mineral with about half these acres in designated wilderness.

Parameter – Mineral Materials
Under Alternative C, about 9.3 million acres (80 percent of the decision area) would be open to possible disposal for mineral material development. Approximately 2.2 million acres (20 percent of the decision area) would be closed to mineral materials development including 1.1 million acres (10 percent of the decision area) outside of designated wilderness and wilderness study areas (see **Map 2.7.18-3**).

Impacts from Other Programs. The management actions proposed in Alternative C contain provisions to protect other resources through stipulations, best management practices, or closures that have varying degrees of impact on the recovery of mineral resources. However, since the overwhelming majority of the decision area would remain open to leasing, mineral entry, or disposal of mineral materials, the minerals program would not be unduly limited by the proposed management direction. Because mineral material actions are discretionary, additional management directions in other resource programs could be developed to further mitigate or relocate mineral material disposals within this alternative.

Special Status Species. Protection measures for several special status species would impose constraints on the geology and mineral extraction program similar to the Proposed RMP. Key examples include the timing stipulations on fluid leasable mineral development activities within desert tortoise habitat, greater sage-grouse habitat, and near ferruginous hawk nests (see Section 2.7.18.2).

Fish and Wildlife. Protection measures associated with occupied habitat for bighorn sheep would impose timing stipulations on fluid mineral development activities (see Section 2.7.18.2).

Cultural Resources and Paleontological Resources. Protection measures associated with cultural and paleontological resource sites outside of ACECs and other special designations (e.g., Garrison Archaeological Site and Andies Mine Trilobite Site) would impose constraints on the geology and mineral extraction program through closure to leasing or no surface occupancy stipulations for fluid mineral development and closure to other types of mineral development (see Sections 2.7.18.2 and 2.7.18.4).

Recreation. Various recreation sites and caves would be protected from potential mineral development through no surface occupancy stipulations on fluid mineral development and closure to other types of minerals (see Section 2.7.18.2 and 2.7.18.4). These restrictions would have minimal effect on mineral development.

Special Designations. Designated wilderness, wilderness study areas, ACECs, scenic areas, natural areas, and other types of special designations impose closures or various types of constraints on mineral development (see Sections 2.7.18.2 and 2.7.18.4).

Conclusions. Alternative C would have approximately the same area closed to leasing as the Proposed RMP, but 3 percent less of these closed areas would be in high to medium potential. Alternative C further developed the stipulations from existing management rather than evaluate and identify new areas of resource protection as thoroughly as in the Proposed RMP. The differences in percentages between Alternative C and the Proposed RMP are not enough to state that either alternative would have more impact than the other. The overall differences would be minimal compared to the size of the decision area.

Since the potential for solid leasable minerals in the Ely decision area is extremely low, and there are no current or reasonably foreseeable operations, the areas of closures would have little impact on the exploration and development of solid leasable minerals.

There would be comparable acreage proposed for withdrawal for locatable minerals in Alternative C as in the Proposed RMP. Within the withdrawals there would be approximately 13 percent more within high to medium potential in the Proposed RMP than for Alternative C. Therefore, even though approximately the same acreage is proposed for withdrawal in Alternative C, fewer of those acres are within high to medium potential. Therefore, Alternative C could have less impact to the development of locatable minerals than the Proposed RMP. The overall differences would be minimal compared to the size of the decision area. Because mineral material occurrences are so common and widespread, even with the differences in withdrawals, there should be little impact to the availability of these deposits despite the proposed closures and areas where discretionary closures are likely.

Alternative D

Impacts from Geology and Mineral Extraction Management Actions.

Parameter – Fluid Leasable Minerals

Under Alternative D, the entire decision area would be closed to leasing. Geophysical exploration would not necessarily be conducted under the standard operating procedures and Standard Terms and Conditions for

Mineral Development within the Ely District, Appendix J and Appendix M, respectively, of the Draft Ely RMP/EIS (July 2005), and Notices of Intent submitted for the conduct of geophysical surveys would be evaluated on case-by-case basis.

Parameter – Solid Leasable Minerals
Under Alternative D, the entire decision area would be closed to solid leasable minerals, including 1.1 million acres in wilderness study areas.

Parameter – Locatable Minerals
Under Alternative D, approximately 5.2 million acres (45 percent of the decision area) would be open to locatable mineral development. Approximately 6.3 million acres (55 percent of the decision area) would be closed to locatable mineral development, including 5.2 million acres (45 percent of the decision area) outside of designated wilderness and wilderness study areas (see **Map 2.8.18-1**). Of the acres closed, approximately 32 percent would be in areas of high to medium potential and of that 8 percent is in designated wilderness and wilderness study areas.

Parameter – Mineral Materials
Under Alternative D, the entire decision area would be closed to mineral materials development.

Impacts from Other Programs. The leasable minerals (fluid and solid) program is affected by provisions to protect other resources through stipulations, standard operating procedures, and restrictions that have varying degrees of impact on the recovery of fluid minerals. Since no leasing would occur under Alternative D, the stipulations, standard operating procedures, and restrictions would still be in effect on current leases or leases that may become held by production. The proposed management action to close the entire decision area to leasing would have a much greater impact than the provisions on current leases to protect other resources. Therefore, the fluid minerals program, where it is allowed to exist under this alternative, would not be adversely affected by additional management direction unique to other resource programs within this alternative.

The protection of other resources has been incorporated into the management direction for the locatable minerals program through best management practices, restrictions, and mitigations that may occur during site-specific NEPA analysis. However, the closure of nearly 50 percent of the decision area to locatable mineral entry would have a much greater impact than the management actions to protect other resources on those lands open to locatable minerals. The only other resource management program to have noticeable effect on geology and minerals extraction under this alternative would be special designations, since designated wilderness and wilderness study areas (combined total of 1.1 million acres) would be closed to development of locatable minerals. Otherwise, the locatable minerals program would not be adversely affected by additional management direction unique to other resource programs.

The mineral materials management program of the decision area is affected by closures, restrictions, and mitigations applicable to all alternatives. Because mineral material actions are discretionary, additional management directions in other resource programs could be developed to further mitigate or relocate

mineral material disposals within this alternative. However, if the entire decision area is closed to mineral material disposal, further management direction in other resource programs would not matter.

Conclusions. The entire decision area would be closed to new fluid minerals leasing, but existing leases would be honored. The effects would be to preclude exploration and development (except on existing leases) and result in the loss of the resource available to the country, loss of potential lease bonus and rental revenue, loss of potential production royalties and property taxes, and other losses to related economic activity in the decision area. If no discoveries are made on existing leases, the leases would expire over time resulting in a total cessation of fluid mineral activities. Since 80 percent of the area has a high to medium potential for fluid minerals (especially oil and gas) and those resources would be unavailable, this extensive closure of lands described above would adversely affect the exploration and development of fluid minerals.

Because there is no current solid leasable activity and the potential is low, the closure of the entire decision area would not be important unless an economical deposit was discovered.

With over half the decision area withdrawn from mineral entry, there would be a major impact on the exploration and development of locatable minerals. Alternative D would not meet the stated goal of the minerals program to provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses. The withdrawal of over half the decision area would cause severe limitations on access to current and potential locatable mineral deposits. Inability to explore and develop locatable minerals would result in loss of the resource to the country, loss of tax revenue, and other losses to related economic activity in the decision area.

The high demand for sand, gravel, and other mineral materials for development and construction would not be met under this alternative. Alternative D would not meet the stated goal of the minerals program to provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses. The closure would preclude development of mineral materials resources and result in the loss of an important resource to the public and the loss of related economic activity.

4.19 Watershed Management

In the past, projects and resource actions were proposed on a site-specific basis. These projects and actions were consistent with applicable resource management plans and competed for program funds for implementation. In some cases, mid-scale level of analysis from activity level planning may have occurred. Under the new plan, there would be more emphasis on integrated management and funding across programs within a watershed unit.

Currently, watershed analysis is performed to determine if rangeland health standards are being met within a watershed. This involves an analysis of uses of vegetation by livestock, wildlife, and wild horses as appropriate. It also involves analysis of other uses within the watershed. These include such things as: mineral exploration and development, off-highway vehicle use, recreation, and rights-of-way development. If rangeland health standards are being met, the restoration plan (a portion of the watershed analysis) would propose projects and resource uses designed to maintain the healthy condition of the watershed. If standards are not being met, the restoration strategy would propose guidance of resource uses designed to improve the condition of the watershed and meet or achieve rangeland health standards. Watershed analysis would occur according to the priority identified in Chapter 2.0, but could be used independently for small areas to facilitate implementing site-specific restoration activities, such as fuel reduction projects in areas that pose threats to life, property, or special status species, without waiting for the full watershed analysis.

There are 61 watershed units within the planning area. It is expected that completion of watershed analyses, including restoration plans with proposed projects, on the 41 high priority watersheds would take approximately 10 years. Completion of watershed analyses on the remaining 20 lower priority watersheds would occur in the next 10 years.

Primary factors for analysis of the alternatives include: 1) priority of watershed to be analyzed; and 2) the allocation of forage after standards for rangeland health are met.

Impact Issues

Watershed management on the Ely planning area would focus on achieving rangeland health through all available tools. A non-functioning watershed, where rangeland health standards are not being met, may cause a decrease in water yield. Where trees increase in shrub communities, there is a loss of 25 to 40 millimeters for each 10 percent increase in tree cover (Jackson et al. 2000). Attainment of functional watersheds is described as reasonably foreseeable treatments related to soils and associated vegetation in **Tables 3.19-2**, **3.19-3**, and **3.19-4**. Following restoration of resilient vegetation communities, it is expected that forage productivity would improve in most watersheds. Allocation of this increased production would vary among the alternatives.

As discussed in Section 4.5, Vegetation, where existing vegetation communities are in a resilient state, management actions would be implemented to maintain that resiliency; where they are not presently resilient, efforts would be made to restore resiliency. With the close linkage between watershed health and

vegetation, any factors or events affecting vegetation also would affect watershed function. Impacts to watersheds would be similar and closely related to impacts to vegetation. To meet watershed objectives, a combination of tools (Appendix G) would be used as appropriate.

Actions designed to enhance wildlife and special status species habitats would be determined in some cases ahead of the watershed analysis. The reader should be aware that actions in all resource programs and uses affect watersheds. This is especially true concerning actions regarding vegetation, fish and wildlife, special status species, wild horses, livestock grazing, fire management and watershed management.

Assumptions for Analysis

- Restoration of watershed health and achievement of desired plant community composition, structure, and function is expected to require several decades.

- The weighting and priority of resource considerations used to establish the watershed priority list would remain static throughout the life of the plan.

Interactions with Other Programs

The watershed management program within the planning area is integrally linked with and potentially would be affected by actions within the resource management programs for vegetation, fish and wildlife, special status species, wild horses, lands and realty, livestock grazing, geology and mineral extraction, fire management, noxious and invasive weed management, and special designations.

Goal

Manage watersheds to achieve and maintain resource functions and conditions required for healthy lands and sustainable uses.

Northeastern Great Basin Resource Advisory Council Standards

- Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form.

- Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

- Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics; to provide suitable feed, water, cover, and living space for animal species; and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

- Land use plans will recognize cultural resources within the context of multiple use.

Mojave/Southern Great Basin Resource Advisory Council Standards

- Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

- Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.

- Riparian and wetland vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover; capture sediment; and capture, retain, and safely release water (watershed function).

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Objective

To manage watersheds that display physical and biological conditions or functions required for necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to watershed management also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Watershed Management Actions. Under the Proposed RMP, attainment of a functioning watershed through watershed restoration would be accelerated substantially and the area planned for treatment would be based on the ranges of healthy conditions and desired vegetation states identified in Section 2.4.5. Total area planned for active vegetation treatment is approximately 7.1 million acres distributed among the various vegetation types over a 50- to 100-year time frame. Upon successful restoration of vegetation communities, additional vegetation could be reserved for watershed protection.

Revegetation success typically is higher in the more mesic, higher elevation vegetation types (e.g., pinyon-juniper, mountain mahogany, and mountain sagebrush). On the other hand, the typical larger watersheds tend to include a higher proportion of low elevation vegetation types such as shadscale and Wyoming sagebrush predominate where soils are drier and revegetation success is less probable. In those vegetation types with the lowest probabilities for successful revegetation (e.g., shadscale and winterfat), treatment techniques involving minimal disturbance, such as changes in livestock grazing, would be favored in most cases other than rehabilitation of wildland fires.

Impacts related to the management actions of the watershed program would relate to the prioritization of watersheds for analysis and treatment and the allocation or additional forage produced on restored areas. Impacts related to prioritization of watersheds are most likely to occur in relation to the deferral of treatment and unexpected changes that may occur in those watersheds considered as lower priority before they undergo analysis and restoration. If unexpected changes are observed in watersheds in the low priority group prior to their scheduled analysis, the Ely Field Office may revise the prioritization list as necessary, based on such data. As indicated above, the greatest potential for increased vegetation production would occur in those areas that have higher probability for revegetation success. The vegetation communities in these areas also typically are those that exhibit higher levels of productivity. Thus, allocation of additional forage following vegetation treatments is most likely to occur in the more mesic, higher elevation vegetation communities.

Impacts from Other Programs.

Vegetation. Under the Proposed RMP, much of the treatment emphasis would focus on treatment of resources at risk of crossing thresholds to tree or shrub states with little or no herbaceous understory. Thus, existing vegetation condition is one of the factors involved in prioritization of watershed for treatments. Sagebrush and pinyon-juniper woodland areas dominated by or containing an understory component of annual invasive species (e.g., cheatgrass) would typically be rehabilitated if and when they burn naturally. With the shift in treatment emphasis and increase in the level of effort involved, the Proposed RMP would produce greater watershed improvements than under current management. This would result in greater productivity, and improved watershed function and stability. It also would increase the amount of plant litter returned to the soil and protect soils from accelerated erosion.

For watersheds, management objectives would be to maintain or establish diversity, mosaics, and connectivity of vegetation communities at a project-level scale. Such scale would vary depending on

watershed size. The overall goal of the Proposed RMP would be to emphasize plant and animal community health at the landscape level. To achieve the desired range of conditions, management would include a variety of methods to increase or decrease the vegetation overstory. Application of treatments to the acreages discussed under the Proposed RMP would result in impacts to vegetation communities, both in the short term (where some temporary effects such as increased risk of weed invasion may hamper restoration) and in the long term (where the treatments are expected to result in increased resiliency and improved ecological health). Implementation of the management actions and best management practices would reduce or eliminate some of the impacts to vegetation communities. For example, the highest return on effort is anticipated in treating areas that have not crossed a threshold and where the desired plant community is still present but approaching a threshold (see Appendix C). The short-term impacts associated with restoration efforts would include temporary reduction in vegetation cover and productivity, which could impact other resource programs. Moving these communities to an earlier vegetation phase, however, would provide long-term benefits to other resources and users. Where existing conditions are within the desired range of conditions, vegetation would be managed in a manner to maintain that status.

Fish and Wildlife. Under the Proposed RMP, watershed restoration would be driven, in large part, by wildlife habitat requirements as defined through the desired future conditions. The effects include the designation of specific wildlife habitat needs such as vegetation species, percent cover, timing of treatment activities, and maintenance of vegetation corridors for movement.

Special Status Species. Presence of special status species is one of the primary factors affecting the prioritization of various watersheds for analysis and treatment.

Wild Horses. The reduction in number and distribution of herd management areas associated with this alternative would help alleviate impacts from wild horses on revegetation efforts and watershed treatments, especially in several drier areas of the planning area. This also would favor maintenance or improvement of watershed function in these areas and reduce the potential need for future treatments of the same areas.

Livestock Grazing. The environmental impacts of grazing on watershed function are similar to livestock grazing effects to Vegetation in Section 4.5, Proposed RMP. The grazing actions presented here would lessen the impacts to the resources. For those allotments that have been evaluated, there may be impacts from livestock grazing that would be considered a causal factor for not attaining or making progress toward the rangeland health standard. The ability of a watershed to withstand disturbance and attain resilient and resistant vegetation communities is partly dependent on the intensity of livestock grazing. With more intense livestock management, watershed function would be reached at a faster rate. Grazing animals affect plant communities through herbivory, trampling, and nutrient redistribution. Grazing can stimulate growth in some plants. It also can reduce plant abundance, density, and vigor. Grazing can be used to generate changes in plant community composition, structure, and function. Spatial variations in grazing can influence patterns of the landscape mosaic and dictate when a site switches to an alternative ecological state (crosses a threshold). Approximately 221,300 acres would be unavailable for livestock grazing as shown in **Table 4.16-1**. Throughout the remainder of the planning area, livestock grazing may be used as a tool to affect implementation and success of other vegetation treatments.

Lands and Realty. Additional possible land disposal designations proposed under the Proposed RMP would total approximately 75,600 acres, of which approximately 60 percent would be shrubland. Land disposals could affect vegetation treatments and management on large and small watersheds through increased probability for introduction of weeds from disturbance areas associated with development activities, constraints on use of certain vegetation treatments (e.g., fire) in adjoining lands, and changes in priority of areas to be treated. Potential land disposals would not affect vegetation treatments and vegetation management in watersheds on the remainder of the planning area. Rights-of-way and special uses on the planning area, including communication sites, affect vegetation to the extent that ground disturbances are involved. Consolidation of major rights-of-ways into corridors would limit the amount of surface disturbance to vegetation communities. All permits, leases, and contracts are administered with conservation measures such as topsoil salvage and reclamation of all vegetation disturbed or removed. Thus, most impacts associated with these activities are short term and would be mitigated to the extent practicable through best management practices (see Appendix F, Section 1).

Renewable Energy. Development of renewable energy projects could affect watershed management through increased probability for introduction of weeds from disturbance areas, constraints on use of certain vegetation treatments (e.g., fire) in adjoining lands, and changes in priority of areas to be analyzed and treated. Based on the reasonably foreseeable development scenario, a maximum of 40,000 acres of rights-of-way would be granted and 4,000 acres are expected to be disturbed for construction and operation of renewable energy facilities within the decision area during the life of this plan. This area would include several separate facilities constructed at different times. Thus, the acreage disturbed at any one time and contributing to local erosion and sedimentation would be a small fraction of this total.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario (see Section 4.18), would be distributed throughout the 11.5 million acres of the planning area. Mineral development activities may affect the planning and implementation of watershed treatments in terms of either prioritization of or constraints on various treatments.

Fire Management. Prescribed fire, wildland fire use (approximately 8.9 million acres available) and other tools would be used to the greatest extent practical under the Proposed RMP. During the short term, wildland fire may affect the planning and implementation of treatments within individual watersheds and adjacent areas. In the long term, restoration of vegetation resilience and the return to historical fire regimes and condition classes would result in reduced impacts to watersheds when wildland fires occur.

Noxious and Invasive Weed Management. The management of noxious and invasive weeds is essential for restoration of native plant community health and resiliency. The presence and abundance of noxious and invasive weed populations would be important factors in the planning and implementation of watershed treatments. Management to remove, reduce, and prevent noxious weeds would include the use of chemical, mechanical, biological, and cultural methods. The effects of herbicide use vary with the herbicide used, the application rate, and the proximity of non-target plants to targeted ones. The use of cultural agents (e.g., sheep and goats) to manage noxious weeds would affect native and desirable plants to the degree that non-target species are present in the treatment area and are palatable to animals. These

short-term effects would not be expected to interfere with the accomplishment of the watershed management goal.

Special Designations. The Proposed RMP would involve designation of 20 ACECs and management of designated wilderness and wilderness study areas. These special designations have been considered in the prioritization of watersheds for analysis and restoration. It is not expected that these designations would have additional effects on the planned watershed analysis and treatment process in any major way although they may affect selection of areas and methods for local vegetation treatments. In some cases, these designations would augment the watershed treatment and management process by providing additional protection from disturbances.

Conclusion. The Proposed RMP watershed management actions, in combination with the associated vegetation treatment programs, generally would reduce dominance by woody species; increase the diversity of vegetation communities over the long term; and provide structure with multiple-aged shrubs, forbs and perennial grasses. This would result in greater productivity, improved watershed function, and increased stability. It also would increase the amount of plant litter returned to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities, which includes maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained and improved across the landscape except at small localized areas of soil disturbing activities. Thus, the Proposed RMP management actions of this and related programs would achieve the program goal for watershed management.

Alternative A

Impacts from Watershed Management Actions. The management action of the watershed program in this alternative relates to how additional forage produced on restored areas would be allocated among various uses. Within the Schell Resource Area, this distribution is defined by the existing land use plan as 70 percent to livestock and wild horses and 30 percent to wildlife. In other portions of the planning area, allocations could be made among uses and reserved to watershed function, as necessary, for individual treatment areas to meet project objectives. Thus, there is greater flexibility of using the additional forage produced to improve watershed function in the former Egan and Caliente Resource Areas than in the Schell Resource Area.

Impacts from Other Programs.

Under Alternative A, renewable energy, noxious and invasive weeds, and special designation management and the associated impacts would be similar to the Proposed RMP.

Vegetation. Under Alternative A, restoration of watershed function would be through the attainment of the desired range of conditions for vegetation communities. Watershed restoration activities, including analysis, would be undertaken at a relatively low level with a slow rate of associated change. Watershed analysis and associated monitoring currently are implemented as funding opportunities and other resources allow. Within this alternative, the treatment emphasis would continue to occur primarily as fire rehabilitation

within the various sagebrush types (see **Maps 4.5-1** and **4.5-2**) with some treatment components in salt desert shrub and nonnative seedings. In the sagebrush areas, the average revegetation success rate is estimated to be about 50 percent. Vegetation treatments within the Mojave Desert portion of the planning area would consist primarily of fire rehabilitation. As with the Proposed RMP, treatment success would be higher in the more mesic, higher elevation vegetation types and lowest in the lowest elevation areas.

Vegetation treatments would continue to be implemented at rates somewhat above the historic rate of approximately 10,000 acres of vegetation manipulation per year. Vegetation treatments would not be concentrated in any watershed. Thus, the effect on any watershed would be small. The majority of activity would continue to be seeding following wildland fires. Considering a total treatment area of almost 2.8 million acres across the Great Basin portion of the planning area, this rate of treatment is not expected to succeed in reestablishing vegetation resiliency.

Fish and Wildlife. Under Alternative A, fish and wildlife needs are a consideration in the establishment of desired range of conditions for vegetation communities and watershed function. Fish and wildlife values and associated habitat requirements are a substantial factor in the planning and prioritization of watershed treatments and the planning of subsequent management.

Special Status Species. None of the proposed management actions regarding special status species are anticipated to affect the watershed program under this alternative. However, future changes in the list of special status species could change watershed priorities, with the restoration of habitat for such species becoming a major factor in determining where watershed restoration occurs.

Wild Horses. Wild horse herds may adversely affect the success of restoration efforts occurring within the herd management areas since it would be difficult, if not impossible, to exclude wild horses from all new seedings. The effect of wild horses on these treatment areas would be most noticeable and negative in marginal herd management areas where inadequate forage sometimes exists to sustain the horse populations.

Lands and Realty. Under this alternative, lands identified for potential disposal total approximately 31,900 acres, primarily within White Pine County. Applicants for major rights-of-way would be encouraged to use existing corridors to limit disturbance. The potential disposals would have minimal effect on the watershed management program.

Livestock Grazing. Through its effects on vegetation, grazing would continue to be used as a tool for meeting standards in watershed management. The specific manner in which livestock grazing would contribute to watershed restoration would be determined during watershed analysis and the allotment evaluation and term permit renewal process.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the

8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP (see Section 4.18). The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Fire Management. Under Alternative A, prescribed fire, wildland fire use (approximately 3.6 million acres available) and other tools would not be used to the greatest extent practical as under the Proposed RMP. The impacts under Alternative A would be similar to those under the Proposed RMP except on a smaller scale resulting in fewer acres with improved ecological health, vegetation resilience, and watershed function. Because fuels would continue to accumulate in untreated areas, the probability of major, uncontrollable, stand-replacing fire events impacting the watershed would continue.

Conclusion. Existing management in watershed management, vegetation, and related programs, would lead to minimal improvement at the watershed level, moderate reduction in shrub-dominated communities, and a reduction in pinyon/juniper-dominated communities over the long term. Moderate shrub reintroduction into burned sites, as part of rehabilitation efforts, would maintain diversity in the long term at a broad scale. The historic rate of treatment (largely fire rehabilitation) each year to restore desirable perennial herbaceous species and restore ecological resiliency would be increased to the extent allowed under the current fire plan. This rate, however, is not considered adequate to match the current rate of ecological deterioration, increase in woody fuel, and expansion of weedy species throughout the planning area, and substantial long-term effects on watershed function are anticipated. Thus, the rate of treatment under this alternative, when combined with actions proposed for vegetation, fish and wildlife, special status species, wild horses, livestock grazing, and fire management, has a low probability of achieving noticeable gains in vegetation resiliency and watershed function throughout the planning area and is unlikely to achieve the program goal.

Alternative B

Impacts from Watershed Management Actions. Additional forage produced as a result of vegetation treatments would not be allocated to either livestock or wild horses, but would be used to further improve watershed condition and provide forage for wildlife. This approach would tend to accelerate restoration of watershed function in the treated watersheds.

Impacts from Other Programs.

Under Alternative B, most programs directly affecting watershed function and their associated impacts would be similar to the Proposed RMP.

Vegetation. As with the Proposed RMP, treatment success of the Great Basin vegetation types is expected to be highest in the higher elevation areas occupied by pinyon-juniper and mountain sagebrush

and lowest in the lower elevation areas. Under this alternative, the higher proportion of treatment related to vegetation types with higher success probabilities (i.e., pinyon-juniper) would lead to potentially higher overall success rates and greater forage production than Alternative A. Vegetation treatments as well as other treatments designed to restore vegetation resiliency, improve hydrologic function, increase infiltration, and reduce soil erosion would be concentrated within specific watersheds over time.

Livestock Grazing. Livestock grazing would be closed on approximately 3 million acres of bighorn sheep range and 542,100 acres of desert tortoise habitat outside of the desert tortoise ACECs. This would reduce the effect of livestock grazing as a tool in watershed management for these areas.

Conclusion. Alternative B generally would reduce dominance by woody species and increase the diversity of vegetation communities over the long term, providing structure with multiple-aged shrubs, forbs and perennial grasses. This would result in greater productivity, and improved natural functions and watershed stability. Sustained or slightly reduced levels of livestock grazing would maintain vegetation communities that currently meet the desired range of conditions and allow improvement of remaining vegetation communities to the desired range of conditions over the short and long term. It also would increase the amount of plant litter returned to the soil and protect soils from accelerated erosion. Long term vigor and health of vegetation communities, which includes maintenance of soil stability as well as energy, nutrient, and water cycling, would be maintained across the landscape, except at small localized areas of soil disturbing activities. Additional forage resulting on areas successfully restored would not be allocated to livestock or wild horses and, thus, could help in further improvement of ecological health beyond meeting the standards for rangeland health. Overall, the watershed management aspects of this alternative and effects of most other programs would be similar in effect to the Proposed RMP and would be expected to achieve the goal for watershed management.

Alternative C

Impacts from Watershed Management Actions. Additional forage produces as a result of vegetation treatments would be allocated to livestock. Although this allocation assumes that standards for rangeland health have already been met, the allocation to livestock as opposed to watershed maintenance, on at least a partial basis, would probably cause the recovery of watershed function to be slower in this alternative than in the Proposed RMP or Alternative B.

Impacts from Other Programs. Impacts on watershed restoration associated with fish and wildlife, special status species, wild horses, livestock grazing, geology and mineral extraction, noxious and invasive weed management, and special designations management programs would be the same as described for the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Vegetation. Under Alternative C, attaining watershed function for watersheds through a restoration program involving specific vegetation communities and conditions to be treated would be similar to the Proposed RMP, except for the differences in desired range of conditions identified in Section 2.4.5. This approach would require more frequent future treatments or increased management effort to maintain these

commodity-oriented communities. The total area currently estimated for potential treatment in Alternative C is approximately 7.5 million acres or about 66 percent of the total area occupied by those vegetation communities subject to treatment. Slightly over 90 percent of this potential treatment area occurs in the pinyon-juniper and sagebrush vegetation types. The primary difference in restoration approach between Alternative C and the Proposed RMP is that Alternative C would focus on establishment and maintenance of vegetation communities in a narrower desired range of conditions conducive to the commodity (livestock, forest/woodland products, and big game) emphasis of this alternative. Achievement and maintenance of this desired range of conditions would require greater initial effort and more frequent future treatments. Additional forage would be allocated to livestock after Standards for Rangelands health have been met at the watershed level.

Impacts to watershed management resulting from implementing the vegetation treatments of Alternative C would be generally similar to those described for the Proposed RMP, especially in the short term. However, this alternative would involve only limited use of prescribed fire and would rely on more expensive mechanical and chemical approaches for most treatments. Thus, the area successfully treated within comparable budgets would probably be less in Alternative C, eventually leading to substantial differences between the two alternatives over the long term.

Management within the Mojave Desert and salt desert shrub vegetation types would focus on restoration of healthy ecological systems primarily through application of herbicides on sites infested with annual invasive species and through changes in grazing management to maximize opportunities for natural recovery. Prescribed fire and other tools also would be used where appropriate in these vegetation types.

Lands and Realty. Potential land disposals would total approximately 295,200 acres, about two-thirds of which would be in Lincoln County. Several of the utility corridors under this alternative would be up to 3 miles in width, resulting in over 1.0 million acres of total corridor area (more than three times the potential corridor area under the Proposed RMP).

Fire Management. The full suppression approach to fire management in Alternative C would contribute to the continued accumulation of heavy fuels in untreated areas rendering them more vulnerable to large, intense fires if and when they eventually burn. Restoration of these areas would then be more difficult than if treated or burned in the absence of such heavy fuel loads.

Conclusion. Implementation of this alternative would reduce dominance of woody and exotic annual species, and increase dominance of herbaceous perennials in the long term. Greater productivity for allocation to consumptive uses would result. Limited shrub reintroduction into some burns would maintain diversity at a broad scale. However, the narrower range of desired conditions (with greater emphasis on the herbaceous state) in this alternative as compared to the Proposed RMP would require more effort and more frequent treatments to achieve and maintain. The higher probability for widespread fire over the long term also would necessitate greater efforts for fire suppression and rehabilitation as opposed to planned treatments. As a result of optimizing livestock use of available forage, the benefits of returning vegetation material to the soil would be minimized. Long term vigor and health of vegetation communities would be maintained across the landscape, except at localized areas of concentrated activity. This alternative would

have a good probability of achieving the program goal, but the probability would be less than for the Proposed RMP or Alternative B.

Alternative D

Impacts from Watershed Management Actions. This alternative would be similar to Alternative A in terms of attaining functionality of watersheds based on the anticipated scale of watershed treatments. However, Alternative D would focus on minimal restoration disturbance, elimination of grazing, use of fewer herbicides, and elimination of all discretionary uses or developments on the public lands. Additional forage produced on treated areas would be available for wildlife, wild horses, and watershed maintenance since no livestock would be present. In areas outside of the herd management areas, this would facilitate restoration of watershed function.

Impacts from Other Programs. Impacts on watershed restoration associated with fish and wildlife, and special designations management activities would be the same as described for Alternative A. The following interrelated programs would result in different impacts compared to Alternative A.

Vegetation. Under this alternative, much of the treatment emphasis would focus on treatment of sites that have understory vegetation dominated by invasive species. This alternative is expected to produce comparable vegetation restoration to Alternative A on individual treated areas, but the focus would be on restoration of native species, not necessarily resilient conditions. To accomplish the desired range of conditions for this alternative as described in Section 2.8, restoration of native plant communities would emphasize replacement of nonnative plants such as cheatgrass and crested wheatgrass with perennial bunchgrasses, primarily within the Great Basin portion of the planning area. Restoration of native plant communities would involve maintenance of the current distribution of species. Areas where sagebrush was previously removed would be revegetated with sagebrush, and similarly, pinyon and juniper would be restored on sites where trees have been removed.

This approach would manage public land to achieve no net loss of native communities, as they currently exist or existed about 1950 prior to widespread shrub and tree removal for enhanced forage production. Therefore, in the short term, vegetation conditions would continue generally as they currently exist with gradual increases in forage production, vegetation resiliency, and watershed function in some communities through limited restoration; increased accumulation of fuel loads in almost all unburned communities; and replacement of invasive or nonnative species in limited treatment areas.

Special Status Species. The special status species program would have minimal effects in the short term. However, over the long term, the substantially higher risks of large intense fires destroying widespread areas of sagebrush habitat would lead to increased probabilities for additional species listings in this category. Thus, there would be reduced probability of future species listings guiding the watershed management program in the short term and increased probability of such direction over the long term.

Wild Horses. Wild horse populations would be uncontrolled within the herd management areas. This would result in severe impacts to vegetation and watershed health in these areas, creating the need for additional, and probably repeated, treatment.

Lands and Realty. Minimal lands and realty actions would occur under Alternative D and effects to watershed management would be absent.

Renewable Energy. Development of renewable energy facilities would be precluded and there would be no effects of such activities on watershed function or management.

Livestock Grazing. Livestock would be removed from the planning area, eliminating any conflict between grazing activities and watershed management. However, removal of livestock would eliminate one of the major tools used for vegetation treatment.

Geology and Mineral Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario (see Section 4.18). Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Fire Management. Under Alternative D, minimal fire suppression would occur. Decreased fuel reduction by grazing, followed by increased fuel proliferation and reduced fire suppression over the long term would result in substantially increased probabilities that wildland fires would be widespread and high in severity. This would ultimately lead to far larger areas requiring fire rehabilitation and more difficulty restoring these areas than if they had been subjected to planned treatments.

Noxious and Invasive Weed Management. Under Alternative D, the removal of cheatgrass without the use of acetolactate synthesis-inhibiting herbicides, which would be prohibited under this alternative, would be less practical and probably less effective.

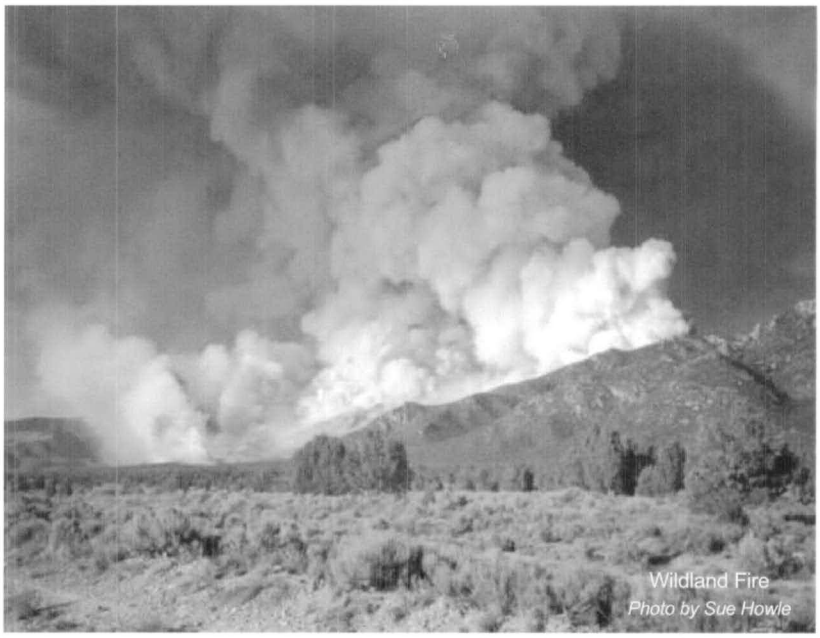
Conclusion. Improvement in watershed function could be seen with the exclusion of livestock from all public lands and would allow natural succession to improve the condition of many vegetation communities currently supporting desirable species. Altered vegetation communities dominated by annual species would improve little toward the desired range of conditions over the life of the plan. Fine fuels would increase with limited utilization of herbaceous growth, resulting in increased size of wildland fires and increased frequency of fire. Limited suppression of wildland fire also would increase the average fire size, resulting in more frequent impacts to affected vegetation resources. The condition of many vegetation communities currently dominated by desirable mosaics of native species would be maintained or improved in those areas not subject to frequent fire. Intense, hot, wildland fires in healthy, native communities would cause a decline in vegetation diversity and health, leading to a decline in natural levels of nutrients, water, and energy cycling.

The limited management approach would result in continued proliferation of tree species into historic sagebrush-dominated sites with minimal prospects for restoration of resiliency and watershed function.

Treatments would not occur at a scale and rate, when combined with the actions proposed for vegetation, fish and wildlife, special status species, wild horses, livestock grazing, and fire management, which would reverse the historic deterioration in rangeland health and restore resiliency of vegetation communities. The long-term consequences would be more dramatic and severe than in other alternatives due to the differences in fire management and other programs. Therefore, the watershed management actions, in combination with the related programs of this alternative, would fail to meet the program goal.

4.20 Fire Management

Impact Issues


Wildland Fire
Photo by Sue Howle

Restoration of natural fire regimes is a primary long-term goal of the Ely Field Office fire management program. Restoration of natural fire regimes is hindered by profound ecological system changes that have altered and continue to affect fuel amounts, types, and distribution. Fuels management, mainly through vegetation modification, is central to the achievement of this goal.

Assumptions for Analysis

- Natural ignition events would continue to occur in approximately the same distribution and frequency as observed in the past.
- Frequency of human-caused accidental ignitions would increase almost proportionately over time as recreational use increases along transportation corridors and as newly disposed lands are developed.

Interactions with Other Programs

The fire management program within the planning area potentially would be affected by actions within the resource management programs for vegetation, special status species, cultural resources lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, forest/woodland and other plant products, geology and mineral extraction, noxious and invasive weed management, and special designations.

Goal

Provide an appropriate management response to all wildland fires, with emphasis on firefighter and public safety, consistent with overall management objectives. Return fire to its natural role in the ecological system and implement fuels treatments, where applicable, to aid in returning fire to the ecological system. Establish a community education program that includes fuels reduction within the wildland urban interface to create fire-safe communities.

Objective

To manage wildland and prescribed fires as one of the tools in the treatment of vegetation communities and watersheds to achieve the desired range of condition for vegetation, watersheds, and other resource programs (e.g., livestock, wild horses, soils, etc.).

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to fire management also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Fire Management Actions. Implementation of the Proposed RMP would result in fire management activities (appropriate management response, prescribed fire, and/or mechanical, manual and herbicide application, etc.) occurring year-round to meet resource objectives in accordance with the Ely Fire Management Plan (BLM 2004a), subsequent updates and the goals and objectives of this RMP. Fire management activities would be conducted on watersheds with resilient vegetation, to aid in achieving and maintaining resilience of vegetation. Up to 8.9 million acres may become available for wildland fire use.

Adherence to provisions of the Nevada Smoke Management program will minimize air quality impacts related to prescribed fires. Coordination with the Department of Defense will minimize the safety hazards of prescribed fires in relation to military operating air spaces within the planning area.

Management actions related to desert tortoise habitat will ensure that the fire management program has minimal adverse effects on desert tortoise populations.

Impacts from Other Programs.

Vegetation. Under the Proposed RMP, vegetation treatments, including fuel reductions, would be increased substantially from current levels. Much of this restoration effort would be accomplished through the use of prescribed fire and wildland fire use, as well as the use of mechanical and chemical treatments. Thus, the vegetation program would provide the basis for a substantially increased effort in fire management, particularly in relation to fire use and prescribed burns.

Special Status Species. Fire management activities (i.e., suppression, wildland fire use, prescribed fire) within the planning area would be influenced by constraints to protect and conserve habitat for special status species. For example, several specific and unique operational constraints are identified in Section 2.4.20 for fire suppression activities within desert tortoise habitat (approximately 746,000 acres or 6.5 percent of the decision area).

Cultural Resources. Fire management planning activities would consider the presence of cultural resources, and plans would be modified or areas closed to fire management activities as necessary to avoid impacts to cultural resources.

Lands and Realty. Under the Proposed RMP, an increased area would be designated for possible disposal primarily for community development. Commonly, development can lead to increased ignition sources from human activities and, therefore, potentially increased fire risk on adjacent public lands. In the long term, increases in community development and other developments (e.g., rights-of-ways and communication sites) would lead to an increased need for Wildland Urban Interface Projects along with increased fire suppression responses.

Renewable Energy. Renewable energy development (up to 40,000 acres for wind energy) would likely lead to increased development of rights-of-way access to such areas, which may affect fire management in the same manner as discussed under Lands and Realty. In the long term, increases in community development and other developments (e.g., rights-of-ways and communication sites) would lead to an increased need for Wildland Urban Interface Projects along with increased fire suppression responses.

Travel Management and Off-highway Vehicle Use. Off-highway vehicle use would be limited to designated road and trails as determined through a subsequent public process and area-specific analysis, thereby reducing the risk of ignition sources in remote areas of the planning area.

Recreation. The Proposed RMP includes designation of five special recreation management areas totaling approximately 1.2 million acres. This decision, coupled with the changes in off-highway vehicle use policies discussed above, would tend to reduce the risk of human-caused fires in remote areas of the planning area while increasing the risk in these designated areas. Competitive events are short in duration and permit conditions would include fire prevention measures.

Forest/Woodland and Other Plant Products. Fuelwood activities would occur throughout the planning area, except in restricted areas, under the Proposed RMP, which could potentially increase the number of dispersed ignition sources on the planning area. Harvest also may be encouraged in specific areas to create fire breaks.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario (see Section 4.18), would be distributed throughout the 11.5 million acres of the planning area. The effects of geology and mineral extraction activities on fire management would be similar to those discussed for lands and realty and travel and off-highway vehicle use. Increased

risk of fire associated with mineral development activities would be addressed through increased readiness for suppression development potential.

Noxious and Invasive Weed Management. Noxious and invasive weeds would continue to affect fire behavior, frequency, and post-fire effects. As noxious and invasive plants dominate plant communities, fuels increase locally. For example, cheatgrass is highly flammable when cured and generates fires that burn frequently and rapidly. The resulting fire behavior dictates appropriate management and fire fighter capabilities. Thus, weeds may limit the appropriate tools regarding fire management actions.

Special Designations. Implementation of the Proposed RMP would retain or designate 20 ACECs for approximately 317,790 acres throughout the decision area. Designation of these ACECs may affect decisions regarding fire management in or near these areas. Ten of the ACECs consisting of approximately 20 percent of the total area in ACECs would be classified as open for fire management. This means that the full range of fire management options (wildland fire use, prescribed fire, mechanical treatments, etc.) could be used within these ACECs without potential restrictions. Ten of the ACECs containing approximately 80 percent of the area within ACECs would be classified as limited for fire management. This means that the full range of fire management options (wildland fire use, prescribed fire, mechanical treatments, etc.) could have restrictions placed or be eliminated from use within these ACECs.

Conclusion. Implementation of the Proposed RMP would result in a major increase in the use of fire throughout the watersheds in the planning area. Fire use and prescribed fire would be implemented year-round in the treatment of vegetation communities and watersheds to achieve the desired range of conditions for vegetation, watersheds, and other resource programs (e.g., livestock grazing, wild horses, soils, etc.). An increase in application of other tools (e.g., herbicides) also may be necessary to meet management goals prior to expanding the use of fire.

Alternative A

Impacts from Fire Management Actions. The Ely Fire Management Plan, which incorporates the Ely Managed Natural and Prescribed Fire Plan, would continue to be implemented (see **Map 2.5.20-1**). This plan has been in effect for several years and would continue to provide effective guidance for responding to and managing wildland fires. This plan would allow fire use fires on approximately 3.6 million acres of the 11.5 million acres in the decision area. This is less than the Proposed RMP and could contribute to continued accumulation of woody fuels in untreated and unburned areas, increasing the risk for eventual large scale wildland fires that not only cause ecological damage but also jeopardize human safety and property. Fire suppression costs associated with Alternative A would be higher than fire suppression costs associated with the Proposed RMP.

Impacts from Other Programs. Impacts to fire management associated with special status species and cultural resources would be the same as discussed for the Proposed RMP.

Vegetation. Impacts under Alternative A are similar to those under the Proposed RMP except on a smaller scale. Thus, the vegetation program would not provide as much of a basis for the fire management program.

Lands and Realty. Impacts of lands and realty to fire management would be similar to those discussed for the Proposed RMP, except they would occur on a smaller scale due to the smaller acreage involved for disposals, corridors, and other authorizations.

Renewable Energy. Under Alternative A, applications for alternative energy sources would continue to be reviewed and approved on a location-by-location basis. This policy has minimal effect, either beneficial or adverse, on fire management. The same general effects would apply as for the Proposed RMP.

Travel Management and Off-highway Vehicle Use. Roads provide access to areas whereby the risk of human-caused fire ignition increases in those areas; however, the same access is afforded to fire fighters for suppressing human- or natural-caused fires. The Ely Field Office policy of allowing off-road travel, and the resulting proliferation of roads, would continue to result in both potential ignition sources as well as access for fire fighters.

Recreation. Recreational activities that occur on the planning area inherently increase the risk of human-caused fire due to the common outdoor use of lighters, campfires, vehicles, and cook stoves. The risk of recreation-related ignitions would be highest around human concentration areas such as planning campgrounds and hunting camps. Only 750,000 acres of special recreation management area would be retrained. This area along U.S. Highway 50 is not expected to increase fire ignitions.

Forest/Woodland and Other Plant Products. Forest/woodland and other plant product harvesting affects fuels both positively and negatively. Of the permitted activities, green tree harvesting for fuelwood or posts and poles would reduce and redistribute the greatest amounts of fuel. This break-up of fuel continuity would have a desirable effect for fire management. Tree harvesting, however, generates woody debris (slash). Slash left on the ground increases fire hazards in the short term, depending on the slash treatment method. Collection of dead and down wood for fuelwood would reduce the hazard level for medium to large size woody materials on a very localized basis.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP (see Section 4.18). The impacts from development of solid leasable minerals, locatable

minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Noxious and Invasive Weed Management. Noxious and invasive weeds would continue to affect fire behavior and frequency. As noxious and invasive plants dominate plant communities, fuels increase locally. Cheatgrass is highly flammable when cured and generates fires that burn frequently and rapidly. The resulting fire behavior dictates appropriate management and fire fighter capabilities.

The treatment or removal of noxious and invasive weeds on the planning area would affect fuels available for fire; however, this change is highly localized and operates on a spatial and temporal scale different than fire. Noxious weed treatment under Alternative A would be concentrated along roads, which are useful as fuelbreaks during suppression activities. Treating roadside weeds would consequently help maintain existing roadways as fuel breaks and decrease the spread of weeds into new undisturbed areas.

Special Designations. Existing management would continue to require designated wilderness classifications to be considered during development of appropriate fire management response. Only the three existing desert tortoise ACECs would be designated under this alternative, resulting in fewer acres with fire management constraints than under the Proposed RMP.

Conclusion. Continued implementation of the Ely Fire Management Plan, which incorporates the Ely Managed Natural and Prescribed Fire Plan, would allow case-by-case decisions based in part on where the fire occurs in relation to where in the planning area such fire would be considered beneficial or detrimental.

Alternative B

Impacts from Fire Management Actions. Impacts to fire management associated with program-specific management activities would be the same as the Proposed RMP. Fire suppression costs associated with Alternative B would be less than fire suppression costs associated with Alternative A, C, or D, but higher than fire suppression costs associated with the Proposed RMP.

Impacts from Other Programs. Impacts to fire management associated with vegetation, special status species, cultural resources, renewable energy, travel management and off-highway vehicle use, forest/woodland and other plant products, geology and mineral extraction, and noxious and invasive weed management activities would be the same as or similar to the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Lands and Realty. Under Alternative B, an increased area would be designated for possible disposal primarily for community development. Commonly, development can lead to increased ignition sources from human activities and therefore potentially increased fire risk on adjacent public lands.

Recreation. Alternative B includes designation of nine special recreation management areas totaling approximately 2.7 million acres. This decision, coupled with the changes in off-highway vehicle use policies

discussed above, would tend to reduce the risk of human-caused fires in remote areas of the planning area while increasing the risk in these designated areas.

Special Designations. Impacts to fire management associated with special designations would be similar to the Proposed RMP. Designation of 18 ACECs may affect decisions regarding fire management in or near these areas.

Conclusion. Implementation would result in a major increase in the use of fire throughout the watersheds in the planning area. Fire use and prescribed fire would be implemented year-round to meet resource objectives in accordance with the Ely Fire Management Plan (BLM 2004a), thus meeting the goal for this management program. An increase in application of other tools (e.g., herbicides) also may be necessary to meet management goals prior to expanding the use of fire.

Alternative C

Impacts from Fire Management Actions. Fire management would focus on full suppression throughout the planning area. This approach is expected to result in continued accumulation of heavy fuel supplies in untreated sagebrush and forest/woodland communities until natural ignition occurs in these areas. At that point, suppression and control of the resulting fires may be difficult, if not impossible. Thus, over the long term, this approach would lead to increased risk of eventual large scale wildland fires that would cause ecological damage and jeopardize human safety and property. Fire suppression costs associated with Alternative C would be higher than fire suppression costs associated with the Proposed RMP.

Impacts from Other Programs. Impacts to fire management associated with vegetation, special status species, cultural resources, lands and realty, renewable energy, forest/woodland and other plant products, geology and mineral extraction, noxious and invasive weed management activities, and special designations would be the same as or similar to the Proposed RMP. The following interrelated program would result in different impacts.

Travel Management and Off-highway Vehicle Use. Approximately 32,000 acres would be classified as open to cross-country off-highway vehicle use under Alternative C. These areas are all within dry lake beds and should pose minimal threat for fire ignitions.

Recreation. Alternative C includes designation of nine special recreation management areas totaling approximately 2.6 million acres. These areas, like the off-highway vehicle emphasis areas, involve an increased risk of human-caused fire ignitions, but the increased risk in these concentrated use areas tends to be offset by the reduction in risk in remote areas of the planning area closed to such activities. Alternative C includes designation of approximately 1.1 million acres for off-highway vehicle emphasis areas, carrying with it associated risks for human-caused fire ignitions. This is a substantially larger area designated for such use than in the Proposed RMP.

Conclusion. Full suppression of fires within the planning area would be practical only on a short-term basis. Over the long term, the attempts at full suppression would probably lead to catastrophic widespread fires

resulting in long-term ecological damage and increased risk to human safety and property. Thus, this alternative would fail to meet the stated goal and objective for the fire management program.

Alternative D

Impacts from Fire Management Actions. Alternative D would emphasize minimal suppression of wildland fires except for human-caused and those that threaten life or property. This approach would result in increased average size of fires and greater areas being rehabilitated on an annual basis. The relative absence of vegetation treatments in sagebrush and forest/woodland communities and the absence of grazing would lead to continued accumulation of both heavy and fine fuels followed by eventual large-scale fire events that would have a high risk of causing ecological damage and jeopardizing human safety and property. Long-term fire suppression costs associated with Alternative D would be higher than long-term fire suppression costs for the Proposed RMP.

Impacts from Other Programs. Impacts to fire management associated with special status species, cultural resources, and watershed management activities would be the same as or similar to the Proposed RMP. The following interrelated programs would result in different impacts.

Vegetation. Restoration would occur at low levels, and the untreated vegetation communities would continue to accumulate live and dead fuels. Pinyon-juniper woodlands, in particular, would continue to accumulate woody fuels that would contribute to increased fire hazards.

Lands and Realty. There would be no net loss of public land under Alternative D, nor would there be any new land use authorizations such as new rights-of-way. This would serve to reduce ignition sources from human activity.

Renewable Energy. Renewable energy development would be severely curtailed due to the elimination of new land use authorizations. This would have a similar impact as that for Lands and Realty under this alternative.

Travel Management and Off-highway Vehicle Use. Alternative D would restrict off-highway vehicle use to maintained roads and trails throughout the decision area, and there would be no off-road open areas. Roads and trails not mechanically maintained would be rehabilitated. This approach would substantially reduce the risks associated with human-caused fire ignitions throughout much of the planning area but also would reduce access for responding to fires.

Recreation. There would be no Special Recreation Permits issued including outfitter and guide permits, motorcycle race events, and truck race events. As with the off-highway vehicle policy above, this would reduce the risk of human-caused fire ignitions.

Forest/Woodland and Other Plant Products. Harvest of forest/woodland and other plant products would be restricted to small quantities of pinyon pine nuts. This would reduce the potential risk of ignition sources

associated with most harvest activities in other alternatives, but also would contribute to greater fuel accumulations in these woodland areas and potentially result in larger eventual fires.

Geology and Minerals Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral entry, approximately 50 percent less than in the reasonably foreseeable development scenario (see Section 4.18). Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Noxious and Invasive Weed Management. Alternative D would prohibit the use of selected categories of herbicides. This restriction would seriously hamper efforts to control some invasive weeds in numerous settings where they provide a fine fuel supply and contribute to fire susceptibility.

Conclusion. Buildup of fuels would occur throughout the planning area and eventually lead to catastrophic fires, resulting in long-term ecological damage and increased risk to human safety and property. It is expected that such fires would occur earlier in time with this alternative than with Alternative C. Thus, this alternative would fail to meet the stated goal and objective for the fire management program.

4.21 Noxious and Invasive Weed Management

Impact Issues

Noxious and invasive weed introduction and spread generally are functions of vectors (e.g., animals, wind, and vehicles) that transport plant material to and within the planning area and of ground disturbances that promote their establishment. The establishment and spread of noxious and invasive weeds results in the disruption of natural ecological systems. The control of noxious and invasive weeds is dependant on the identification and implementation of appropriate monitoring and treatment methods.

Please refer to Section 4.5, Vegetation, for general impacts from vegetation tools and techniques. Tools and techniques that may affect the potential invasion, establishment, expansion, and control of noxious and invasive weeds include fire, mechanical and chemical treatments, grazing management, and biological agents.

Assumptions for Analysis

- Noxious weed management would continue to operate in concert with, but independent of, watershed restoration priorities.

Interactions with Other Programs

The noxious weeds management program within the planning area potentially would be affected by actions within the resource management programs for vegetation, special status species, wild horses, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, fire management, special designations, and health and safety.

Goal

Prevent the introduction and spread of noxious and invasive weeds. Control or eradicate existing populations.

Objective

To reduce the introduction of, and the areal extent of noxious and invasive weed populations and the spread of these populations.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality

regulations. Impacts to noxious and invasive weed management also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Noxious and Invasive Weed Management Actions. The majority of the existing management actions and best management practices address noxious weed prevention for all activities on the planning area, although some are focused on program-specific activities. Prevention emphasis currently is placed on reducing weed vectors (e.g., vehicles and equipment) and on post-disturbance monitoring and revegetation. All seed mixes, mulches, topsoil, and hay used in revegetation projects on the planning area are required to be weed-free. Although it is impossible to prevent all noxious and invasive weed species from entering and spreading on the planning area, these measures are expected to continue to substantially reduce weed vectors.

Maintenance or, if necessary, re-establishment of desired vegetation in resilient plant communities is the primary means of preventing weed establishment following disturbance. Revegetation currently is conducted with native and nonnative species following ground disturbing activities throughout the planning area, except in designated wilderness and wilderness study areas, where native species are preferred. Most efforts for revegetation involve seeding. Success rate, in part, is a function of monitoring revegetation efforts to determine the need for re-treatment.

Treatment methods for noxious and invasive weed control include chemical, mechanical, cultural, or biological. However, other tools may be used to achieve site-specific resource objectives. Existing management actions, best management practices, and tools and techniques address use of herbicides, livestock (e.g., sheep, goats), and biological organisms (e.g., insects, pathogens) to manage weed infestations. Under the Proposed RMP, emphasis would continue to be placed on reducing weed vectors and treating weed infestations associated with roads where weed introduction, establishment risks, potential for additional spread, and existing problems are highest. Isolated weed occurrences would continue to have the potential to spread unchecked. Overall weed control costs under the Proposed RMP are expected to increase during the short term along with the increase in vegetation treatments. These costs would then stabilize and diminish over the long term as resilient perennial vegetation is reestablished in the treated areas.

Impacts from Other Programs.

Vegetation. Under the Proposed RMP, there would be a potential for a substantial increase in ground disturbing activities from current levels associated with vegetation treatments. This would correspondingly increase the risk of weed spread on the planning area over current levels in association with vegetation

treatments. Priorities for active management of vegetation would include an array of vegetation communities identified in Section 2.4.5 where existing conditions do not meet the desired range of conditions. Disturbance of existing vegetation to implement treatments carries with it the risk for additional weed spread if the treatment is not successful. Risk of weed invasion would be reduced on treated areas where resilient vegetation is successfully reestablished.

Special Status Species. Management of specific areas for special status species may restrict the tools used in management of noxious and invasive weeds (e.g., use of pesticides near streams or sensitive special status plant species). These conflicts would be identified and resolved on a case-by-case basis.

Wild Horses. The Proposed RMP would result in elimination of several herd management areas totaling approximately 1.6 million acres that do not provide suitable or adequate habitat to sustain wild horse populations. This action would contribute to vegetation restoration and reduction in weed risks in these areas.

Lands and Realty. Land use permits and rights-of-way provide areas for weeds to establish and spread. Right-of-way management and other permitted lands actions would continue to be conducted in compliance with the management actions and best management practices of the noxious weed management program. These procedures address noxious weed prevention related to equipment use, ground disturbance, and reclamation at the close of permitted activities. Management actions and best management practices that apply to right-of-way permit holders and others under contract require vehicle wash downs, pre-disturbance surveys, and mitigation, as needed. The implementation of best management practices would minimize potential effects associated with the maintenance of unpaved roads on BLM-administered lands. Concentrating major rights-of-way within corridors and communication facilities at existing sites would lessen the impact and spread of noxious and invasive weeds by applying control to a concentrated area.

Depending on planned use, possible land disposals that may occur have the potential to increase noxious and invasive weeds subsequent to change in ownership. For example, if disposed parcels were developed subsequent to leaving public domain and the disposed parcel is adjacent to other public land, the risk of noxious weed establishment and spread may increase on the planning area, depending on the type of development involved.

Renewable Energy. Effects would be similar to lands and realty for areas disturbed in conjunction with renewable energy developments and associated rights-of way. Impacts associated with these activities would be mitigated to the extent practicable through management practices from the Wind Energy Programmatic EIS.

Travel Management and Off-highway Vehicle Use. Road construction, use, abandonment, and maintenance activities all have the potential to transport and proliferate noxious and invasive weeds. Roads are continually disturbed ground surfaces with enhanced water runoff on the adjacent roadsides, both conditions that favor the establishment of weeds. Personal vehicles that use the roads in the planning area can introduce plant materials from elsewhere, thereby increasing the distribution of noxious and invasive

weeds and introduction of new weed species. Off-highway vehicle use would be limited to designated roads and trails on approximately 10.3 million acres, as determined through a subsequent public process and area-specific analysis, and closed on the remaining approximately 1.2 million acres. This would result in lower risks for weed dispersal through movement of vehicles through infected areas.

Recreation. All developed and dispersed recreational facilities are vulnerable to the introduction and spread of noxious and invasive weeds because of public access via vehicle, the use of pack animals, and the concentration of impacts on the ground. The Proposed RMP includes the designation of five special recreation management areas totaling approximately 1.2 million acres and four special recreation permit areas for competitive events totaling approximately 1.3 million acres. These areas would be particularly vulnerable to introduction and spread of invasive species. Potential impacts associated with outfitters, guides, and recreationists using horses, llamas, or other stock would be minimized because only certified weed-free hay would be allowed to be brought onto public lands.

Livestock Grazing. Livestock grazing is managed to achieve or maintain appropriate rangeland health standards. Typically, rangelands that are in good ecological health are less vulnerable to weed establishment than poor or degraded conditions. Livestock moving from infested areas on private lands to public land allotments can be a major vector for weed seeds.

On all actively grazed allotments, regardless of animal class or numbers, there are animal concentration areas that receive the greatest impacts. Heavily impacted and newly disturbed areas associated with water sources, salt sites, traps, fence lines, range improvements and sheep bedding grounds would remain highly vulnerable to weed establishment. In addition, livestock can transport noxious and invasive weed propagules (e.g., seed and plant parts) into these areas. These hazards and risks would continue at levels dictated by the implementation of best management practices such as monitoring high-risk areas.

Livestock can adversely affect revegetation efforts that are essential to preventing weeds from establishing on recently disturbed areas though trampling and grazing of young plants. For this reason, livestock typically would be excluded from seeded areas until objectives have been met.

No domestic sheep or goat grazing would be allowed within occupied desert bighorn sheep habitat and associated buffer zone except where natural or man-made barriers effectively prevent physical contact. This approach would eliminate the use of domestic sheep or goats for weed control and eradication in such areas and may necessitate greater use of herbicides for such purposes.

Forest/Woodland and Other Plant Products. Forest/woodland products are available across the majority of the planning area. The potential for the spread of noxious and invasive weeds from harvest activities is low to moderate. Stipulations will be included in contracts to reduce potential for spread. Monitoring for weeds during watershed analyses and project planning will be a priority.

Geology and Mineral Extraction. Approximately 17,100 acres, as estimated in the reasonably foreseeable development scenario (see Section 4.18), would be distributed throughout the 11.5 million acres of the planning area. Road construction, use, abandonment, and maintenance related to mineral

development all provide the potential to transport and proliferate weeds. Mineral operations would be conducted in compliance with best management practices, thereby minimizing weed-related impacts. These best management practices address noxious weed prevention related to equipment use, ground disturbance, and reclamation at the close of exploration, construction, and operation of permitted activities.

The level of risk associated with minerals development is roughly proportional to the level of development. Under this alternative, the current low levels of mineral development would continue to pose moderate to low levels of risk for the introduction and spread of noxious and invasive weeds depending on compliance with leases, permits, and the best management practices contained in them. The greatest risks would be associated with new road construction that penetrates into currently roadless areas.

Fire Management. Prescribed fire, wildland fire use (approximately 8.9 million acres available), and other tools would be used to the greatest extent practical under the Proposed RMP. This would increase the probability for noxious and invasive species expansion and establishment in burned areas if revegetation efforts fail and weed control measures prove ineffective in the short and long term. However, if native vegetation becomes reestablished in burned areas, the resiliency of vegetation to future fires would minimize the likelihood of expansion and establishment of noxious and invasive weed species within new areas.

Special Designations. Actions to nominate and designate special management areas do not directly affect noxious weed management; however, management plans for these areas that attract recreation or exclude mineral entry can have negative or positive weed-related effects.

Health and Safety. Health and safety precautions would continue to be implemented through best management practices, primarily during weed treatment with herbicide. These precautions would not conflict with the treatment of noxious and invasive weeds on the planning area.

Conclusion. The Proposed RMP would involve a substantial increase in vegetation treatments resulting in a temporary increase in the risk of weed invasion and expansion in the areas disturbed by treatments, but a long-term reduction in the vulnerability of these same areas. Additional constraints on off-highway vehicle use throughout the planning area and formalization of weed management actions related to construction and development activities would substantially reduce weed dispersal associated with these activities. However, with the increase in use of off-highway vehicles in designated special recreation management areas and special recreation permit areas, the potential spread of weeds will increase. Monitoring measures will be implemented to ensure containment of any outbreak. Therefore, this alternative would reduce the rate of spread of noxious and invasive weeds on a long-term basis and meet the program goal.

Alternative A

Impacts from Noxious and Invasive Weed Management Actions. Noxious and invasive weed impacts associated with program-specific management activities would be the same as described for the Proposed RMP. Overall weed control costs would continue at current levels over the short term and would likely continue to escalate over the long term.

Impacts from Other Programs. Noxious and invasive weed impacts associated with special status species, renewable energy, and health and safety activities would be the same as or similar to the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Vegetation. Vegetation treatments can introduce or proliferate weeds as a function of ground disturbances. An average of 10,000 acres per year typically would be treated. Any of these areas with ground disturbance or new roads would be highly vulnerable to weed establishment. Although the short-term vulnerability to weed establishment would increase during and immediately following the treatment activity, this would be more than offset by the reduced vulnerability of the resultant perennial communities to new weed infestations.

Revegetation would minimize the potential establishment and spread of noxious and invasive weeds by stabilizing soils and establishing groundcover; however, seeding also could be a vector for weed introduction. Weed-free seed and straw mulch, where used, would be required for revegetation efforts, precluding this threat to the extent that such seed and straw are available and used. Implementation of the other standard operating procedures listed under Noxious and Invasive Weed Management in Appendix J of the Draft Ely RMP/EIS (July 2005) would minimize potential for introduction and spread of these species.

Wild Horses. Wild horses currently affect noxious and invasive weed management primarily through their impacts on rangeland health. Excessive use in riparian areas and other concentration sites contribute to the vulnerability of these areas to weed invasion. Wild horses are not as likely to transport weeds from distant places as often as cattle and sheep that may be trucked from one area to another.

Lands and Realty. Noxious and invasive weed impacts associated with lands and realty management activities would be the same as described for the Proposed RMP except that the total area available for possible disposal would be substantially less.

Travel and Off-highway Vehicle Use. The majority of the decision area (9.8 million acres) would continue to be open for off-highway travel. As a result, the potential for introduction and spread of noxious and invasive weeds beyond existing roads and trails and into unroaded areas would continue. This could be partially minimized through the consideration of off-road closures in weed-infested areas.

Recreation. No additional special recreation management areas or special recreation permit areas would be designated, and dispersed recreation would continue to be heavy and increase rapidly throughout much of the planning area. This, coupled with the "open" approach for recreational off-highway vehicle use, would contribute to the spread of noxious and invasive species.

Livestock Grazing. Under Alternative A, impacts of livestock grazing on noxious weed management would be similar to the Proposed RMP except that this alternative would not involve the closure of sheep and goat grazing in and near occupied desert bighorn sheep habitat. Therefore, this alternative could involve higher risk of weed invasion and spread on those areas than under the Proposed RMP, but also would allow the use of such animals for selective biological control of various weed species in these areas.

Forest/Woodland and Other Plant Products. Public and commercial fuelwood, post and pole, pinyon pine nut harvest, and Christmas tree cutting activities would be allowed throughout the planning area with few exceptions. Combined with the largely open transportation policy on the planning area, off-road travel and the ultimate establishment of two-track trails that become roads could be associated with the forest/woodland and other plant products program. Due to the broad area open to these public activities, any resulting establishment of noxious or invasive weed populations could quickly lead to widespread dispersal of such species.

Geology and Mineral Extraction. The area available for development of solid leasable minerals, locatable minerals and mineral materials would be relatively similar to that in the Proposed RMP. However, approximately 4 million acres are presently available for oil and gas leasing in contrast to approximately 10 million acres in the Proposed RMP. Therefore, it is expected that only 40 percent (3,400 acres) of the 8,400 acres estimated in the reasonably foreseeable development scenario for oil and gas would be disturbed.

Overall, the total disturbance from mineral development actions would be approximately 12,100 acres in Alternative A in contrast to the 17,100 acres in the reasonably foreseeable development scenario for the Proposed RMP (see Section 4.18). The impacts from development of solid leasable minerals, locatable minerals, and mineral materials would be approximately the same in Alternative A as those described in the Proposed RMP, but much less for oil and gas development.

Fire Management. Impacts of fire management would be the same as the Proposed RMP, except that wildland fire use would be allowed on 3.6 million acres, approximately half of what is available in the Proposed RMP.

Of greatest concern is the relationship between the nonnative, invasive, annual grasses and forbs, and fire. For example, cheatgrass, other annual bromes of Mediterranean origin, and several annual forbs are adapted to fire and proliferate to become a monocultural cover wherever bare ground allows. Management of fire under this alternative would take cheatgrass abundance into account (based on available information), whenever practical; however, cheatgrass would continue to spread following fires.

Special Designations. Impacts associated with special designations would be similar to the Proposed RMP although the total number of new ACECs and their acreages would be less than in the Proposed RMP.

Conclusion. Weed control efforts historically have focused primarily on toxic and noxious weed species with less attention devoted toward the spread of annual invasive species such as cheatgrass, which provide usable forage during a short grazing season each spring. Current management includes emphasis on slowing and reversing the spread of these invasive species through application of integrated pest management methods. The rapidly increasing levels of recreational activities throughout the planning area contribute to the increasing spread of noxious and invasive species. Under this alternative, the rate of spread of noxious and invasive weeds would increase in both the short and long term, thus failing to meet the program goal.

Alternative B

Impacts from Noxious and Invasive Weed Management Actions. Noxious and invasive weed impacts associated with program-specific management activities would be the same as described for the Proposed RMP. Overall weed control costs are expected to increase in the short term during the period of increased vegetation treatments and then stabilize and diminish over the long term as resilient perennial vegetation is reestablished on treated areas.

Impacts from Other Programs. Noxious and invasive weed impacts associated with vegetation, special status species, wild horses, lands and realty, renewable energy, travel management and off-highway vehicle use, geology and mineral extraction, watershed management, fire management, forest/woodland and other plant products, and health and safety activities would be the same as or similar to the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Recreation. This alternative includes the designation of nine special recreation management areas totaling approximately 2.7 million acres and two special recreation permit areas for competitive events totaling approximately 656,000 acres. Three of the nine special recreation management areas would emphasize recreational use of off-highway vehicles. These areas would be particularly vulnerable to introduction and spread of invasive species.

Livestock Grazing. This alternative includes elimination of livestock grazing from the remainder of the Mojave Desert (542,100 acres) and desert bighorn and Rocky Mountain bighorn sheep ranges and migration routes (3 million acres), thus contributing to the vegetation restoration and reduction in the weed risks in these areas. In the remainder of the planning area, livestock grazing may be used as tool in the control of existing weed populations.

Special Designations. Impacts associated with special designations would be similar to the Proposed RMP although the total number of new ACECs and their acreages would be less than in the Proposed RMP.

Conclusion. Alternative B would be similar to the Proposed RMP in terms of weed management because the substantial increase in vegetation treatments under this alternative would temporarily increase the risk of weed invasion and expansion in areas disturbed by treatment but reduce the vulnerability of these same areas on a long-term basis. Additional constraints on off-highway vehicle use throughout the planning area would substantially reduce weed dispersal associated with this activity. However, with the increase in use of off-highway vehicles in designated special recreation management areas and special recreation permit areas, the potential spread of weeds would increase. Monitoring measures would be implemented to ensure containment of any outbreaks. Therefore, this alternative would reduce the rate of spread of noxious and invasive weeds on a long-term basis and meet the program goal.

Alternative C

Impacts from Noxious and Invasive Weed Management Actions. Noxious and invasive weed impacts associated with program-specific management activities would be the same as or similar to those described for the Proposed RMP. Overall weed control costs are expected to increase in the short term during the period of increased vegetation treatment and then stabilize over the long term as resilient vegetation is reestablished on treated areas. With the intensive commodity use under Alternative C, long-term weed control costs are expected to remain higher than under the Proposed RMP.

Impacts from Other Programs. Noxious and invasive weed impacts associated with vegetation, special status species, wild horses, renewable energy, travel management and off-highway vehicle use, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, special designations, and health and safety would be the same as or similar to the Proposed RMP. The following interrelated programs would result in different impacts compared to the Proposed RMP.

Lands and Realty. Noxious and invasive weed impacts associated with lands and realty management activities would be the same as described for the Proposed RMP except that a total area available for possible disposal would be about four times larger.

Recreation. This alternative includes the designation of nine special recreation management areas totaling approximately 2.6 million acres and four special recreation permit areas for competitive events totaling approximately 1.3 million acres. Four of the nine special recreation management areas would emphasize recreational use of off-highway vehicles. These areas would be particularly vulnerable to introduction and spread of invasive species.

Fire Management. The full suppression approach to fire management would likely result in short-term reduction of fire events followed by increased number of large-scale events over a longer period. The large-scale, intense fire events create burned areas that are typically more difficult to successfully revegetate, thus increasing the risk for establishment and spread of invasive and noxious weed species.

Conclusion. The level of vegetation treatments involved in Alternative C would be approximately the same as the Proposed RMP. This alternative, like the Proposed RMP, would reduce the long-term impacts of noxious and invasive weeds through vegetation treatments, but this would likely be offset by the increased probability of weed establishment and spread following major wildland fire events. With the increase in use of off-highway vehicles in designated special recreation management areas and special recreation permit areas, the potential spread of weeds would increase. Monitoring measures would be implemented to ensure containment of any outbreaks.

Alternative D

Impacts from Noxious and Invasive Weed Management Actions. With the prohibition of use of selected herbicides, such as the sulfonylurea group and other acetolactate synthase inhibitors, as proposed under Alternative D, it is anticipated that there would be an increase in invasive-dominated areas in the planning

area due to the lack of an effective control method. For example, the sulfonylurea herbicides are highly effective tools for the reduction of hoary cress, tall whitetop, and Russian knapweed. Overall weed control costs would be reduced under Alternative D in the short term, but would escalate dramatically in the long term because of the higher probability of intense fire events and more limited rehabilitation practices.

Impacts from Other Programs. Noxious and invasive weed impacts as a result of special status species, special designations, and health and safety would be similar to those described for the Proposed RMP.

Vegetation. Weed treatment after fire use would minimize the potential for invasion and spread of noxious and invasive species within burned areas in the short term. After several years of weed treatment and revegetation, perennial plant cover would be adequately established, which would minimize invasion by noxious and invasive species.

Wild Horses. Wild horses would be managed in the same 24 herd management areas as in Alternative A, but populations would be uncontrolled in these areas. It is expected that the increasing herds would lead to vegetation deterioration and increased vulnerability of these areas to establishment and spread of noxious and invasive species.

Lands and Realty. This alternative would require no net loss of public lands, reducing the amount of disposal and subsequent development. This also would reduce the spread of weeds. No additional corridors would be designated and this limitation would reduce the spread of weeds.

Renewable Energy. Renewable energy projects would not be authorized under this alternative so effects from such development would not occur.

Travel Management and Off-highway Vehicle Use. This alternative would effectively close the decision area to off-highway vehicle use except on maintained roads and trails, a substantially lower level of authorized use than in the other alternatives. This would reduce the likelihood of weed spread through use of off-highway vehicles.

Recreation. Allowable recreation uses under Alternative D would not include any off-road vehicle races, thereby reducing the likelihood of weed spread through such events and the associated traffic.

Livestock Grazing. No livestock grazing would be permitted, thus removing livestock use not only as a weed vector, but also as a useful management tool in selected settings to control particular weed species or to help incorporate seeds into the soils of areas being rehabilitated.

Forest/Woodland and Other Plant Products. Harvest of forest and woodland products would be limited to pinyon pine nuts by American Indians, thus effects regarding potential spread of invasive species would be minimal.

Geology and Minerals Extraction. The entire planning area would be closed to development of leasable minerals and mineral materials entry. Approximately 5 million acres would be open to locatable mineral

entry, approximately 50 percent less than in the reasonably foreseeable development scenario (see Section 4.18). Overall, the total disturbance from mineral development actions would be approximately 3,700 acres in contrast to the 17,100 acres in the Proposed RMP. Therefore, the impacts from minerals development, as described in the Proposed RMP, would be much less in Alternative D than in the Proposed RMP.

Fire Management. Fire management would include no suppression of wildland fire except for human-caused and those that threaten life and/or property. Over the long term, this would result in larger wildland fires, increasing the expansion of invasive species.

Special Designations. No ACECs would be designated under this alternative and any potential effects associated with such designation would be eliminated.

Conclusion. Weed management would involve exclusion of some groups of herbicides. This would effectively reduce the capability to control several weed species and increase impacts associated with noxious and invasive weeds. In the short-term, the reduction in discretionary activities that serve as vectors for weed dispersal may temporarily reduce the rate of spread for existing populations and the rate of introduction for new species. However, since very few fires would be suppressed, the spread of noxious and invasive weeks throughout the planning area would likely be accelerated in both the short and long term. Once this occurred, the control of noxious and invasive species would not be attainable. Thus, the combination of weed management actions with other program actions under this alternative is not expected to reduce the rate of spread of noxious and invasive weeds in the long term, and, thus, would fail to meet the program goal.

4.22 Special Designations

Existing and nominated ACECs that met relevance and importance were analyzed in relationship to each of the alternatives (see **Table 4.22-1**).

Impact Issues

Special designation areas are designated based on relevance and importance and contain resources that require special management to preserve their values. The primary impact issue associated with special designation areas is whether the management prescriptions identified for a designated area will in fact protect and preserve its unique and sensitive values.

Assumptions for Analysis

None.

Interactions with Other Programs

The special designations management program would not be affected by the management actions of most other resource programs. Since special designation areas require special management to preserve their values, management prescriptions would be developed that preempt the management actions of other programs as necessary. Initial management prescriptions are presented in Chapter 2.0, and after completion and approval of the RMP, they would be expanded in individual special designation area management plans. Interactions with the lands and realty, fire management, and noxious and invasive weed management programs will be discussed in this section.

Goal

Evaluate areas of interest for special designation and appropriately manage those areas that meet necessary requirements.

Objective

To ensure that multiple use activities within the planning area are consistent with the management plans developed for special designation areas such as ACECs.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. After completion and approval of the RMP, during project implementation, additional mitigation

Table 4.22-1
Consideration by Alternative of Nominated ACECs that Meet Relevance and Importance

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
ROCK ART							
Alamo Pictograph Site	480 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Ash Springs (Pahranagat Rock Art)	160 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Detailed management actions designed to protect rock art are part of the Proposed RMP and Alternatives B, C, and D and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Black Canyon (Pahranagat Rock Art)	400 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Christmas Wash (Snake Range Rock Art)	1,920 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. This area currently is protected by its location within a designated wilderness, which limits access. The wilderness management plan for this area would address cultural values. Further, under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Crystal Wash (Pahranagat Rock Art)	1,440 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Detailed management actions designed to protect rock art are part of the Proposed RMP and Alternatives B, C, and D and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Evergreen Flat (Pahranagat Rock Art)	960 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Rock art resources are and would be protected because of their location within the existing Kane Springs ACEC, which is recommended to be retained as an ACEC in the Proposed RMP and Alternatives A, B, and C. The Kane Springs ACEC Management Plan would address rock art resources. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, no ACEC designation for rock art is proposed because unwanted public attention to this relatively unknown area could result in damage to the resource.				
Frenchy Flat (Pahranagat Rock Art)	220 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Hell's Half Acre (Pahranagat Rock Art)	320 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Hiko Canyon (Pahranagat Rock Art)	15 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Honeymoon Hill/ City of Rocks	3,900 to 5,900 acres	Rock art	3,900 acres	0 acres	3,900 acres	5,900 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Alternative C proposes the largest ACEC in order to protect the cultural values within this commodity-oriented alternative. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Moriah Site (Pahranagat Rock Art)	640 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Mount Irish	15,100 to 26,200 acres	Rock art	15,100 acres	0 acres	26,200 acres	26,200 acres	0 acres
			This potential ACEC includes the Mount Irish Archeological District. Under Alternative A, this is not an existing ACEC. Even though 15 percent of the nominated area lies within designated wilderness, special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. The wilderness management plan for this area would address cultural values within the designated wilderness. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Negro Creek (Snake Range Rock Art)	560 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Pahroc Rock Art	3,200 acres	Rock art	2,400 acres	0 acres	3,200 acres	3,200 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Even though 30 percent of the nominated area lies within designated wilderness, the rock art location is not within the designated wilderness; therefore, special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. The wilderness management plan for this area would address additional cultural values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Six Mile Flat (Pahranagat Rock Art)	2,160 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Shooting Gallery	20,700 acres	Rock art	15,600 acres	0 acres	20,700 acres	20,700 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Tunnel Canyon	200 acres	Fremont Pictographs	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Weepah Spring (Pahranagat Rock Art)	5,120 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art are part of these alternatives and provide sufficient protection for the relevant and important values. This area currently is protected by its location within a designated wilderness, which limits access. The wilderness management plan for this area would address rock art resources. Further, under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
White River Narrows (Pahranagat Rock Art)	8,960 acres	Rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Detailed management actions designed to protect rock within this national register district are part of the Proposed RMP and Alternatives B, C, and D and would provide sufficient protection for the relevant important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
OTHER ARCHAEOLOGICAL RESOURCES AND HISTORIC PRESERVATION							
Baker Archeological Site	80 acres	Fremont habitation site	80 acres	0 acres	80 acres	80 acres	0 acres
			Under Alternative A this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Bennett Springs	520 acres	Historic landscape	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect historic trails are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management. A higher visual resource management class is being assigned to this area through this RMP to protect the landscape under the Proposed RMP and Alternatives B, C, and D.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Bristol Wells	400 acres	Historic mining town and cemetery	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Criteria for protection of historic mining towns and cemeteries in the Proposed RMP and Alternatives B, C, and D provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Carbonari Sites	21,279 acres	Scattered charcoal production sites	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, these are not existing ACECs. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to these relatively unknown areas, which could result in damage to the resource. Detailed management actions designed to protect historic mining are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Delamar	4,160 acres	Historic mining town	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Criteria for protection of historic mining towns and cemeteries in the Proposed RMP and Alternatives B, C, and D and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Garrison Archeological Site	160 acres	Fremont Village	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call more unwanted public attention to this known site, which could result in damage to the resource. Detailed management actions designed to protect formative Puebloan sites are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Gleason Canyon and Panaca Charcoal Kilns	4,000 acres	Charcoal kilns	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. A recreation project plan to be written under the Proposed RMP and Alternatives B, C, and D would address these values and preclude the need for special management through an ACEC. Detailed management actions designed to protect historic mining are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Goshute Lake	18,360 acres	Paleo-Indian site	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to these relatively unknown areas, which could result in damage to the resource. Detailed management actions designed to protect Paleo-Indian sites are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Hendry's Creek/Rock Animal Corral	3,300 acres	Archeological site	3,650 acres	0 acres	3,300 acres	3,300 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Jake's Valley Paleo Shoreline	19,209 acres	Paleo-Indian site	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call more unwanted public attention to this known site, which could result in damage to the resource. Detailed management actions designed to protect Paleo-Indian sites are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Mahoney Canyon Jasperoid Source	200 acres	Tool stone quarry	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call more unwanted public attention to this known site, which could result in damage to the resource. Detailed management actions designed to protect tool-stone sources or quarries are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Modena Obsidian Source	13,260 acres	Obsidian source	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call more unwanted public attention to this known site, which could result in damage to the resource. Detailed management actions designed to protect tool-stone sources or quarries are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Mormon Peak Caves, Mormon Mountains, and Mormon Peak	123,000 acres	Extensive archaeological resources	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect rock art, rockshelters, and cave sites are part of these alternatives and provide sufficient protection for the relevant and important values. The cultural values are currently protected by their location within a designated wilderness, which limits access. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Osceola and Osceola Ditch	14,600 acres	Historic town and ditch	0 acres	0 acres	14,600 acres	14,600 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Park Range Aboriginal Sites	42,154 acres	High altitude aboriginal sites	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect prehistoric complex are part of these alternatives and provide sufficient protection for the relevant and important values. Currently this area is protected by its location within a wilderness study area and physical access is extremely difficult. Both of these reasons limit access to the area. Further, under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Rose Guano Bat Cave	40 acres	Historic guano mine and cave, wildlife	40 acres	0 acres	40 acres	40 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Sawmill Canyon	9,920 acres	Historic timber operations and rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call more unwanted public attention to this known site, which could result in damage to the resource. Detailed management actions designed to protect historic mining and rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Snake Creek Indian Burial Cave	40 acres	Archeological resource and cave, zooarchaeo-logical	40 acres	0 acres	40 acres	40 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Stateline Canyon Graveyard (Rice Family Cemetery)	10 acres	Historic graveyard	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Detailed management actions designed to protect historic cemeteries and isolated gravesites are part of the Proposed RMP and Alternatives B, C, and D and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Sunshine Locality National Register District	34,540 acres	Paleo-Indian site	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call more unwanted public attention to this known site, which could result in damage to the resource. Detailed management actions designed to protect Paleo-Indian sites are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Tempiute Obsidian Source	29,767 acres	Obsidian source	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Detailed management actions designed to protect tool-stone sources or quarries are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Tri-County Paleo Site	19,967 acres	Paleo-Indian site	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call more unwanted public attention to this known site, which could result in damage to the resource. Detailed management actions designed to protect Paleo-Indian sites are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Upper Meadow Valley Archeological Zone	980 acres	Prehistoric camp sites and rock art	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call more unwanted public attention to this known site, which could result in damage to the resource. Detailed management actions designed to protect prehistoric camp sites and rock art are part of these alternatives and provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Ward Mining District	2,500 to 11,000 acres	Historic mining area	0 acres	0 acres	11,000 acres	3,000 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Acreages vary by alternative as do management prescriptions. Management prescriptions are very restrictive for Alternative C in order to protect the cultural values from actions occurring in Alternative C. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
DESERT TORTOISE HABITAT							
Beaver Dam Slope ACEC	36,900 acres	Desert tortoise habitat	36,900 acres	36,900 acres	36,900 acres	36,900 acres	0 acres
			This is an existing ACEC under Alternative A and about half is within designated wilderness. Special management attention is required and designation would be retained for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Kane Springs ACEC	65,900 acres	Desert tortoise habitat	57,190 acres	57,190 acres	57,190 acres	57,190 acres	0 acres
			This is an existing ACEC under Alternative A and about half is within designated wilderness. Special management attention is required and designation would be retained for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Mormon Mesa ACEC	109,700 acres	Desert tortoise habitat	109,700 acres	109,700 acres	109,700 acres	109,700 acres	0 acres
			This is an existing ACEC under Alternative A and about half is within designated wilderness. Special management attention is required and designation would be retained for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
PALEONTOLOGICAL RESOURCES							
Andy's Mine Trilobites	100 acres	Trilobites	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Criteria for protection of paleontological resources in the Proposed RMP and Alternatives B, C, and D provide sufficient protection for the relevant and important values. A recreation project plan to be written under the Proposed RMP and Alternatives B, C, and D would manage the use of all trilobite areas and preclude the need for special management through an ACEC. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Chisholm Mine Trilobite Area	160 acres	Trilobites	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Criteria for protection of paleontological resources in the Proposed RMP and Alternatives B, C, and D provide sufficient protection for the relevant and important values. A recreation project plan to be written under the Proposed RMP and Alternatives B, C, and D would manage the use of all trilobite areas and preclude the need for special management through an ACEC. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Oak Springs Summit Trilobite Trail	40 acres	Trilobites	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Criteria for protection of paleontological resources in the Proposed RMP and Alternatives B, C, and D provide sufficient protection for the relevant and important values. A recreation project plan to be written under the Proposed RMP and Alternatives B, C, and D would manage the use of all trilobite areas and preclude the need for special management through an ACEC. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Ruin Wash and Klondyke Gap	160 acres	Fossil location	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Criteria for protection of paleontological resources in the Proposed RMP and Alternatives B, C, and D provide sufficient protection for the relevant and important values. A recreation project plan to be written under the Proposed RMP and Alternatives B, C, and D would manage the use of all trilobite areas and preclude the need for special management through an ACEC. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
GEOLOGIC RESOURCES							
Cave Valley Cave Geologic Area	40 acres	Cave resources	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Management under the existing District Cave Management Plan precludes the need for special management through an ACEC for all the alternatives. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Garnet Hill	1,210 acres	Rock hounding for garnets	0 acres	0 acres	0 acres	1,210 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for Alternative C in order to protect the geologic and rockhounding values within this commodity-oriented alternative. Special management attention is not required to protect rockhounding values for the Proposed RMP and Alternative B. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Leviathan Cave Geologic Area	160 acres	Cave resources	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Management under the existing District Cave Management Plan precludes the need for special management through an ACEC for all the alternatives. The cave is located within a designated wilderness. The wilderness management plan for this area would address cave resources. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Whipple Cave Geologic Area	160 acres	Cave resources	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Management under the existing District Cave Management Plan precludes the need for special management through an ACEC for all the alternatives. The cave is located within a designated wilderness. The wilderness management plan for this area would address cave resources. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
SCENIC VALUES							
Blue Mass Scenic area	950 acres	Spectacular rock spires and scenic pastoral setting	950 acres	0 acres	950 acres	950 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Under the Proposed RMP and Alternatives B and C, the special management attention required would be through management as an ACEC instead of the existing scenic area. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Mount Grafton and North Creek Scenic Areas	16,100 acres	Scenic limestone outcrops and vegetation	13,200 acres	0 acres	16,100 acres	16,100 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Under the Proposed RMP and Alternatives B and C, the special management attention required would be through management as an ACEC instead of the existing scenic area. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Rainbow Canyon	45,827 acres	Scenic volcanic gorge	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. The proposed back country byway in the Proposed RMP and Alternative C precludes the need for special management in these alternatives. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management. A higher visual resource management class is being assigned to this area through this RMP to protect the landscape under the Proposed RMP and Alternatives B, C, and D.				
FLORA							
Heusser Bristlecone Research Natural Area	480 acres	Bristlecone pine	480 acres	0 acres	480 acres	480 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management. This area is a wilderness study area because of its instant study area status.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Park Range Pristine Meadows	1,280 acres	Pristine meadows	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. ACEC designation under the Proposed RMP and Alternatives B, C, and D would call unwanted public attention to this relatively unknown area, which could result in damage to the resource. Currently this area is protected by its location within a wilderness study area and physical access is extremely difficult. Both of these reasons limit access to the area. Further, under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Pygmy Sage Research Natural Area	160 acres	Pygmy Sage	0 acres	0 acres	0 acres	160 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for Alternative C in order to protect this pygmy sage research natural area within this commodity-oriented alternative. Special management attention is not required to protect pygmy sage for the Proposed RMP and Alternative B. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Scarlet Buckwheat-White Rock	640 acres	BLM sensitive plant species	640 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management is required for the Proposed RMP to protect the relevant and important values.				
Schlesser Pincushion	6,470 acres	Schlesser pincushion cactus	6,470 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management is required for the Proposed RMP to protect relevant and important values.				
Shoshone Ponds Natural Area	1,240 acres	Rocky Mountain juniper (swamp cedar) in alkali valley soils. Ponds with endangered fish	1,240 acres	0 acres	1,240 acres	1,240 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management. This area is a wilderness study area because of its instant study area status.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Swamp Cedar Natural Area	3,200 acres	Rocky Mountain juniper (swamp cedar) in alkali valley soils, cultural	3,200 acres	0 acres	3,200 acres	3,200 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management. This area is a wilderness study area because of its instant study area status.				
White River Valley	15,600 acres	BLM sensitive plant species and two sensitive butterflies	15,600 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management is required under the Proposed RMP to protect the relevant and important values.				
FAUNA							
All remaining Greater sage-grouse and pygmy rabbit habitat	Approximately 5 million acres	Greater sage-grouse and pygmy rabbit habitat	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Under all the alternatives, the BLM is directed by bureau policy to prevent listing of BLM and state sensitive species. All of the alternatives provide for appropriate management of greater sage-grouse and pygmy rabbit habitats. The plan includes numerous standard operating procedures identified in the appendices to protect special status species. This would provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Baking Powder Flat	13,000 acres	Baking Powder Flat blue butterfly	13,640 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management is required under the Proposed RMP to protect the relevant and important values.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Flat Spring	42 acres	Cold spring system containing Pygulopsis cruciglans	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Under all the alternatives, the BLM is directed by bureau policy to prevent listing of BLM and state sensitive species. The plan includes numerous standard operating procedures identified in the appendices to protect special status species. This would provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Hampton Creek	0.5 mile on public land	Bonneville cutthroat trout	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Under all the alternatives, the BLM is directed by bureau policy to prevent listing of BLM and state sensitive species. The plan includes numerous standard operating procedures identified in the appendices to protect special status species. This would provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Hendry's Creek	0.3 mile on public land	Bonneville cutthroat trout	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Under all the alternatives, the BLM is directed by bureau policy to prevent listing of BLM and state sensitive species. This would provide sufficient protection for the relevant and important values. The plan includes numerous standard operating procedures identified in the appendices to protect special status species. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Highland Range (including Highland Peak and Anderson Canyon)	12,000 acres	Two rare butterflies and the basin waxflower plant	6,900 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management is required for the Proposed RMP to protect the relevant and important values.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Pine (Ridge) Creek	2.5 miles on public land	Bonneville cutthroat trout	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Under all the alternatives, the BLM is directed by bureau policy to prevent listing of BLM and state sensitive species. This would provide sufficient protection for the relevant and important values. The plan includes numerous standard operating procedures identified in the appendices to protect special status species. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
Steptoe Valley Cresentspot	1,940 acres	BLM and state sensitive species butterfly	1,940 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management is required for the Proposed RMP to protect the relevant and important values.				
Turnley Spring	41 acres	Cold spring system containing Pygulopsis cruciglans	0 acres	0 acres	0 acres	0 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Under all the alternatives, the BLM is directed by bureau policy to prevent listing of BLM and state sensitive species. The plan includes numerous standard operating procedures identified in the appendices to protect special status species. This would provide sufficient protection for the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				
RIPARIAN/SPECIAL STATUS SPECIES							
Condor Canyon	6,900 acres	Riparian and special status species, cultural	4,500 acres	0 acres	6,900 acres	6,900 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

Table 4.22-1 (Continued)

Nominated ACEC by Category	Acres/Miles of Public Land in Nomination[1]	Primary Resource Value	Management Considerations and Proposed Designations for ACECs				
			Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D
Goshute Canyon Natural Area	7,550 acres	Riparian and special status species and cave	7,100 acres	0 acres	7,100 acres	7,100 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management. This area is a wilderness study area because of its instant study area status.				
Lower Meadow Valley Wash	39,000 acres	Riparian and special status species	25,000 acres	0 acres	39,000 acres	39,000 acres	0 acres
			Under Alternative A, this is not an existing ACEC. Special management attention is required for the Proposed RMP and Alternatives B and C to protect the relevant and important values. Under Alternative D, the restrictions on resource management and permitted uses preclude the need for special management.				

[1] Nomination acreages have been rounded and, in some cases, represent approximate totals of combined sub-areas. The nomination acreages may differ from the acreages proposed for designation under each alternative if portions of the nominated area failed to meet the relevance and importance criteria or failed to require additional management protection.

measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Special Designations Management Actions.

Parameter – Areas of Critical Environmental Concern
Under the Proposed RMP, the three existing desert tortoise ACECs would be retained and 17 new ACECs would be designated. The proposed ACECs were determined to meet the relevance and importance criteria and would require special management in order to protect the resource values. The boundaries of the ACECs enclose a sufficient area to protect the sensitive resources for which the ACEC is proposed. Implementation of the special management prescriptions within the proposed ACECs (as detailed in Section 2.4.22.1) would result in additional resource protection on approximately 317,800 acres within the decision area. This protection is beyond what could be afforded by the other management actions contained in the Proposed RMP.

Parameter – Back Country Byways
One existing (Mount Wilson) and two new (Rainbow Canyon and Silver State Trail) Back Country Byways would be designated, offering additional opportunities for scenic drives. However, such designations would increase the public's awareness of these areas and subsequently the amount of use they receive. Depending on the type of use (e.g., highway vehicle, off-highway vehicle), there would be increased degradation of the routes and increased need for maintenance. Some users would welcome the increased recreation opportunities these designations provide, while others may see the designations resulting in an increase in user impacts and a decrease in the solitude they have experienced previously in these areas.

Parameter – Designated Wilderness
Designated wilderness would be managed effectively under existing laws, regulations, policies, and plans. Direction from these sources is sufficient to manage designated wilderness resources, and no additional management actions are presented in the Proposed RMP.

Parameter – Wilderness Study Areas
Wilderness study areas would be managed under the BLM's Interim Management Policy for Lands Under Wilderness Review to preserve the wilderness characteristics of the area until Congress has made a decision on wilderness designation. Implementation of this policy has proven to be effective in protecting wilderness values.

Parameter – Other Special Designations
Retention of the White River Narrows Archaeological District and the Garnet Hill Rock Hounding Area would protect the resources in and public uses of these areas. The eight areas dropped from special designations would continue be managed by the Ely Field Office to protect the resources and uses for which the areas were formerly designated.

Impacts from Other Programs. Other resource programs typically do not affect special designations. Special designation areas typically are used to protect an area from land use planning decisions in other programs. The following impacts associated with other program management actions have been identified.

Lands and Realty. The management prescriptions in Section 2.4.22 identify certain ACECs as "avoidance areas" for rights-of-way. This means that the granting of rights-of-way for low-disturbance facilities such as communication lines could be allowed. Each project would be reviewed on a case-by-case basis to ensure that any impacts from a right-of-way would be acceptable given the resource constraints for which the special designation was made.

Fire Management. Fire suppression activities may require cross-country travel across ACECs or along Back Country Byway routes, resulting in surface disturbance and potentially impacts to the resources for which the special designations were made. While such impacts will be avoided if at all possible, the unique characteristics of a wildland fire may make them unavoidable.

Noxious and Invasive Weed Management. Management actions may be needed in special designation areas to control noxious or invasive weed infestations. Precautions would be taken in developing and implementing weed control plans to ensure that these activities do not impact the resources for which the special designation was made.

Conclusion. Approximately 317,800 acres would be designated as three existing and 17 new ACECs. Management prescriptions would protect the relevant and important values in these ACECs. Opportunities for scenic drives would be created through the designation of one existing and two new back country byways, though there may be some decrease in solitude in these areas. The Proposed RMP would meet the goal for the special designations program.

Alternative A

Impacts from Special Designations Management Actions.

Parameter – Areas of Critical Environmental Concern
Under Alternative A, the three existing desert tortoise ACECs would be retained. The boundaries of these ACECs, developed in coordination with the U.S. Fish and Wildlife Service, enclose a sufficient area to protect desert tortoise. Implementation of the special management prescriptions within the ACECs (as detailed in Section 2.5.22.1) would result in resource protection on approximately 203,670 acres within the decision area. This protection is beyond what could be afforded by the other management actions contained

in the Proposed RMP. However, no protection would be afforded to the other sites nominated as ACECs and found to meet the relevance and importance criteria for ACECs (see Appendix D).

Parameter – Back Country Byways
Under Alternative A, the Mount Wilson Back Country Byway would be retained. Impacts from this retention are discussed under the Proposed RMP.

Parameter – Designated Wilderness
Under Alternative A, management of designated wilderness would be the same as discussed for the Proposed RMP.

Parameter – Wilderness Study Areas
Under Alternative A, impacts to wilderness study areas would be the same as discussed for the Proposed RMP.

Parameter – Other Special Designations
Under Alternative A, the 23 existing special designation areas identified in Section 2.5.22 would be retained. No new special designation areas would be designated under this alternative. Management of these areas would continue to focus on resource protection.

Impacts from Other Programs. Other resource programs typically do not affect special designations. Special designation areas typically are used to protect an area from land use planning decisions in other programs. Under Alternative A, special designation impacts associated with lands and realty, fire management, and noxious and invasive weed management activities would be the same as described for the Proposed RMP.

Conclusion. Approximately 203,670 acres would be designated as three existing ACECs. Management prescriptions would protect the relevant and important values in these ACECs. However, no other nominated areas would be designated as ACECs, and no back country byways would be designated. These management actions would not protect the resource values deemed relevant and important nor provide the benefits of designated scenic drives. Alternative A would not meet the goal for the special designations program.

Alternative B

Impacts from Special Designations Management Actions.

Parameter – Areas of Critical Environmental Concern
Under Alternative B, the three existing desert tortoise ACECs would be retained and 15 new ACECs would be designated. The proposed ACECs were determined to meet the relevance and importance criteria and would require special management in order to protect the resource values. The boundaries of the ACECs enclose a sufficient area to protect the sensitive resources for which the ACEC is proposed. Implementation of the special management prescriptions within the designated ACECs (as detailed in Section 2.6.22.1)

would result in additional resource protection on approximately 338,000 acres within the decision area. This protection is beyond what could be afforded by the other management actions contained in the Proposed RMP.

Parameter – Back Country Byways
Under Alternative B, the Silver State Trail Back Country Byway would be designated. Impacts from this designation are discussed under the Proposed RMP.

Parameter – Designated Wilderness
Under Alternative B, management of designated wilderness would be the same as discussed for the Proposed RMP.

Parameter – Wilderness Study Areas
Under Alternative B, impacts to wilderness study areas would be the same as discussed for the Proposed RMP.

Parameter – Other Special Designations
Under Alternative B, impacts to other special designations would be the same as discussed for the Proposed RMP.

Impacts from Other Programs. Other resource programs typically do not affect special designations. Special designation areas typically are used to protect an area from land use planning decisions in other programs. Under Alternative B, special designation impacts associated with lands and realty, fire management, and noxious and invasive weed management activities would be the same as described for the Proposed RMP.

Conclusion. Approximately 338,000 acres would be designated as three existing and 15 new ACECs. Management prescriptions would protect the relevant and important values in these ACECs. Opportunities for scenic drives would be created through the designation of one new back country byway (the Silver State Trail), though there may be some decrease in solitude in this area. The benefits of designating two additional byways would not be realized. Alternative B would meet the goal for the special designations program.

Alternative C

Impacts from Special Designations Management Actions.

Parameter – Areas of Critical Environmental Concern
Under Alternative C, the three existing desert tortoise ACECs would be retained and 17 new ACECs would be designated. The proposed ACECs were determined to meet the relevance and importance criteria and would require special management in order to protect the resource values. The boundaries of the ACECs enclose a sufficient area to protect the sensitive resources for which the ACEC is proposed. Implementation of the special management prescriptions within the designated ACECs (as detailed in Section 2.7.22.1)

would result in additional resource protection on approximately 333,400 acres within the decision area. This protection is beyond what could be afforded by the other management actions contained in the Proposed RMP.

Parameter – Back Country Byways
Under Alternative C, the Silver State Trail Back Country Byway would be designated. Impacts from this designation are discussed under the Proposed RMP.

Parameter – Designated Wilderness
Under Alternative C, management of designated wilderness would be the same as discussed for the Proposed RMP.

Parameter – Wilderness Study Areas
Under Alternative C, impacts to wilderness study areas would be the same as discussed for the Proposed RMP.

Parameter – Other Special Designations
Under Alternative C, impacts to other special designations would be the same as discussed for the Proposed RMP.

Impacts from Other Programs. Other resource programs typically do not affect special designations. Special designation areas typically are used to protect an area from land use planning decisions in other programs. Under Alternative C, special designation impacts associated with lands and realty, fire management, and noxious and invasive weed management activities would be the same as described for the Proposed RMP.

Conclusion. Approximately 333,400 acres would be designated as three existing and 20 new ACECs. Management prescriptions would protect the relevant and important values in these ACECs. Opportunities for scenic drives would be created through the designation of one new back country byway (the Silver State Trail), though there may be some decrease in solitude in this area. The benefits of designating two additional byways would not be realized. Alternative C would meet the goal for the special designations program.

Alternative D

Impacts from Special Designations Management Actions.

Parameter – Areas of Critical Environmental Concern
Under Alternative D, no ACECs would be retained or designated. Even though minimal discretionary activities would be authorized under other resource programs, the sensitive resources contained within the nominated ACECs, especially the three existing desert tortoise ACECs, could be affected by activities within the planning area.

Parameter – Back Country Byways
Under Alternative D, the Mount Wilson Back Country Byway would be retained. Impacts from this retention are discussed under the Proposed RMP.

Parameter – Designated Wilderness
Under Alternative D, management of designated wilderness would be the same as discussed for the Proposed RMP.

Parameter – Wilderness Study Areas
Under Alternative D, impacts to wilderness study areas would be the same as discussed for the Proposed RMP.

Parameter – Other Special Designations
Under Alternative D, none of the current special designation areas would be retained. With the minimal activity allowed under discretionary management programs, few impacts to the sensitive resources in the special designation areas would be anticipated from other uses.

Impacts from Other Programs. Under Alternative D, no special designations would be retained and no new areas would be designated. Since most discretionary activities associated with other programs would not be authorized, special designations were not considered necessary as part of this alternative. However, approximately 12,400 acres would be available for disposal, and approximately 5 million acres (50 percent on the decision area) would remain open to locatable minerals. Development of disposed lands and locatable mineral resources could impact resources in areas considered for special designations.

Conclusion. Under Alternative D, all special designations except designated wilderness and wilderness study areas would be eliminated, but with minimal activity allowed under other management programs, few impacts to the sensitive resources would be anticipated from other uses. Nevertheless, no special management or protect would be afforded to areas nominated for ACEC designation, and potential benefits to visitors from back country byway designation (other than the Mount Wilson Back Country Byway) would not be realized. Alternative D would not meet the goal for the special designations program.

4.23 Economic Conditions

Impact Issues

The primary economic and social issue is the relationship between the management of public lands and the support provided for local economic and community development.

Issues of specific economic and social concern to individuals, the state and local governments, and groups include the potential impacts of grazing on farm income and local economies, the impacts of future management on the economic stimulus derived from outdoor recreation, such as hunting, fishing, off-highway vehicle use, and tourism, and access to and use of public lands for various other purposes. Local governments also are concerned about land and realty actions that result in net losses in the amounts of private land in the region, and along with tribal governments, programs that unduly limit possible land disposal viewed as essential for future economic and community development. Local governments also are concerned about potential fiscal impacts of changes in land tenure/ownership on local tax revenues and demands for services, payments in lieu of taxes and impacts on population that also affect the latter. Concerns over the impacts of wildland fires on residents, property, and local fire suppression capabilities and associated budgets also are evident.

Assumptions for Analysis

A premise underlying Alternative A is that continuation of past and ongoing trends in watershed, vegetation, and related environmental conditions would result in continued deterioration in ecological system health in the Great Basin and planning area. Implied therein is a continued risk of frequent and potentially large-scale wildland fires across the planning area. A possibility exists that the combined effects of continued deterioration in ecological system health and the consequences of wildland fire could precipitate one or more ecological threshold conditions being reached within the foreseeable future, say, 50 years, whereby some watersheds lose their remaining functionality, triggering statutory management responses, protections, or recovery programs (e.g., protections under the Endangered Species Act). In turn, those responses and protections, may constrain the Ely Field Office's capacity to manage the planning area effectively for multiple-use and sustained yield to meet a broad spectrum of the needs of present and future generations. To the extent that statutory management responses or protections emphasize wildlife, vegetation, and air and water quality, a possible implication of such responses is restrictions on other uses, including recreation, grazing, possible land disposal, and mineral development. Over the long-term, the cumulative effects of wildland fire also could result in use restrictions, degraded water quality, or reduced commodity production that contribute to the regional economy. Over the long term, such effects have potentially far-reaching social and economic implications, both within and outside the planning area.

All alternatives assume increased funding for the Ely Field Office to implement watershed analysis and ecological system restoration activities. That funding would be over and above the Ely Field Office's base funding and future expenditures associated with wildland fire suppression. The amount of funding varies by alternative. Some of the additional funding could flow through to cooperating federal, state, and local

government entities, but no specific assumptions about the monetary sums or timing of such flow-through arrangements were developed for this analysis.

Additional assumptions used in this analysis include:

- Under all alternatives, the additional funding for watershed analysis and treatment plans is assumed to be allocated 15 percent to Ely Field Office staff and operating costs and 85 percent for contracted services to be provided by the private sector, state and local governments, universities, or quasi-public non-governmental organizations. The actual allocation and distribution among entities would vary over time.

- The same lands would not necessarily be subject to watershed analysis and treatment plans in any given year.

- The Proposed RMP seeks a balanced management approach accelerating the rate of ecological restoration, while supporting recreation use, commodity production, and support for community and economic development across the planning area. Available funding of $10 million per year, over and above the future base funding for the Ely Field Office, plus the use of stewardship contracting is assumed to implement the Proposed RMP.

- Alternative A assumes $500,000 in annual funding for watershed analysis and treatment plans.

- Alternative B emphasizes restoration of at-risk resources, increasing the rate at which the ecological health of public lands within the planning area is evaluated and treatment plans developed and implemented. Alternative B assumes $10 million in annual funding for the Ely Field Office to achieve accelerated watershed analyses, treatment, and restoration.

- Alternative C emphasizes actions to facilitate community and economic development within White Pine, Lincoln, and eastern Nye counties, through management to support responsible commercial activities including commodity production, recreation, hunting, and tourism. Alternative C assumes $5 million in annual funding to accomplish the watershed evaluation process, and to formulate and implement management treatment plans and fuels/wildland fire risk reduction. Alternative C also would implement the use of stewardship contracting by the Ely Field Office to accelerate the pace of watershed restoration.

- Alternative D emphasizes the reduction of impacts to vegetation and restoration of properly functioning conditions across the planning area. Grazing and recreation use would be restricted to facilitate restoration and repopulation of wildlife species. Wildland fire management would include minimal fire suppression except to protect life and property. Assumed supplemental funding to implement Alternative D is $500,000 per year above the Ely Field Office's base funding.

- The employment and personal income implications of the Ely Field Office operations, including the additional funding assumed for watershed analysis and treatment were estimated using the IMPLAN

economic model. IMPLAN is an economic input-output model originally developed by the U.S. Forest Service, subsequently privatized and enhanced. It is widely recognized and accepted in regional economic impact assessment. (For more information see the Minnesota IMPLAN Group, www.implan.com.) The economic effects resulting from long-term changes in ecological conditions and associated changes in outputs, future energy and mineral development, or land disposal actions under the management alternative were not assessed quantitatively using IMPLAN. Rather, a qualitative assessment was completed. The decision to forego the quantitative assessment reflects a lack of information regarding the timing, location, cost, responsiveness and magnitudes of changes achieved across the planning area under the proposed adaptive management processes and alternatives.

Interactions with Other Programs

The economic and social conditions within the planning area potentially would be affected by actions within all of the resource management programs stemming from their ties to individual, community, and societal economic and social well-being. However, the most direct linkages and potentials for affecting such conditions arise in conjunction with resource management activities in the water, vegetation, fish and wildlife, lands and realty, renewable energy, travel management and off-highway vehicle use, recreation, livestock grazing, forest/woodland and other plant products, geology and mineral extraction, and fire management resources and the agency's efforts involving coordination with American Indians and issues of particular concern to them. The primary linkages and interactions are described below.

Management activities affecting vegetation have multiple linkages to economic and social conditions because of the vegetation resource's ties to wildlife (hunting and outfitting), wildland fire risk (economic and social well-being), recreation (local businesses and individual quality of life), livestock grazing (the ranch economy), and plant products (personal and commercial use). The management of fish and wildlife resources also is linked to individual social values and quality of life, as well as income for guides, outfitters, and local trade and service establishments that cater to their operations.

Water resources, renewable energy, mineral development, and lands and realty share linkages to future short-term and long-term job opportunities and incomes, as well as the potential to affect the general community and economic development outlook for the region. Community development in particular, and its implications for population growth, demands for public services and local government fiscal conditions, would be affected by future real estate disposal actions. In turn, the amount, location, and timing of future development are factors in assessing the relative risks associated with fire management in the urban interface. Finally, the management of native plants is tied to the concerns of American Indians, both in terms of cultural significance and personal consumption.

Changes in travel and recreation resource management affect how, how many, and where individuals and groups access and use the public lands. The changes in use patterns have potential economic implications for businesses, communities, and local governments and quality of life and social well-being impacts on individuals, groups, and institutions.

Unlike most other environmental resources, the RMP/EIS planning process does not include a resource program specifically focused on community economic and social conditions within the planning area. However, the vision statements for the Nevada BLM and the Ely Field Office (see Sections 1.3.2.1 and 1.3.2.2) include social and economic goals for the national, regional, and local communities. The assessment of potential impacts affecting the quality of the human environment, including economic and social conditions, is required under NEPA. The BLM is further required to consider such conditions and the potential impacts of its management actions on those conditions during the preparation of land use plans. The agency must manage public lands on the basis of multiple use and sustained yield to meet the needs of present and future generations (BLM Handbook H-1601-1, Appendix D). BLM regulations also mandate consideration of the consistency of the agency's land use plans with state and local government plans for the affected lands (see Section 1.9.1).

The linkages between local economic and social conditions and the resource programs, land use and management plans, and NEPA arise in the context of the range of program objectives and proposed management actions to achieve those objectives. Implementation of those techniques, or in some cases, the lack of implementation, can alter the existing public use, access, economic stimulus, land use, resource production, and other relationships between the public lands, their management and the local and non-local stakeholders. In turn, individual and community responses to the altered relationships may manifest themselves across a range of economic and social impacts. Therefore, impacts to economic and social conditions and environmental justice are not discussed in terms of individual program interactions but rather the entire proposed alternative.

Economic Conditions and Fiscal Linkages that Apply to All Alternatives

Economic Conditions. Both Lincoln and White Pine counties are engaged in active economic development efforts to attract new industrial development, promote the region's outdoor recreation and western heritage resources to tourists, and attract retirees to live in the area. Those economic development efforts seek additional jobs, income, maintenance and growth for residents, stabilization of county and community fiscal conditions, and enhance local economic diversity and sustainability. The latter objective derives in part from local awareness of the far-reaching shifts away from commodity-based rural economies, as well as the constraints to economic development imposed by the limited amount of privately owned land and corollary dependence on public lands and resources. While some future mineral development and associated short-term employment, population, and tax impacts likely would occur within the planning area, such activity likely would be short-term, repeating past cycles of relative growth and decline. As illustrated in **Table 4.23-1**, population projections, which generally mirror economic trends, call for modest growth in Lincoln County but substantial declines in White Pine County. Only minimal population changes are foreseen in the Nye County portion of the planning area. It should be noted that recent legislation (i.e., the Lincoln County Land Act and the Lincoln County and White Pine County Conservation, Recreation, and Development Acts) may make these population growth forecasts by the Nevada State Demographer's Office conservative.

Table 4.23-1
Project Population Growth, 2000 to 2020

Year	Lincoln County	White Pine County	Nevada
2000	4,178	9,033	2,018,723
2010	4,222	8,545	2,806,940
2020	5,006	7,445	3,412,147
Net Change	828	(1,588)	1,303,424
Compounded annual growth rate	0.9%	-1.0%	2.4%

Source: Nevada State Demographer's Office 2006.

The Lincoln County and White Pine County Conservation, Recreation, and Development Acts allow for the disposal of lands administered by the Ely Field Office within the planning area. A portion of the land disposed of could be used for residential development. For very general analysis purposes, it has been assumed that 27,900 dwelling units would be constructed on 18,600 acres in White Pine County and 86,100 dwelling units on 57,400 acres in Lincoln County. Since many of these dwelling units could have recreational or seasonal occupancy, it has been assumed that each dwelling unit would have one full-time resident. Further, it is assumed that the timeframe for this residential development would exceed the life of the Proposed RMP, something on the order of 50 years.

The economic trends that would interact with management of the planning area include:

- Long-term employment decreases in White Pine County and modest job gains in Lincoln County until land disposal is completed and subsequent development proceeds.

- All alternatives assume the Ely Field Office would proceed with land disposal under the Federal Land Transaction Facilitation Act, Lincoln County and White Pine County Conservation, Recreation, and Development Acts, and other approved mechanisms. No assumptions were developed regarding the geographic locations, specific parcels, acquiring parties, or timing of future land disposals. Disposed lands could be acquired by state, local, and tribal governments for public purposes; by private parties for economic development purposes; or by individuals for commercial, residential, or agricultural uses.

- The mix of future land use for disposed lands cannot be determined with current information. For this analysis, a general land use mix was developed for each alternative to illustrate future development potential. The base mix is: 25 percent open space, recreation, public or unbuildable due to topographic constraints; 5 percent industrial, commercial or office; 2.5 percent medium density residential (10 dwelling units per acre; 7.5 percent single family (6 dwelling units per acre); 15 percent low density single family (2 dwelling units per acre); 20 percent rural estate residential (1 dwelling unit per 2 acres); and 25 percent ranchettes (1 dwelling units per 20 acres). The base assumptions were adjusted to reflect a larger share of open space, recreation, public or unbuildable due to topographic constraints and ranchette development as the disposal acres increased, and lower shares of open space, recreation, public or unbuildable due to topographic constraints, industrial and commercial and medium density residential development as the total disposal acres of assumed disposal land declined. The resulting land use mix for each alternative is shown in **Table 4.23-2**.

Table 4.23-2
Assumed Use of Lands Disposed of in the Ely Planning Area

	Lincoln County	White Pine County	Nye County
Proposed RMP			
Open Space, Recreation, Public or Topographically Constrained (unbuildable) (acres)	14,360	4,660	NA
Industrial or Commercial (acres)	2,870	930	NA
Residential (acres)	40,210	13,033	NA
Alternative A			
Open Space, Recreation, Public or Topographically Constrained (unbuildable) (acres)	180	6,110	1,360
Industrial or Commercial (acres)	180	1,220	580
Residential (acres)	3,220	17,108	1,953
Alternative B			
Open Space, Recreation, Public or Topographically Constrained (unbuildable) (acres)	16,590	5,970	100
Industrial or Commercial (acres)	3,320	1,190	40
Residential (acres)	46,469	16,724	144
Alternative C			
Open Space, Recreation, Public or Topographically Constrained (unbuildable) (acres)	60,940	26,450	1,360
Industrial or Commercial (acres)	10,160	4,410	580
Residential (acres)	132,021	57,309	1,951
Alternative D			
Open Space, Recreation, Public or Topographically Constrained (unbuildable) (acres)	-	2,740	NA
Industrial or Commercial (acres)	140	550	NA
Residential (acres)	1,295	7,668	NA

Notes:
- Residential acres include a mix of medium density multifamily (10 dwelling units/acre), single family (6 dwelling units/acre), low density single family (2 dwelling units/acre), rural/estate development (1 dwelling unit/2 acres) and ranchettes (1 dwelling unit/20 acres).
- Future development of lands involved in disposal actions is likely to extend beyond the life of this plan, particularly in the event of large scale disposal actions.

Source: Nevada State Demographer's Office 2006.

- Completion of the Lincoln County Land Act and Lincoln County and White Pine County Conservation, Recreation, and Development Acts land sales and subsequent development would trigger substantial increases in construction and other jobs in southern Lincoln County and White Pine County, as well as long-term population gains not reflected in current demographic forecasts for the region.

- Over the long term, development and population growth associated with land disposals associated with the three land acts would result in significant changes in fiscal conditions and demands on public facilities and services for affected local governments and school districts. The timing, magnitude and net impact of those changes is uncertain.

- Future mineral and energy development is likely to occur in the planning area. Two separate sponsors have announced preliminary feasibility studies for new electric generating stations in the vicinity of Ely. Construction of one, but not both, could reasonably be foreseen within the life of this plan. No other major projects are presently identified. Construction and operations of a power plant and other mineral and energy development projects would generate new jobs and economic activity not reflected in the

regional long-term forecasts. Such development would contribute to the local tax base, but also to demands on public facilities and services. The economic stimulus provided by project construction would be temporary, with the operational work forces contributing to the region's longer-term economic vitality and stability.

- Government employment, particularly state government, would serve a vital role in the economic foundations of Lincoln and White Pine counties.

- The planning area faces large-scale increases in recreation demand due to projected population gains in Nevada and surrounding states. Nevada, along with neighboring California, Utah, and Arizona, were among the fastest growing states between 1990 and 2000, collectively gaining over 7.1 million residents during the decade. Continued strong population growth is projected in those states through 2020. The combined population of the four states is projected to increase by nearly 15.8 million residents by 2020 (see **Table 4.23-3**).

Table 4.23-3
Projected Population for Nevada and Three Adjacent States from 2000 to 2020

Year	Nevada	Utah	California	Arizona	Four-state Total
2000	2,018,723	2,233,169	34,480,300	4,961,953	43,694,145
2020	2,910,959	3,371,071	45,821,900	7,363,604	59,467,534
Absolute Change	892,236	1,137,902	11,341,600	2,401,651	15,773,389
Percent Change	44	51	33	48	36

Sources: California Department of Finance, Arizona Department of Economic Security, Utah Governor's Office of Planning and Budget, Nevada Department of Taxation.

- In the short term, increasing demand would result in higher recreation use and associated increases in recreation spending and sales taxes, a portion of which accrue to local establishments and governments. The increased recreation pressure would be more concentrated in Lincoln County due to the proximity to Las Vegas and Interstate 15.

- Future recreation use may plateau over the long term as recreational access and use is limited across more of the planning area in response to environmental protection measures.

- Unemployment in White Pine County would remain above the statewide average under Alternative A until out-migration reestablishes a balance in the labor market.

- Tribal operations and the personal consumption expenditures of individual tribal members in the planning area would continue to provide support for the local retail and service sectors.

- Total personal income would decline in White Pine County as the numbers of jobs and residents decline, but increase slightly in Lincoln County. Average per capita incomes among working households

in White Pine County may climb due to the large share of government jobs, but the overall average would decline due to the effects of the large inmate population on the computation of average income.

- Temporary increases in employment, income, and trade for local establishments would accompany the construction of transmission lines and pipelines, wildland fire suppression, and other activities that occur within the planning area, but these activities have few or no long-term economic manifestations.

- Construction and operation of a new electric generating station would result in more substantial temporary and long term economic, demographic and fiscal changes for White Pine County.

- Absent development stimulated by the three land disposal acts, the overall economic output of White Pine County would decline over the long term. The economic output of the Nye County portion of the planning area and of Lincoln County would see decreases in farm output tied to grazing. However, increases in other industrial sectors of Lincoln County's economy, tied to population and economic gains associated with recreation use and second home development, may offset those reductions.

Fiscal Linkages. Future land purchases, sales, disposals via other approved mechanisms, and exchanges under the Proposed RMP could affect the acreage of BLM-administered lands in the planning area. Each net acre of change would affect the entitlement acres for computing future payments in lieu of taxes in the respective counties affected by a land action. The reductions in entitlement acres are not material because population, rather than entitlement acreage, is the operative driver for computing those payments in the planning area. In other words, payments in lieu of taxes in the future would be a function of the size of the resident population. Thus, future receipts of payments in lieu of taxes in Lincoln County would remain relatively constant over time, absent development spawned by the Lincoln County Land Act and Lincoln County Conservation, Recreation, and Development Act. Based on projected baseline population growth, annual payment in lieu of tax payments to Lincoln County would increase by about $22,000 over the next 20 years, but increase dramatically following any future development and corresponding growth spawned by disposals under the land acts. Payments in lieu of taxes in White Pine County would decrease by about $86,000 annually as population declines, even as the allowable per capita payment increases, but also would increase following future development and population growth. Little change in payments in lieu of taxes payments to Nye County would be expected as a result of changes within the planning area.

Local fiscal linkages between the public lands managed by the Ely Field Office and local communities could be affected by land exchanges or federal land acquisitions in the region. Along with possible land disposals, such actions add or remove lands from the private tax rolls or incidentally affect other sources of revenues and expenditures. Such changes are likely to be relatively small initially, but increase over time. Local government expenditures for law enforcement and fire suppression could increase in response to the recreation and wildland fire management of the public lands. The added pressure on expenditures would not necessarily be accompanied by increases in federal revenues.

Impacts to the levels, mix, and location of future recreation use and tourism in the region would affect the levels of consumer spending and, thereby, future sales tax receipts. Given the anticipated increases in overall recreation use, future sales tax receipts would rise over time. White Pine County and Lincoln County

both may forego the full benefit of the increases by funding mechanisms in place at the statewide level that provide rural counties options to accept a guaranteed level of funding from a portion of the sales tax levy in exchange for foregoing revenues should receipts increase above that level. Local governments may opt out of the program, but such a decision is irrevocable. Hence, retail sales and sales tax receipts would need to increase dramatically and be expected to persist at those higher levels before local governments would choose to end their participation in the program. Those conditions might arise in the context of future development spawned by land disposals under the three recent land acts.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Economic Conditions. The direct and secondary impacts of the Proposed RMP on local employment opportunities and income would be an estimated 255 to 260 additional jobs and $4.2 million in annual income over the next 20 years. Staffing levels for the Ely Field Office could expand by about 10 percent (11 to 14 jobs) with an estimated 239 to 244 jobs in the private and local public sectors.[1] Although funding for ecological restoration would be channeled through the Ely Field Office, the watershed analysis and treatment efforts, and hence, the employment opportunities and other associated economic benefits, would be dispersed across the planning area. Investment in restoration activities could spawn the establishment of specialized firms and services (e.g., native plant nursery) in the planning area, bringing added economic development to the region beyond the levels projected above. Implementation of stewardship contracting would yield additional new job opportunities. The initial creation of these jobs would lag the watershed analysis process, due to administrative, environmental compliance, and contract requirements. The number of supportable jobs is unknown.

The indirect economic consequences associated with the Proposed RMP with respect to promoting recreation use would alter the level, mix, and distribution of developed and dispersed recreation across the planning area. Dispersed, individual off-highway vehicle use would become more concentrated relative to current management but would likely continue to increase in magnitude. Developed recreation and use in conjunction with organized events also would increase. Future levels of big-game hunting may increase as expanding ranges and populations allow the Nevada Department of Wildlife to increase the number of tags issued. Stipulations on the issuance of outfitter and guide permits leave the total income generated by these

[1] These estimates reflect the default 15 percent BLM / 85 percent contracted services allocation of the additional restoration funds. Variances in allocations from the default assumption would result in some shifting of the employment impacts between the Ely Field Office and other entities, but the order of magnitude of the total job and income impacts would not be substantially different from the levels shown above.

activities unaffected. Availability of forest/woodland products for personal and commercial use would be expanded over current management. There is no anticipated change in economic value of products involved. Livestock grazing would be available over the long term on approximately 11.2 million acres within the planning area, but subject to fluctuations necessitated by restoration initiatives, adjustments for ecological health, the creation of forage reserves, and achievement of other management objectives.

A wider array of lands would be available for industrial, commercial, residential, and agricultural uses under the Proposed RMP, with the assumed disposal of approximately 75,600 acres during the life of this plan. The timing, type, and extent of subsequent development would depend on the identification of viable markets, individuals, or companies with the expertise and financial resources to start and operate new businesses, and the capability of communities to foster and support such development. To the extent that such development occurs, it would contribute to local employment and income growth and provide a measure of economic diversity and sustainability across the planning area. Such development would boost short-term construction employment in the affected communities. Uncertainties regarding these factors preclude estimation of the indirect employment and income effects that could stem from the Proposed RMP. Full development of disposed lands would be unlikely to occur during the life of this plan.

The Proposed RMP would result in temporary restrictions on livestock grazing that could affect the incomes of operators whose grazing privileges would be displaced. Authorizations of temporary nonrenewable use and establishment of a forage reserve could reduce the impact on income. Additional allotments would be affected in the future due to related constraints regarding Rocky Mountain bighorn habitat. Over the long term, the Proposed RMP could have a net positive impact on grazing and local farm income, as compared to current management, in the event that some share of the gain in available forage is allocated to livestock and wild horses and that such gains are adequate to offset any long-term limitations on grazing associated with the proposed ACECs and special status species habitats. Otherwise, some long-term adverse effects on ranch income could result.

Allowing grazing permits to be relinquished and converted to forage reserves would have minimal effect on the economic and social structure of the counties in the planning area. It would not involve a large number of grazing permits or animal unit months in comparison to animal unit months authorized annually on the planning area. If the Tamberlaine Allotment were to be relinquished the active use would be up to 2002 animal unit months. There would be positive economic impacts associated with allowing grazing use by permittees displaced by activities such as restoration, drought, or fire.

Fiscal Linkages. The effects of the Proposed RMP on established fiscal linkages between the public lands and local governments and businesses in the region would be based on its support for additional employment and population in the region. Over the long-term, population growth under the Proposed RMP would reach the level required to qualify for increased receipts of payment in lieu of taxes. The Proposed RMP also would generate higher grazing fee receipts, a portion of which would return to the local economy.

Future land disposal and subsequent development, combined with the positive effects of the higher employment and population in sustaining real estate values, would boost the ad valorem tax base of local governments and school districts. Increases in the ad valorem tax base generally are perceived as

beneficial. Net changes in the levels of retail sales to residents, travelers, and outdoor recreationists and sportsmen would affect future levels of locally generated sales taxes. However, the net changes in sales may not translate directly into corresponding changes in local sales tax receipts because of provisions in Nevada's local government financing structure that provide rural governments protection against declining sales tax revenues in exchange for a guaranteed level of revenue and foregoing any short-term revenue increases in excess of the guaranteed amount.

Conclusion. The Proposed RMP would result in slight, long-term enhancements of the local economy, e.g., 255 to 260 jobs, across the planning area due to the added restoration funding, stewardship contracting, increased woodland commodity production, and developed and organized recreation. Ranch income would be adversely impacted over the short term, but would increase over the long term. Annual payments in lieu of taxes to Lincoln County would increase slightly and to White Pine County would decrease in the short term, but both would increase in the long term due to land disposal and development. RMP-related impacts on local fiscal conditions would be minimal and long term relative to local budgets.

Alternative A

Economic Conditions. Alternative A maintains current land use and management programs across the planning area. Consequently, fundamental linkages between the public lands, agency management actions, and local economic conditions would be maintained. For example, the agency would continue to process applications for utility and transportation rights-of-way to support mining, and dispersed recreation would be allowed across much of the planning area. Lands presently identified as suitable for possible disposal under various programs would remain eligible for potential disposal and some additional lands could be subject to disposal under the provisions of Congressionally-approved land acts. Disposal of a total of 31,900 acres of public lands, including 3,893 acres in Nye County, is assumed to occur during the life of this plan under Alternative A. The annual operating budget and staffing levels of the Ely Field Office would increase slightly by $500,000 above recent levels of about $17.1 million, adjusted for future inflation, and 147 employees, respectively. With 85 percent of the additional funding being channeled to contracted services, the Ely Field Office staffing could increase by 1 or 2 positions, with another 11 or 12 jobs in the private sector. Personal income across the planning area would increase by about $210,000 per year. The Ely Field Office would continue to be among the largest employers in the planning area.

The timing, type, and extent of subsequent development of disposed lands would depend on the identification of viable markets, individuals, or companies with the expertise and financial resources to start and operate new businesses, and the capability of communities to foster and support such development. To the extent that such development occurs, it would contribute to local employment and income growth and enhance economic diversity and sustainability across the planning area. Such development would boost short-term construction employment in the affected communities. Uncertainties regarding these factors preclude estimation of the indirect employment and income effects stemming from future development. Full development of lands disposed of under Alternative A would likely not occur during the life of this plan.

Wildland fire management and suppression costs represent another source of economic stimulus into the local economy, although not easily predictable in terms of magnitude, timing, and location. The total federal

expenditures for fire suppression in the planning area would be expected to increase for the foreseeable future under Alternative A.

Maintaining existing linkages between the Field Office and the local economies does not imply the absence of change in future economic conditions.

More far-reaching than the uncertain outlook for commodity development are the potential implications of declining ecological health and other management aspects of Alternative A. Current limitations on lands subject to lease for potential geothermal, oil and gas, and wind energy would remain across much of the planning area, limiting the likelihood for such development occurring. While future development and the associated economic stimuli foregone because of such limitations would not diminish the existing economic support provided by public lands in the planning area, the trends in declining ecological health do have the potential to erode that economic support.

Declining ecological health conditions and the Ely Field Office's constrained budget for restoration are seen as ultimately triggering management actions that reduce the levels of resource utilization having positive regional economic linkages. Such actions include reductions in permitted grazing use, the closure of more areas to off-highway vehicle use and off-road travel, and directly or indirectly limiting dispersed recreation use in connection with ACEC designations. Diminished ecological health and the after-effects of wildland fires may detract from the perceived scenic and amenity values that are viewed as important factors in people's outdoor recreation and vacation travel route planning decisions, relocation decisions by retirees, and the amount of big-game hunting in the region. The after-effects of wildland fire also may include degraded water quality with potential adverse impacts on municipal and agricultural water users. The relationships between ecological health and these other factors are not fully understood; however, a consensus view is emerging that the trends in ecological health are likely to adversely impact, rather than enhance, local economic and social conditions. Additionally, as pointed out by Perryman et al. (2003), the direct costs of wildland fire suppression and rehabilitation throughout the Great Basin are considerable and increasing continually under current management approaches.

Farm income and the numbers of farm jobs would decline as declining rangeland health triggers reductions in livestock grazing on public lands. One recent study estimated the average value of livestock grazing in terms of agricultural output at $24.40 per animal unit month in Nevada. That study also ascribed a market value to the grazing permit itself (Resource Concepts Inc. 2001), although the BLM does not recognize such a value as it is tied to a permit, not a right. Economic effects would occur in both White Pine and Lincoln counties.

Fiscal Linkages. Over time, grazing fee receipts collected by the Ely Field Office would decline as temporary or permanent reductions in livestock grazing are enacted in response to declining range productivity. Subsequent distributions of those fees include 50 percent to the range improvement fund in the Field Office of origin and 12.5 percent to the state for distribution to the counties. Any reductions in future grazing consequently would correspondingly reduce grazing fee revenues returned to the planning area.

The long-term reductions in livestock grazing could undermine the continued economic viability of one or more ranching operations in the region. Decisions to cease agricultural operations would have fiscal implications for local governments, depending on the subsequent ownership and use of the underlying real property.

Other changes in local fiscal conditions also would occur over time, for example, declines in the ad valorem tax base of White Pine County as housing values decline due to population declines projected under Alternative A that are unrelated to the Ely Field Office management of the planning area. Such changes would be masked by growth associated with increases in retail sales to business and residents associated with the Lincoln County Land Act and Lincoln County and White Pine County Conservation, Recreation, and Development Acts land sales and subsequent development. Counties, municipalities and school districts would benefit from such increases in revenues. Demands on local public services and facilities and the costs of providing services would increase. Meeting these demands may be more challenging in Nye County given the vast area of the county and the relative remoteness of lands in the planning area from other population centers.

Over the long-term, population growth resulting from development of lands disposed under Alternative A could reach levels required to qualify for increased receipts of payment in lieu of taxes.

Conclusion. Alternative A would result in minor, long-term economic impacts (jobs, income, locally derived taxes, etc.) across the planning area. Such impacts would intensify over time, accruing across the entire planning area, though not necessarily uniformly. The adverse economic impacts in Lincoln County would be masked by major, long-term economic growth associated with the Lincoln County Land Act and the Lincoln County Conservation, Recreation, and Development Act. The impacts of these Acts are unrelated to the RMP and would be differentiated across alternatives based on the acreages of affected lands, the timing of disposals, and the type and pace of subsequent development. Federal payments in lieu of taxes and grazing fees received by White Pine County would decline by as much as $86,000 annually, until development facilitated by the White Pine County Conservation, Recreation, and Development Act is realized, but would increase in Lincoln County. Changes in payments in lieu of taxes and grazing fees would be minor relative to the total budgets of the affected local governments.

Alternative B

Economic Conditions. The incremental direct and secondary impacts of the $10 million in additional annual restoration funding on local employment and income under Alternative B include an estimated 255 to 260 additional jobs and $4.2 million in annual income over most of the next 20 years. Staffing levels for the Ely Field Office could expand by about 10 percent (11 to 14 jobs) with an estimated 239 to 244 jobs in the private and local public sectors.[2] Over time, the cumulative temporary economic stimulus associated with wildland fire suppression costs would be lower under Alternative B than under Alternative A.

[2] These estimates reflect the default 15 percent BLM / 85 percent contracted services allocation of the additional restoration funds. Variances in allocations from the default assumption would result in some shifting of the employment impacts between the Ely Field Office and other entities, but the order of magnitude of the total job and income impacts would not be substantially different from the levels shown above.

Projected total annual personal income associated with Alternative B is $4.2 million within the planning area. Though the incremental funding supporting the income would be channeled through the Ely Field Office, the added economic benefits stimulated by the income would accrue across the region based on the residency pattern of the employees and the geographic distribution of vendors and contractors supporting the program and their expenditure patterns. Those patterns may vary over time in response to shifting geographic distribution of the watershed analysis and treatment priorities.

Disposal of a total of 90,600 acres of public lands is assumed to occur during the life of this plan under Alternative B. The total includes 294 acres in Nye County. The timing, type, and extent of subsequent development of disposed lands are subject to much uncertainty and contingent upon factors unrelated to Ely Field Office management. To the extent that such development occurs, it would contribute to the area's economic welfare, boosting short- and long-term employment opportunities and business activity. Uncertainties regarding these factors preclude estimation of the indirect employment and income effects stemming from future development. Full development of lands disposed of under Alternative B would likely not occur during the life of this plan.

Incremental changes in employment, economic output, and personal income growth, relative to the Proposed RMP, may stem indirectly from management actions and enhanced restoration activities associated with Alternative B. Potential sources of such indirect economic stimuli include the following:

- Construction and operations of mineral, utility, and renewable energy facilities accommodated by changes in land use management policies facilitating more development of these resources in the future.

- The planning area faces major increases in recreation demand, particularly for off-highway vehicle use. Demand for hunting, fishing, and other forms of dispersed and developed recreation also would increase. The closure of 1.1 million acres to off-highway vehicle use, limiting use to designated roads and trails on another 10.3 million acres and interim access changes during the watershed and restoration activities could temporarily reduce off-highway vehicle use and the associated economic stimuli or result in a geographical redistribution of recreation spending tied to changes in off-highway vehicle use patterns as compared to Alternative A.

- Over the long-term, and contingent on the Nevada Department of Wildlife management, big-game hunting levels and the economic stimulus associated with outfitting and guiding could increase as elk, desert bighorn sheep, and Rocky Mountain bighorn sheep ranges and populations expand.

- Farm and ranch income of individual operators holding grazing permits would be adversely affected by temporary restrictions on livestock grazing on allotments undergoing restoration, but livestock stocking rates could return to pre-treatment authorization levels following treatment. Of larger impact would be the total closure of 13 additional allotments within the Mojave Desert and partial to total closure of 189 allotments in areas of occupied or historic bighorn sheep habitat. The loss of income would depend on the individual operator's relative dependence on the affected allotment, the availability and

affordability of alternative grazing or feed, and the operator's ability to adapt to changing livestock management conditions. The number of operators could decline under Alternative B.

- Over the long-term, farm and ranch employment and income would be reduced in relation to Alternative A, due to the elimination of grazing on the remainder of the Mojave Desert and reductions to accommodate the expanded ranges for desert bighorn and Rocky Mountain bighorn sheep. These reductions would be partially offset by long-term stabilization and improvements in rangeland health achieved under Alternative B.

- Potential industrial development opportunities supported by woodland commodity availability (e.g., pinyon-juniper processed for fence posts, fuel pellets, or other commercial products). The accelerated treatment rates would increase biomass availability, both in terms of quantity and variety, enhancing the commercial viability potential. However, the geographic size of the planning area and its implications for the concentrations of resource availability and distances to processing locations and markets may temper the extent of commercial activity.

- Increased commercial and industrial development opportunities spawned by future residential development in response to the land disposal process and indirect consequence of enhanced "lifestyle" migration to the area in response to the accelerated rangeland and watershed restoration efforts.

The magnitude and location of the indirect employment and income growth are subject to the caveats and uncertainties identified above in connection with population change. Many of the potential indirect gains associated with Alternative B would enhance the long-term economic stability and sustainability of the local economy by reducing the dependence on extractive-resource development.

The three Indian Reservations would not experience direct economic impacts from management activities under Alternative B. Increased economic opportunities may result indirectly from the development of any lands transferred to the Tribes or from overall changes in economic conditions related to commodity use, recreation, livestock grazing management, or participation in the ecological restoration programs funding under Alternative B. The magnitude of such economic effects is unknown due to uncertainty regarding the timing, amount, and future use of any possible land disposal or other actions and the extent to which future economic enterprises would be tribal undertakings or activities undertaken by individual members.

Fiscal Linkages. Impacts to the established fiscal linkages and future conditions directly related to Ely Field Office management would not be substantially different for Alternative B than those under Alternative A. Possible land disposal actions would decrease the number of entitlement acres in the respective counties. The vast size of the planning area diminishes the influence of the entitlement acres in determining payments in lieu of taxes as compared to that imposed by the small population base of the planning area. White Pine, Nye, and Lincoln counties collectively would garner about $38,000 per year in additional payments in lieu of taxes under Alternative B as compared to Alternative A. These changes would be in addition to those associated with future population growth occurring in conjunction with the Lincoln County Land Act and the Lincoln County and White Pine County Conservation, Recreation, and Development Acts. Induced population changes spawned by other changes in management are too speculative to project, but they

would result in corresponding gains or reductions in payment in lieu of taxes. Local taxing entities could realize expansions of their respective ad valorem tax bases due to additions associated with potential land disposal and the economic activity associated with the annual budgets for enhanced restoration. Increases in retail sales to residents and visitors would increase sales tax and other state-distributed revenues for the counties, municipalities and school districts. The effects on county fiscal resources, for example, the ad valorem tax base, would be largest in Lincoln County, less in White Pine County, and very limited in Nye County.

Grazing fees collected in the planning area, a portion of which are distributed locally, are expected to decline over time under Alternative A. Similar trends also may occur under Alternative B. However, enhancements in rangeland health could arrest the declines such that the levels of grazing and grazing fee receipts are above those under Alternative A. Increases in retail sales to residents and visitors would increase sales tax and other state-distributed revenues for the counties, municipalities, and school districts.

Local communities would benefit indirectly from the reductions in wildland fire risks associated with the comprehensive watershed analysis, vegetation treatment, and other management techniques included in Alternative B. Over the long-term, the reductions in risk also would result in reduced pressures on local law enforcement and fire suppression support.

Conclusion. Alternative B would result in slight, long-term enhancements of the local economy, e.g., 255 to 260 jobs, across the planning area due to the added restoration funding, enhanced woodland commodity availability, and increases in big-game hunting. Gains would be tempered by long-term decreases in farm/ranch income from allotment closures in the Mojave Desert and bighorn sheep habitat. Lincoln and White Pine counties would see major, long-term economic growth triggered by the Lincoln County Land Act and the Lincoln County and White Pine County Conservation, Recreation, and Development Acts. Annual payments in lieu of taxes to White Pine County would be lower than at the present, but higher than under Alternative A. Payments in lieu of taxes would increase in Lincoln County. RMP-related impacts on local fiscal conditions would be minimal and long term relative to local budgets.

Alternative C

Economic Conditions. Implementation of Alternative C would result in marginally higher employment and personal income across the planning area relative to Alternative A. The increases would result from the incremental direct and secondary jobs supported by the additional $5.0 million in the Ely Field Office annual operating budget. The estimated employment increment is 125 to 130 jobs for the 15 to 20 years required to complete the watershed analysis and treatment program for the planning area.[3] The total impact would be comprised of 8 to 12 additional Ely Field Office staff and 117 to 122 jobs in the private sector or in local and state government. The total increment is about 116 jobs above the impact associated with Alternative A. Implementation of stewardship contracting would yield additional new job opportunities. The initial creation of these jobs would likely lag the watershed analysis process, due to the need to develop treatment programs, complete site-specific environmental compliance, and advertise and award contracts or enter into

cooperative agreements. The number of supportable jobs is unknown, due to a lack of information regarding the number, type, location, marketable product values, and services to be provided via stewardship projects. Employment impacts beyond the RMP/EIS time horizon would depend on budget availability and subsequent management direction.

Investment in restoration activities and the management emphasis on enhancing of commercial activities could spawn development of specialized facilities and services (e.g., a native plant materials nursery) in the planning area. Such developments, if realized, would bring added economic development and jobs to the region beyond the levels projected above. The economic stimulus would be augmented by increased expenditures associated with full suppression of wildland fires. The level of such expenditures would logically vary from year-to-year and would likely tend to increase over time as heavy fuels accumulate in untreated acres. Although the additional funding for ecological restoration would be channeled through the Ely Field Office, the watershed analysis and treatment efforts, and hence the employment opportunities and other associated economic benefits, would be dispersed across the planning area.

Alternative C would promote increased organized and developed recreation activity in the planning area, compared to Alternative A, and the development of tourism and recreation-oriented facilities by both the public and private sectors. Higher levels of organized use would be counter-balanced by reductions in dispersed off-highway use due to restrictions on use to designated roads and trails across much of the planning area. The former would stimulate recreation spending in the region, providing added stimulus to local retail, eating and drinking, overnight lodging, and other such establishments and increases in the number of local jobs in the affected industries. However, those gains would be offset by reduction in spending by off-highway vehicle users such that the net impacts cannot be determined with the available information.

Alternative C also could promote short-term local economic development benefits associated with commercial development opportunities of biomass due to the enhanced availability, accessibility, and lower commodity costs afforded by the fuels management/wildland fire risk reduction efforts focused around local communities. In remote areas of the planning area, harvesting, and transportation costs may pose substantial barriers to the development of forest products processing and manufacturing. The active suppression of all wildland fires also may poses a risk of large-scale, uncontrollable wildland fires occurring in untreated areas, with attendant potential adverse economic impacts.

Commercial use opportunities under Alternative C would allow planning area-wide harvesting of additional species of trees, live trees, cactus and yucca collection, and the mechanical harvesting of pinyon pine nuts, subject to the constraints imposed by Nevada Revised Statutes 527.050-120. This management provision may encourage landscaping suppliers and contractors serving Las Vegas and other urban markets to explore the commercial viability of local operations. Stewardship contracting, which would provide opportunities for the Ely Field Office to exchange the value of products for restoration services provided, may enhance the commercial viability of such operations.

[3] These estimates reflect the default 15 percent BLM / 85 percent contracted services allocation of the additional restoration funds. Variances in allocations from the default assumption would result in some shifting of the employment impacts between the Ely Field Office and other entities, but the order of magnitude of the total job and income impacts would not be substantially different from the levels shown above.

Up to 295,200 acres of land, distributed over a larger and more geographically diverse area than in Proposed RMP would be designated for possible disposal and ultimately for industrial, commercial, residential, and agricultural uses under Alternative C. The total area includes approximately 3,893 acres in eastern Nye County. The extent, timing, and location of subsequent development would depend on the identification of viable markets, individuals, or companies with the expertise and financial resources to start and operate new businesses, and the capability of communities to support such development. To the extent that such development occurs, it would contribute to increases in local employment, income, and economic diversity and sustainability within the planning area. Such development would boost construction employment in the affected communities. Uncertainties regarding the timing, location, and eventual use of possible land disposals preclude estimation of the indirect employment and income effects that could stem from Alternative C. Full development of lands disposed in Lincoln and White Pine counties under Alternative C would be highly unlikely during the life of this plan. Development of disposed lands in Nye County also is considered unlikely during the life of the plan, but is potentially foreseeable.

Short-term impacts on farm and ranch income tied to temporary restrictions on livestock grazing during treatment under Alternative C would be similar to those described for Alternative B. Fewer allotments within the Mojave Desert would be totally unavailable for grazing than in Alternative B, resulting in less impact to farm and ranch operations than under Alternative B. Other individual operators temporarily could be affected during restoration on any individual allotment. The loss of income would depend on the individual operator's relative dependence on the affected allotment, the availability and affordability of alternative grazing or feed, and the operator's ability to adapt to changing livestock management conditions. Temporary nonrenewable use may buffer impacts in some years. Temporary impacts also could be tempered by the establishment of a forage reserve as could be authorized under Alternative C.

Over the long-term, restoration could allow livestock grazing levels to increase above pre-treatment authorized levels, because additional forage would be allocated to livestock. Under such circumstance, Alternative C would have a net positive impact on grazing and local farm income, as compared to Alternative A. Such benefits may be enhanced in the short term by the increased commercial woodland and native plant commodity production. On a long-term basis, however, the fire suppression policy of this alternative would lead to increased risk of major wildland fires resulting in substantial reduction in availability of forest/woodland products.

Fiscal Linkages. The direct effects on established and future fiscal linkages associated with the Ely Field Office's management of the planning area and local governments in the region would be comparable to those under Alternative B, because both are based on $5.0 million in higher annual expenditures. Among the alternatives, land disposal under Alternative C would result in the largest net reduction in entitlement acres for purposes of payments in lieu of taxes. Over the long term, however, any effects of those reductions would be offset as the residential development and enhancement of commercial recreation and other business opportunities result in population growth qualifying the counties for higher future payments in lieu of taxes. The relative impacts would be greater in Lincoln and White Pine counties than in Nye County.

Future land disposal and subsequent development also would expand the ad valorem tax base of local governments and school districts. Over time, the expansion would be substantial, particularly in Lincoln

County. Higher volumes of retail sales to residents, travelers, and participants in organized recreation events would increase sales tax and other state-distributed revenues for the counties, municipalities and school districts. The gains in sales tax and business revenues would likely be tempered by minor reductions associated with reductions in off-highway vehicle use.

Conclusion. Alternative C would promote increased organized and developed recreation activity in the planning area, compared to Alternative A, and the development of tourism and recreation-oriented facilities by both the public and private sectors. Higher levels of organized use, in the form of truck and motorcycle events, would augment continued off-highway vehicle use accommodated by a management emphasis to designate roads and trails for such use. The combined organized and dispersed recreation use would stimulate recreation spending in the region, providing added stimulus to local retail, eating and drinking, lodging, and other such establishments, which would increase the number of local jobs in the affected industries.

Alternative D

Economic Conditions. The direct and secondary employment and income effects of the ecological restoration efforts under Alternative D would be equivalent to those under Alternative A given the $500,000 annual increase in the annual operating budget of the Ely Field Office. Local economies would experience reduced economic benefit from wildland fire management activities, because of the minimal fire suppression policies under Alternative D and also would be at risk of adverse economic impacts due to resource degradation and loss due to the wildland fire.

The elimination of grazing on public lands in the planning area under Alternative D would result in long-term direct and indirect economic impacts to area ranchers, affiliated agri-business firms, and other trade and service sectors of the economy. The impacts would accrue as many of the region's farmers and ranchers are forced to trim or eliminate cattle and sheep herds due to the loss of public grazing forage and lack of replacement grazing on private or other public lands. The reductions in herd sizes would eliminate revenues from livestock marketing. Such revenues were nearly $13 million in 2002. The loss of public grazing may force some ranchers to cease their agricultural operations entirely. Other farmers and ranchers may offset a portion of the loss from increased sales of hay no longer required for winter feed, but the net effect would likely be a substantial reduction in overall farm income.

Disposal of a total of 12,400 acres of public lands is assumed to occur during the life of this plan under Alternative D. None of the disposed lands would be in Nye County. The timing, type, and extent of subsequent development of disposed lands are subject to much uncertainty and contingent upon factors unrelated to Ely Field Office management. To the extent that such development occurs, it would contribute to the area's economic welfare, boosting short and long-term employment opportunities and business activity. Uncertainties regarding these factors preclude estimation of the indirect employment and income effects stemming from future development. Full development of lands disposed of under Alternative D could potentially occur during the life of this plan.

The withdrawals of lands open for mineral, geothermal, and wind energy development and the lack of new utility rights-of-way would preclude realization of potential future temporary and long-term economic benefits from such development. Temporary and short-term construction effects attributable to residential and commercial construction would be lower under Alternative D than under the other alternatives.

Fiscal Linkages. Alternative D stipulates no net loss of public lands in the area. Given that policy, the established fiscal linkages between the Ely Field Office's management activities on public lands and local communities would be maintained, because future land disposal would require an offsetting acquisition of lands from private or other non-federal parties. Consequently, changes in future payments in lieu of taxes would be comparable to those under Alternative A.

The indirect consequences of this policy would be of more importance to local communities and generally would be adverse relative to Alternative A. The loss of future development potential related to RMP-related management actions and associated implications for future population growth would diminish the potential for increasing future receipts of payments in lieu of taxes in Lincoln and White Pine counties, local ad valorem tax revenue generating capacity, and transfers for education and other public functions from the state. Such changes may be masked by offsetting changes associated with future potential development related to land disposal under the three land acts. Local distributions of grazing fees would be eliminated with the closure of all allotments. Farmers, ranchers, and others in the community adversely affected by the elimination of public grazing would experience a substantial diminishment in their individual and collective quality of life. Furthermore, they would see the erosion of agricultural viability in the planning area as a loss of an important dimension of the region's social and cultural underpinnings.

Conclusion. Alternative D would result in moderate, long-term economic impacts, due to substantial reductions in ranch income, wildland fire suppression, and withdrawals of lands open for mineral and energy-related development. The latter could result in foregone short-term economic benefits associated with utility construction projects precluded by the lack of utility rights-of-way. The Lincoln County and White Pine County economies would experience major, long-term economic growth associated with development of lands sold under the Lincoln County Land Act and the Lincoln County and White Pine County Conservation, Recreation, and Development Acts. Absent development spawned by land disposals under the three acts, annual payments in lieu of taxes to White Pine County would be lower than at the present, but comparable to those under Alternative A. The provision for no net loss of public lands may delay or limit land disposal actions that would otherwise foster community and economic development, thereby impacting local fiscal budgets.

4.24 Social Conditions

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Population and Demographics. Effects on regional population change directly attributable to the Ely Field Office's operations under the Proposed RMP are estimated at 510 to 560 residents across the region during the 15 to 20 years required to complete the watershed analysis throughout the planning area. The increase would result from the additional job opportunities supported in the planning area by the additional $10 million in annual operating budget for the Ely Field Office. Many of the affected households would live in and around Ely, attracted by the location of the Ely Field Office, the community's retail and services sector, and the relative availability of housing. Others may choose to live in nearby unincorporated areas of White Pine County or in Lincoln County, primarily in and around Caliente where the BLM operates a Field Station. The changes in the population of White Pine County would not manifest themselves as new growth per se, but rather as a relative decrease in the level of expected out migration.

The three American Indian reservations would not experience population growth directly as a result of the Proposed RMP, because like the non-reservation communities in White Pine County, the effect of the Proposed RMP would be one of stemming out migration rather than generating net growth. Induced population growth may result indirectly from the development of any lands transferred to the Tribes as part of a larger community and economic development conveyance and disposal process outside the context of the RMP/EIS. The Duckwater Shoshone and Ely Shoshone both have expressed interest in gaining additional lands to expand their respective reservations. The population effects associated with any such transfers is unknown due to the uncertainty regarding the timing, amount, and future use of any such transfers.

Population growth indirectly associated with future land disposal would occur in the planning area under the Proposed RMP. The magnitude, type, timing, and location of such growth are subject to the same caveats and uncertainties identified earlier in connection with the reservations and in Section 4.23 with respect to economic and fiscal effects. Residential development potentials associated with the land use development assumptions outlined in **Table 4.23-2** and assumed development densities, ranging from 10 dwelling units per acres to 1 dwelling unit per 20 acres, are presented in **Table 4.24-1**.

Table 4.24-1
Potential Residential Development Build-out (Dwelling Units) of Land Disposals[1]

	White Pine County	Lincoln County	Nye County
Proposed RMP	18,630	57,450	-
Alternative A	27,170	7,900	2,560
Alternative B	26,590	73,870	120
Alternative C	41,940	96,560	2,560
Alternative D	12,130	3,170	0

[1] Residential development potentials reflect land use assumptions outlined in **Table 4.23-2**, a range of residential development densities, and the absence of major development obstacles/constraints, such as inadequate water availability.

Under the Proposed RMP, development of over 76,000 additional dwelling units could occur on the disposed lands, more than a 1,100 percent increase over the aggregate housing stock of Lincoln and White Pine counties in 2000. Realization of that level of development during the life of this plan is extremely unlikely. Over time, the incremental growth would represent sizeable population increases in Lincoln County and White Pine County, and to a lesser degree in Nye County given the potential levels of residential development on the disposed lands. The populations associated with new developments would likely be a combination of year-round and seasonal residents.

Through its accelerated effects on improving ecological health, implementation of the Proposed RMP could indirectly contribute to a higher future population in the region, as compared to Alternative A. The higher population could manifest itself as additional growth in Lincoln County and White Pine County. To the extent that environmental conditions are "quality of life" factors affecting the residential choices of retirees, entrepreneurs, and working households with a high degree of flexibility in their employment situation, the potential improvements achieved under the Proposed RMP would diminish the adverse influences of the current conditions and trends. The temporal relationships between the implementation of the Proposed RMP, responses and changes in ecological health, potential indirect effects on population change, as well as the magnitude of such population changes, are unknown.

Population effects associated with the Proposed RMP, particularly those changes related to future growth associated with land disposals, dramatically could alter the demographic characteristics of the planning area, New residents may reflect a broad demographic cross-section in terms of age, race, workforce participation and household size, or may be less representative of the general population. In either case, they would be less connected to the social, cultural, and economic history of the area. Consequently, the influx of many year-round and seasonal residents would affect the social and community dynamics in the area.

Housing. Local housing markets would experience little direct impact under the Proposed RMP due to the limited scale of the anticipated population effects associated with ecological restoration efforts. The incremental population growth and associated housing demand generally would be regarded as beneficial. The incremental demands on community infrastructure and public services also would be considered beneficial by contributing to higher utilization, efficiency, and local government fiscal capacity.

Indirect effects on local housing markets would arise from future residential development on lands disposed of under the Proposed RMP. These effects would be long-term, major, and would have both beneficial and adverse dimensions. While the timing and absorption of such lands is uncertain, such impacts are likely to occur first in Lincoln County, particularly around Pioche, Panaca, and Caliente, followed by White Pine County, particularly around Ely. Development around those communities could take advantage of and benefit the established community infrastructure. However, the level of potential residential development would require expanded infrastructure and service delivery capacity. Active housing markets in both Lincoln and White Pine counties would include both permanent residency and second-home/recreational use. Future development likely would expand the type, variety, and range of values of housing available within the area.

Social Values and Attitudes Regarding Public Land Management. The Proposed RMP responds to a broadly held perspective that ecological health current conditions and trends within the planning area are deteriorating and that commitment of substantial resources are necessary to arrest the rate of decline, begin restoration, and to achieve properly functioning conditions. While many stakeholders would view favorably the increased funding levels and accelerated process of assessment and adaptive management response, concerns regarding the effectiveness of the approach and lengthy period required for implementation may foster concerns among various stakeholders about the need for more immediate or short-term actions. For example, ranchers would oppose the reductions in livestock grazing privileges associated with the temporary closure for treatment, but who support the possible allocation of additional post-treatment forage to grazing would see the short-term impacts as detrimental to their own sense of social and economic well-being as well as that of their neighbors, and their collective descendants.

At the same time, many residents of the area would value the added emphasis directed towards fuels management and wildland fire risk reduction included in this alternative. As that effort is implemented, ranchers, home and business owners of properties closest to the urban/rural interface would sense feelings of relief. Many residents and non-resident familiar with the area also may value the expanded range of woodland and vegetation products available for personal use.

Local and tribal government officials interested in promoting economic development initiatives may support the designation of areas for possible disposal, though some still would consider it insufficient in quantity and not well sited to meet future needs.

Stakeholders interested in ecological restoration and resource protection, as well as some of those interested in increased opportunities for off-highway vehicle use, would experience some degree of dissatisfaction with the Proposed RMP, because it does not include the scale of management response they desire. For example, some groups and individuals interested in environmental restoration would like to see a complete and immediate cessation of grazing, more restrictions on off-highway vehicle travel, and the complete closure of more areas to all off-highway vehicle use. At the same time, individual off-highway vehicle enthusiasts and organizations may have preferred maintaining areas as open and fewer travel restrictions limiting use to designated roads and trails.

Changes in permit conditions for outfitters and guides under the Proposed RMP may cause concerns among both the outfitters and guides and those who are used to a guided hunting experience but with more flexibility. Differences in viewpoints would resonate with local officials, some of whom may see permit conditions as enhancing the industry and its economic contributions to the regions, others who have a stronger free-market orientation and may see conditions as intrusive.

Groups and individuals interested in resource protection would likely be skeptical or opposed to the emphasis on commercial activities, the expansion of recreation uses, particularly motorcycle and organized truck events, and the expanded designations of lands suitable for possible disposal, particularly those areas seen as having high recreation potential and other resource values. Others would see the consequences of possible land disposal as leading to an increased human presence in the area, adding to existing pressures on other resources that may pose a higher threat to the success of ecological restoration efforts.

Many stakeholders may view the Proposed RMP as a type of a middle ground; addressing a wide array of resource management issues and concerns and promoting multiple-use on a large-scale level.

Conclusion. The Proposed RMP would result in regional population increases of 510 to 560 residents during restoration, with corresponding positive long-term effects on local housing markets. The gains would be relatively more concentrated around Ely. Additional social benefits may be realized from stewardship contracting, the fuels management/wildland fire risk reduction, and potential for developed recreation associated with possible land disposal. This alternative may hold relatively less appeal for those desiring maximum emphasis on resource protection and rangeland health restoration. Additionally, long-term population growth facilitated by land disposal could result in fundamental, long-term changes in social conditions across the area.

Alternative A

Population and Demographics. The Nevada State Demographer's office has prepared statewide and county-specific population projections through the year 2020. The projections are based on the continuation of recent population and demographic trends, absent any growth associated with the recent land acts, and thus, can be viewed as generally consistent with Alternative A. As such, they provide an indication of expected future economic and social conditions in the region absent any major economic shocks, including changes in management activities of the Ely Field Office.

Lincoln County is projected to gain nearly 300 residents through 2020; a modest compounded annual growth rate of 0.3 percent (see **Table 4.23-1**). Those projections imply limited levels of net immigration to augment natural growth of the resident population but do not include allowances for future development in conjunction with the sale and development of lands associated with the Lincoln County Land Act. Such development could result in nearly 58,000 additional residents of Lincoln County over 20 years (BLM 2001c). The effects of the Lincoln County Land Act on Lincoln County population growth, demographics, and social conditions are unrelated to the RMP and would be undifferentiated across alternatives. In addition to the Lincoln County Land Act-related growth, land disposal under the other land acts could facilitate development of more than 35,000 additional dwellings in the planning area.

The corresponding baseline population projections for White Pine County call for long-term declines of more than 2,500 residents by 2020. About 80 percent of the projected decline would occur by 2010 with the rate of decline slowing thereafter. The location of two regionally important highways through the county, and the support for local trade and services establishments provided by the Ely State Prison, the stimulus provided by the recent reopening of the Robinson mine, and other state and federal government activities in the county, suggests that White Pine County's population may stabilize, rather than continuing to decline as projected. The implications of the projections are, however, for substantial net residential out-migration, with attendant effects on local housing markets and other social dimensions of the affected communities. Under such conditions, the median age of an area's population would tend to increase, and the number of school-age children would decline. These trends would be offset in the long-term by the effects of the recently passed White Pine County Conservation, Recreation, and Development Act of 2006, which could stimulate development through disposal of BLM-administered lands for a variety of private and public uses.

Population projections are not available for the Nye County portion of the planning area. Population declined between 1990 and 2000, at least partially in response to limited economic opportunity. Given the outlook for population declines in White Pine County in the near term, to which the Duckwater area maintains close economic and social ties, it is reasonable to expect some further declines.

Projected population changes in the planning area contrast sharply with those for Nevada where net gains of over 892,000 residents are projected statewide by 2020, raising the state's population to 2.91 million.

Housing. Housing is among the more important elements of community development and local socioeconomic conditions. To an extent, changes in housing conditions and markets serve as a proxy for changes in community infrastructure and functioning. Rapid growth and strong housing demand tends to be correlated with rising housing prices, the need for community infrastructure expansion, and increased pressure on community services, while falling demand and prices create strains as communities attempt to sustain services and economic vitality in the face of declining resources.

Alternative A would have little, if any, direct impact on the underlying markets for new housing in the region. Lincoln County's housing market would be comprised of three elements: 1) demand for permanent housing to accommodate new residents moving to the central portion of the county, 2) non-resident demand for homes for seasonal and recreational use, and 3) the potential development of lands in southern Lincoln County associated with the Lincoln County Land Act. The first two of these elements would affect private lands, primarily around Panaca, Pioche, and Caliente. The amount of land to support such development is limited, providing a need for additional lands. Lands identified for possible disposal to meet community expansion needs could satisfy such demand, provided lands are subsequently developed for residential, rather than agricultural, industrial, commercial, or other public uses. The demand for seasonal and recreational use homes could be adversely affected by the continued risk of wildland fires on nearby public lands and restrictions enacted on dispersed recreation and off-highway vehicle use in the wake of continued decline in ecological health.

Housing demand in White Pine County, absent development associated with land disposal actions, would decline over the long-term in response to the underlying expectations for population declines and out-migration that characterize Alternative A. The long-term trend could be punctuated by short-term increases in demand tied to renewed mineral development or other temporary or cyclical spikes in economic activity. Under the long-term trends of relatively weak demand, housing values would decline and vacancies could rise. The population declines would result in excess service capacity in public infrastructure, along with diminished fiscal capacity for upgrades, maintenance, and repairs. Public services also would be adversely affected as cutbacks are necessitated by the smaller population base and fiscal resources.

Land sales under the Lincoln County Land Act and the Lincoln County and White Pine County Conservation, Recreation, and Development Acts are congressionally mandated. Market forces would determine whether and when development proceeds, and the nature of that development. The impacts of that development on other development trends in Lincoln County and White Pine County are unclear, though they would contribute to the potential for long-term growth that more than offsets the long-term declines projected absent such development. As under the Proposed RMP, housing variety and the range of values would expand due to future residential development under Alternative A. The impacts on local housing markets of such development would be major, with both beneficial and adverse manifestations.

Residential development associated with land disposal would be of lesser consequence in Nye County due to the relatively limited development potential involved.

Social Values and Attitudes Regarding Public Land Management. Continuation of current management practices under Alternative A would be deemed by many stakeholders as being unresponsive to their multi-faceted and wide-ranging concerns. Whether local resident, non-resident recreation enthusiast, tribal interest, or a business or environmental organization, generally there is a broad consensus that current conditions and trends do not bode well for the long-term environmental, economic, and community well-being of the planning area. There is considerably less consensus regarding the priorities and desired outcomes for future management of the planning area. In part, this stems from the sheer size of the planning area and its pivotal role in the Great Basin ecological system. Not only does the large size provide an opportunity for stakeholders to influence management for a vast area in its own right, but the current RMP/EIS process is seen as providing a forum to influence management policies over much of the western U.S. One outfall of the attention directed toward the Ely RMP/EIS is that most stakeholders and interest groups see themselves as having something at risk, which may or may not promote consensus regarding the desired course of action.

Two trends emerge under the current management that generally characterize the implications of Alternative A in terms of the effects on social values and attitudes toward public land management. On the one hand are local individuals and groups whose economic livelihoods and quality of life are linked to public lands and those who visit the area frequently to hunt, recreate, experience, and enjoy the open space and scenic vistas. Many of these individuals believe that their opportunity to maintain their established use patterns, cultural ties, and other connections to the land are threatened by strict environmental resource protection. An implication of that eventuality is that these parties see themselves as bearing the brunt of forthcoming changes in management and that those changes generally are viewed as being adverse in

nature. They are, therefore, inclined to support more active and aggressive management that stabilizes, and hopefully, restores ecological conditions over time to a point of supporting on-going multiple use across a large portion of the planning area.

A contrasting perspective of the need for action may be held by individuals and groups promoting more active restoration efforts from a more distant or detached vantage, be it scientific, cultural, emotional, or spiritual. Many among these stakeholders also recognize that environmental protections eventually would come into play across broad segments of the planning area. However, there are potentially avoidable adverse consequences associated with delays and the passage of time that motivate these stakeholders to support more active and aggressive restoration efforts. One such consequence is the increasing risk of wildland fires. Such fires would increasingly pose risks to communities, lives, and properties. While such risks raise concerns for local residents, property owners, and officials, the consequences of wildland fires on ecological resources also can be devastating and are something to be avoided, if possible.

It is the shared motivation that changes in management are necessary to address concerns that Alternative A fails to address.

Conclusion. Long-term moderate population declines in White Pine County and moderate to major population increases in Lincoln County are projected under Alternative A absent the indirect growth associated with proposed land disposals and subsequent development. Subsequently, housing demand and prices would fall in White Pine County, while increasing in Lincoln County. Residential development in Lincoln County would increase concerns about wildland fire risks. Continuation of current management practices would be widely perceived as unresponsive to public concerns regarding declining ecological health in the Great Basin and the implications for public land use. Potential long-term development facilitated by land disposal actions under Alternative A would counteract the underlying projections and result in long-term population growth which would be accompanied by changing social dynamics in the planning area.

Alternative B

Population and Demographics. Under Alternative B, the combination of $10 million in annual funding of ecological restoration activities and the implementation of stewardship contracting would result in population gains larger than the 510 to 560 residents identified under the Proposed RMP. The magnitudes and timing of the incremental gains generally would correspond to the employment effects associated with such contracting, which are presently unknown. Other population and demographic effects in the planning area, including effects on the three American Indian reservations and the effects associated with possible land disposal and improving ecological health, would be more pronounced than those described for the Proposed RMP with capacity for more than 100,000 additional dwelling units under Alternative B. That total represents nearly a 15-fold increase over the aggregate housing stock of Lincoln and White Pine counties in 2000. Realization of that level of development during the life of this plan is extremely unlikely.

Housing. Under Alternative B, major impacts on local housing markets and conditions, including indirect effects associated with potential future residential development on disposed lands would occur and would

be similar to those described for the Proposed RMP. The impact of that development on other development trends in Lincoln County and White Pine County is unclear, though it would contribute to the potential for long-term growth that offsets the long-term declines projected absent such development. As under the Proposed RMP, housing variety and the range of values would expand over the long-term due to future residential development under Alternative B.

Social Values and Attitudes Regarding Public Land Use Management. Alternative B responds to a broadly held perspective that current conditions and trends in ecological health require a substantial commitment of agency resources to arrest the rate of decline and begin restoration of properly functioning conditions across much of the planning area. While many stakeholders would view favorably the increased funding levels and accelerated process of assessment and adaptive management response, the uncertainties regarding the effectiveness of that approach and the lengthy time required for implementation and the resulting ecological responses could foster concerns among various stakeholders about potential short-term effects. For example, ranchers would oppose the reductions in livestock grazing privileges associated with the closure of the Mojave Desert to grazing and the emphasis given towards expanding the ranges and populations of desert and Rocky Mountain bighorn sheep, particularly given the lack of future forage allocations to livestock grazing as standards for rangeland health are achieved. They would see this as detrimental to their own sense of social and economic well-being, as well as that of their neighbors and their collective descendants.

At the same time, many residents (e.g., ranchers, home, and business owners closest to the urban/rural interface) of the area would value the added emphasis directed towards fuels management and wildland fire risk reduction included in Alternative B. Many residents and non-residents familiar with the area also would value the expanded range of forest/woodland and other plant products available for personal use.

Local and tribal government officials interested in promoting economic development initiatives would support the designation of areas for possible disposal, though some still would consider it insufficient to meet future needs.

Stakeholders interested in ecological restoration and resource protection, as well as some of those interested in increased opportunities for off-highway vehicle use, would experience some degree of dissatisfaction with Alternative B, because it may not include the scale of management response they desire. For example, some groups interested in environmental restoration would like to see a complete and immediate cessation of grazing. At the same time, individual off-highway vehicle enthusiasts and organizations may prefer maintaining more open use areas, fewer travel restrictions limiting use to designated roads and trails.

Conclusion. Alternative B management actions related to restoration would increase regional population by 510 to 560 residents. Generally perceived as beneficial, the gains would be relatively more concentrated around Ely. By accelerating the pace of restoration and improved ecological health, Alternative B would contribute to potential long-term population growth over and above that under Alternative A. Long-term population growth facilitated by land disposal could result in fundamental, long-term changes in social conditions across the planning area. Higher population growth would bolster housing markets in White Pine

County. Many would view the increased restoration funding levels favorably, but would be concerned about short-term impacts on lifestyles and personal use, and future management as rangeland health standards are achieved. Alternative B may hold relatively stronger appeal to those favoring resource protection and restoration.

Alternative C

Population and Demographics. The population effects of Alternative C would be comparable to those identified for the Proposed RMP; a net incremental increase over Alternative A supported by the additional $5.0 million in annual operating budget for the Ely Field Office. Implementation of stewardship contracting would spawn additional population gains. The magnitudes and timing of the gains generally would correspond to the employment effects associated with such contracting, which are presently unknown.

A secondary consequence of emphasizing responsible commercial development of forest/woodland and other plant products, organized motorized recreation events, and the expanded options of lands designated as suitable for possible disposal is a higher likelihood of stimulating induced economic and population growth beyond that associated directly with the rangeland health restoration initiative. Indirect effects on regional population change under Alternative C would be greater than under the other alternatives because of the increased acreage available for possible disposal. Most of the additional lands designated as eligible for possible disposal under Alternative C are near Ely, communities in Lincoln County, local airports, existing state parks, and other popular recreation areas. The location of these lands would promote interest for public and private sector recreation-oriented, commercial, and residential development, as well as possible agricultural uses. Such development would increase both the full-time residential populations and the seasonal and part-time residents. Criteria established to facilitate the orderly disposal of lands likely would result in paced disposal over time, with subsequent possible disposals contingent upon the utilization, market absorption, and development of previously disposed lands. The indirect effects on population growth would likely be concentrated in Lincoln County due to the proximity to the Las Vegas metropolitan area, Mesquite, and the Interstate 15 corridor.

The social well-being of the three Indian Reservations and respective tribal members and households would not be directly affected by possible land disposal or other aspects of Alternative C.

Population and demographic effects associated with future growth in the planning area in the wake of land disposal actions with capacity for more than 138,000 additional dwelling units would be more pronounced under Alternative C than those described for the Proposed RMP. That total represents a 20-fold increase over the aggregate housing stock of Lincoln and White Pine counties in 2000. As growth and development proceed, local population and demographics could undergo dramatic changes due to the influx of a large number of year-round and seasonal residents. Complete realization of the residential development potential accommodated by land disposal in Alternative C is extremely unlikely during the life of this plan.

Housing. Local housing markets would experience little direct impact under Alternative C because of the limited scale of population effects anticipated and the existing market conditions described under

Alternative A. The incremental demands on community infrastructure and public services also would contribute to higher utilization, efficiency, and fiscal support.

Major indirect effects on local housing markets would arise from future residential development on lands disposed under Alternative C. The timing and absorption of such lands is uncertain, but such effects would be more likely to occur around Pioche, Panaca, and Caliente in Lincoln County, and in areas in White Pine located near, and having access to, designated off-highway vehicle open use areas. The level of second-home development potentially could be much higher under Alternative C than other alternatives because of the proximity of possible disposal-eligible lands to established recreation areas.

A secondary consequence of new development in more remote locations would be to alter and increase demands on local governments, the Ely Field Office, and other public service providers. For example, increased residential and commercial development outside of the established communities in Lincoln and White Pine counties would increase demands on the sheriff's department, local fire protection, and, to the extent that they attract year-round residents, the school district. Increasing development also would generate additional management demands on Ely Field Office resources, including wildland fire protection, by introducing more development, recreation use, and a higher general level of human presence into areas previously undeveloped. The potential for large-scale demands on local government facilities and services is greatest in Alternative C due to the potential level of residential development supported by land disposals.

Social Values and Attitudes Regarding Public Land Management. Alternative C may garner support among the diverse stakeholders for the increase in spending to implement pro-active restoration efforts, including the use of commercial development and stewardship contracting to effect fuels management/wildland fire risk reduction and other environmental and recreation opportunity restoration and enhancement goals. Because such efforts may promote increased vegetation production and the availability of wood products biomass near local communities, local officials interested in community development likely would favor Alternative C over the other alternatives. Ranchers affected by closure of allotments within the Mojave Desert would oppose this reduction in livestock grazing privileges. Many off-highway vehicle users and other outdoor recreation enthusiasts would prefer the increase in recreation opportunities, less restrictive off-highway vehicle use designations, and private development afforded by the expanded offerings of land designated as suitable for possible disposal, relative to the other alternatives.

Groups and individuals interested in resource protection likely would be skeptical or opposed to the emphasis on commercial activities, the expansion of recreation uses (particularly motorcycle and organized truck events), and the expanded designations of lands suitable for possible disposal under Alternative C, particularly those areas seen as having high recreation potential and other resource values. Others would view the consequences of possible land disposal as leading to an increased human presence in the area, adding to existing pressures on other resources that may pose a higher threat to the success of ecological restoration efforts.

Many stakeholders may view Alternative C as a type of a middle ground; addressing a wide array of resource management issues and concerns, promoting multiple-use on a large-scale level, while avoiding many management options that might be viewed as extreme by one or more interest groups. This is not to

characterize Alternative C as representing any type of a consensus, but rather as an alternative that offers many stakeholders something that they favor or can support.

Conclusion. Alternative C restoration activities would increase regional population by 190 to 210 residents. The gains and corresponding benefits on local housing markets would be concentrated around Ely. Indirect benefits from long-term commodity use, stewardship contracting, and expanded options for land disposal would result in long-term social benefits and adverse impacts due to the scale of potential long-term growth. The management emphasis for Alternative C may hold less appeal to stakeholders desiring stronger resource protection, sportsmen, and those favoring commercial uses of forest/woodland and other plant products than to interests promoting motorized recreation.

Alternative D

Population and Demographics. Direct population effects of Alternative D would be similar to those described for Alternative A; long-term population declines in White Pine County, a stable or declining population in the eastern portion of Nye County, and limited growth in Lincoln County, all absent development resulting from the Lincoln County Land Act and the Lincoln County and White Pine County Conservation, Recreation, and Development Acts. The land disposal assumptions under Alternative D could result in potential residential development of about 15,300 dwelling units in the planning area. The timing of development, and types and values of housing to be developed is uncertain. Realization of the full development is unlikely to occur during the life of this plan. Future residential development on disposed lands likely would result in increased year-round and seasonal populations within the planning area.

No direct population effects would occur on any of the three Indian Reservations under Alternative D.

Housing. Alternative D would have little direct, but potentially major long-term indirect impacts on local housing conditions or markets.

Social Values and Attitudes Regarding Public Land Management. The effect of Alternative D in terms of social values and attitudes is in large measure the counter-point to Alternative C. Alternative D carries forward several elements of Alternative A, but is dramatically different with respect to constraints on and levels of resource use. Hence, many stakeholders may view this alternative as non-responsive to their concerns about the impacts of future management on their economic and social well-being. Among the few discrete impacts associated with Alternative D would be opposition by many residents and local government officials to the no net loss of public lands provision and the elimination of livestock grazing that would be viewed as constraining future economic and community development. Those same provisions may be supported in principle by environmental advocacy interests, or possibly seen as restricting the potential for land exchanges and other actions involving lands managed by the Ely Field Office to achieve more desired environmental protection and management goals.

Conclusion. Alternative D would have little direct impact on regional population or housing markets, as compared to Alternative A. Alternative D carries forward several elements of Alternative A, but eliminates livestock grazing and places additional constraints on possible land disposal, mineral entry, and energy

development that are viewed by residents as imperative to community and economic viability. Consequently, this alternative would hold relatively less appeal for area residents and local government officials than for those stakeholders whose specific areas of concern serve as the foundation for this alternative. Alternative D would support the least amount of residential development associated with land disposals, and thereby potentially would introduce the least influence on social dynamics within the planning area.

4.25 American Indian Issues

During the scoping process, several concerns were expressed by American Indian groups residing in or adjacent to the planning area. Foremost was the continuation of pinyon pine nut harvesting for personal and commercial use, followed closely by continued access to harvesting areas and places of spiritual or cultural importance, land disposals, and limitations on outfitter and guide permits and its effect on those tribes that offer guide services. Pinyon pine nut harvesting by American Indians for personal use, as well as access to places of spiritual or cultural importance, would continue under all of the alternatives. For a discussion on land disposals and the effect on the social and economic conditions of American Indian groups, the reader is referred to Section 4.24, Social Conditions. The proposed monitoring of the use and number of outfitter and guide permits for a 3-year period followed by implementation of stipulations and conditions on permits as necessary to protect resources and reduce user conflicts is not expected to disproportionately affect American Indian participants in this industry. The potential use of a competitive bidding process for issuing such permits under Alternative B, however, would be more likely to create disproportionate economic hardship for American Indian participants than for other groups involved in outfitting and guiding. Because Alternatives A and C would have no limits on issuance of outfitter and guide permits, they would have no effect on American Indian participants. Under Alternative D, no outfitter and guide permits would be issued, thus, affecting all participants in the industry.

Impacts associated with American Indian traditional values and their management would be mitigated through the Section 106 government-to-government consultation process. The 1992 National Historic Preservation Act amendments place major emphasis on the role of American Indian groups in the Section 106 review process. Subsequent revisions to the regulations of the Advisory Council on Historic Preservation published May 18, 1999, incorporate specific provisions for federal agencies to involve American Indian groups in land or resource management actions and for consulting with these groups throughout the process. Before making decisions or approving actions that could result in changes in land use, physical changes to lands or resources, changes in access, or alienation of lands, federal managers must determine whether American Indian interests would be affected, observe pertinent consultation requirements, and document how this was done. The consultation record would be the federal agency's basis for demonstrating that the responsible manager has made a reasonable and good faith effort to obtain and consider appropriate American Indian input in decision making.

In the event that human remains, funerary items, sacred objects, or objects of cultural patrimony are discovered during activities associated with management actions, the activities would cease in the immediate vicinity and the authorized officer would be notified of the find. The activities would continue after the authorized officer issues a notice to proceed (see Appendix F, Section 1).

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. After completion and approval of the RMP, during project implementation, additional mitigation

measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

4.26 Environmental Justice

Impact Issues

Executive Order 12898, "Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations," requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. The BLM's goal when environmental justice issues arise is to reduce, to the extent practicable, inequitable distributions of environmental benefits and costs, based on race, ethnicity, or income. The Ely Field Office has a proactive program to promote and provide opportunities for full involvement of Tribes in local decisions that may affect their lives, livelihoods, and health (see Section 5.2 for more information about the tribal Consultation effort conducted as part of the Proposed RMP effort.)

Assumptions for Analysis

Completion of the watershed analysis and vegetation treatment programs will be long-term endeavors, with many long-term results not realized during the anticipated life of the Ely RMP. The lengthy time horizon and uncertain sequencing and priorities associated with watershed analysis and restoration activities precludes detailed analysis of potential adverse impacts to minority or low income populations due to the alternatives. Consequently, the Ely Field Office will seek to reduce or mitigate such impacts through the following policies.

- During the watershed analysis and treatment programs, the Ely Field Office will continue its efforts to allow subsistence activities by American Indians on public lands and avoid disproportionate adverse impacts on minority or low-income populations.

- Priorities for watershed analysis and treatments will be based on consistent application of decision criteria grounded in the best available scientific information, with consideration of the spatial distribution across the entire decision area in order to avoid temporal and spatial concentration of beneficial or adverse impacts disproportionately affecting an individual or group.

- The Ely Field Office will consider the potential incidence (magnitude, duration, and relative importance) of short and long-term adverse impacts associated with its treatment programs in its allocation of short and long-term benefits of restored healthy ecological systems.

- Within the frameworks established by BLM policies and applicable laws, the Ely Field Office will promote the training and employment of qualified minority and low-income residents to participate in the watershed analysis and treatment programs.

Interactions with Other Programs

Management of other resources has the potential to cause environmental justice issues. Thus, other management actions were examined to identify potential areas of concern.

Goal

Continue efforts to avoid, to the extent practicable, inequitable distributions of adverse environment impacts that may arise based on race, ethnicity, or income.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

American Indians within and outside the planning area have subsistence use (e.g., pinyon nut harvesting) and cultural ties to public lands administered by the Ely Field Office. The Proposed RMP would maintain those current ties, inter-governmental coordination efforts, and programs to protect cultural values, and provide for continued access to places of spiritual and cultural importance and to vegetation products.

Several geographical areas of interest to American Indians were identified through interviews and meetings with American Indian tribal leaders and members. If a land use decision was proposed in a geographical area of interest to the Tribes, the Ely Field Office would take into account any concern raised by the Tribes and work with them to address those concerns.

Conclusion. No significant, adverse, or disproportionately high environmental or health effects to minority or low-income populations were identified in conjunction with the resource programs, objectives, or management actions associated with the Proposed RMP.

Alternative A

Environmental justice issues would be the same as described for the Proposed RMP.

Conclusion. No disproportionate adverse impacts to low-income populations were identified in conjunction with the resource programs or management actions associated with Alternative A. Alternative A would meet the goal for environmental justice.

Alternative B

Environmental justice issues would be the same as described for the Proposed RMP.

Based on their established or prospective patterns and locations of use, individuals, households, and groups of individuals who engage in recreation and subsistence uses in the decision area could be temporarily affected by management actions associated with the watershed analysis and treatment/restoration programs, which affect access, harvest limits, seasonal use, or levels of approved grazing.

Conclusion. No significant, adverse, or disproportionately high environmental or health impacts to minority or low-income populations were identified in conjunction with the resource programs, objectives, or management actions associated with Alternative B.

Alternative C

Environmental justice issues would be the same as described for the Proposed RMP.

Conclusion. No significant, adverse, or disproportionately high environmental or health impacts to minority or low-income populations were identified in conjunction with the resource programs, objectives, or management direction associated with Alternative C.

Alternative D

Environmental justice issues would be the same as described for the Proposed RMP.

Conclusion. No significant, adverse, or disproportionately high environmental or health impacts to minority or low-income populations were identified in conjunction with the resource programs, objectives, or management direction associated with Alternative D.

4.27 Health and Safety

Impact Issues

Remediation of contaminated and hazardous sites is necessary for compliance with applicable federal and state rules and regulations governing the remediation of such sites.

Assumptions for Analysis

None.

Interactions with Other Programs

It is expected that the health and safety management program within the planning area potentially would be minimally affected by actions within other resource management programs except for vegetation and fire management.

Goal

The goal of the health and safety program is to ensure that management actions are protective of life and property.

Mitigation Measures

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Impacts to health and safety also would be mitigated through the best management practices listed in Appendix F, Section 1. Best management practices would be implemented by the Ely Field Office on a project-specific basis, as appropriate for the specific characteristics of the project area and the types of disturbance being proposed. After completion and approval of the RMP, during project implementation, additional mitigation measures may be identified, as appropriate, on a site-specific basis. These measures would be identified through the site-specific NEPA analysis in response to anticipated impacts associated with proposed projects.

Proposed RMP

Impacts from Health and Safety Management Actions. Activities under this alternative would be conducted in accordance with applicable regulations and BLM policy with regard to health and safety and protection of personal property. All programs managed by the Ely Field Office would operate under these basic rules and procedures. More stringent procedures could be instituted by the Ely Field Office for certain activities on a case-by-case basis, although none are proposed for this alternative. As a result, there would be no program-specific impacts for health and safety under this alternative.

Impacts from Other Programs. Minimal effects to health and safety have been identified as a result of management activities associated with other resource management programs.

Vegetation/Fire Management. Vegetation treatments, including fuel reduction in wildland urban interface areas, and fire management plans of this alternative would substantially reduce the long-term risk of large-scale wildland fires and the risk of personal injuries and destruction of personal property associated with wildland fires. The revised Fire Management Plan facilitates prompt fire response and improves guidance and direction for fire use in each Fire Management Unit. Although concern was raised during public scoping regarding emission of radionuclides during wildland fires, there is no evidence that this would occur at a level constituting a health risk (see Section 4.2).

Conclusion. There would be a decrease of risk to public health and safety because of the decreased wildland fire risk. The Proposed RMP would meet the goal for the health and safety program.

Alternative A

Impacts from Health and Safety Management Actions. Impacts would be the same as the Proposed RMP.

Impacts from Other Programs. Minimal effects to health and safety have been identified as a result of management activities associated with other resource management programs.

Vegetation/Fire Management. Fuel supplies would continue to increase, leading to increased wildland fire risk. Risks are primarily related to personal injury and physical destruction of property associated with wildland fires.

Conclusion. There would be a slight increase of risk to public health and safety because of an increased wildland fire risk. Alternative A would meet the goal for the health and safety program.

Alternative B

Impacts from Health and Safety Management Actions. Impacts would be the same as the Proposed RMP.

Impacts from Other Programs. Minimal effects to health and safety have been identified as a result of management activities associated with other resource management programs.

Vegetation/Fire Management. Vegetation treatments, including fuel reduction in wildland urban interface areas, and fire management plans of this alternative would substantially reduce the long-term risk of large-scale wildland fires and the risk of personal injuries and destruction of personal property associated with wildland fires. The revised Fire Management Plan facilitates prompt fire response and improves guidance and direction for fire use in each Fire Management Unit. Although concern was raised during

public scoping regarding emission of radionuclides during wildland fires, there is no evidence that this would occur at a level constituting a health risk (see Section 4.2).

Conclusion. There would be a decrease of risk to public health and safety because of decreased wildland fire risk. Alternative B would meet the goal for the health and safety program.

Alternative C

Impacts from Health and Safety Management Actions. Impacts would be the same as the Proposed RMP.

Impacts from Other Programs. Minimal effects to health and safety have been identified as a result of management activities associated with other resource management programs.

Vegetation/Fire Management. Vegetation treatments focused on removal of large fuels would be less extensive than in Alternative B. The continued accumulation of fuels in untreated areas coupled with wildland fire suppression of this alternative would ultimately lead to major wildland fire risks and the associated risks of personal injuries and destruction of personal property.

Conclusion. There would be an increase of risk to public health and safety because of increased wildland fire risk. Alternative C would not meet the goal for the health and safety program.

Alternative D

Impacts from Health and Safety Management Actions. Impacts would be the same as the Proposed RMP.

Impacts from Other Programs. Minimal effects to health and safety have been identified as a result of management activities associated with other resource management programs.

Vegetation/Fire Management. This alternative would combine minimal fire suppression efforts with very limited vegetation treatments. Thus, major large-scale wildland fire events and increased fire risk and personal injuries and destruction of property associated with wildland fires would be expected over the long term and may occur during the short term.

Conclusion. There would be a great increase of risk to public safety because of the increased wildland fire risk and the potential for large destructive fires. Alternative D would not meet the goal for the health and safety program.

4.28 Cumulative Impacts

4.28.1 Introduction

Cumulative impacts are those effects on the environment that result from the incremental impacts of the management direction contained in the RMP when added to the effects of other past, present, and reasonably foreseeable future actions, regardless of what agency (federal, tribal, state, or local) or private entity undertakes such other actions. Cumulative impacts can result from individually inconsequential, but collectively significant, actions taking place over a period of time (Title 40 Code of Federal Regulations Subpart 1508.7). This analysis focuses on the cumulative impacts of the Proposed RMP and other actions both within and outside of the planning area. A qualitative description of the differences in cumulative impacts between the Proposed RMP and other alternatives (Alternative A through Alternative D) also is included.

Nevada BLM Instruction Memo NV-90-435 specifies that impacts must first be identified for the proposed action (i.e., the Proposed RMP) before cumulative impacts with other actions can occur. According to the BLM's "Guidelines for Assessing and Documenting Cumulative Impacts" 1994 handbook, cumulative impact analysis should be focused on those issues identified during scoping that are of major importance, in this case the cumulative impacts of new management actions.

4.28.1.1 Assumptions for Cumulative Impact Analysis

- Based on an assumed 5 acre-feet per acre per year for areas currently cultivated in the planning area, there would be an ongoing water demand of 320,000 acre-feet per year for agricultural development.

- Based on an assumed 10 gallons per animal unit per day for livestock and wild horses in the planning area, there would be an ongoing water demand of 550 acre-feet per year for livestock grazing and wild horse management.

- Residential development is assumed to have a water demand of 1 acre-foot per acre of development per year.

- The Lincoln County and White Pine County Conservation, Recreation, and Development Acts will allow for the disposal of lands administered by the Ely Field Office within the planning area. A portion of the land disposed of could be used for residential development. For very general analysis purposes, it has been assumed that 27,900 dwelling units would be constructed on 18,600 acres in White Pine County and 86,100 dwelling units on 57,400 acres in Lincoln County. Since many of these dwelling units could have recreational or seasonal occupancy, it has been assumed that each dwelling unit would have one full-time resident. Further, it is assumed that the timeframe for this residential development would exceed the life of the Proposed RMP, something on the order of 50 years.

- Based on an assumed 10-foot-wide increase in width, the paving of Kane Springs Road would result in a new surface disturbance of approximately 50 acres.

- Based on an assumed 80-mile-long, 100-foot-wide construction right-of-way, the road from Caliente to Mesquite would result in a new surface disturbance of approximately 970 acres.

- Based on an assumed 1,400-acre site; 20 miles of water pipeline on a 60-foot-wide construction right-of-way; a 2-mile-long, 100-foot-wide rail spur right-of-way; a 34-mile-long, 200-foot-wide transmission line right-of-way; and 52 acres for access roads, electric distribution lines to water wells, construction staging areas, and construction access, new surface disturbance associated with the White Pine Energy Station is estimated at 2,450 acres.

- Based on an assumed 383-mile-long, 400-foot-wide right-of-way, transmission line construction in the Southwest Intertie Project corridor is expected to result in new surface disturbance of approximately 18,600 acres.

- Up to 5,000 megawatts of wind energy capacity would be developed in the planning area, and wind farms and ancillary facilities would have approximately 4,000 acres of temporary and permanent disturbance.

- Based on an assumed 100-mile-long, 200-foot-wide right-of-way within the planning area, the railroad branch line from Caliente, Nevada, to the Yucca Mountain Repository is expected to result in approximately 2,400 acres of new surface disturbance.

4.28.1.2 Timeframe for Analysis

The timeframe for this cumulative impact analysis encompasses past and present activities in the planning area, including historic mining which may date back more than 100 years, and future activities that may extend 20 years into the future.

4.28.1.3 Past, Present, and Reasonably Foreseeable Future Actions

Interrelated projects are defined for this EIS as those activities that could interact with the Proposed RMP in a manner that would result in cumulative impacts. For ease of presentation, interrelated projects and natural processes have been grouped as past, present, and reasonably foreseeable future actions that may interact with the management actions contained in the Proposed RMP. The potentially interrelated projects are listed and described below. **Table 4.28-1** quantifies four important characteristics of each project that are relevant to cumulative impacts. These characteristics were selected to describe the interrelated project because they address the potential physical, biological, and socioeconomic impacts of each project. It also allows the combined impacts of interrelated projects to be totaled. The interrelated projects are shown in **Map 4.28-1**, and **Table 4.28-2** identifies the potential interactions among the interrelated projects and the resource programs. The geographic area for cumulative impacts is determined primarily by the locations of the interrelated projects and the interactions with potentially affected resource programs. The area for certain resources may be restricted to the actual disturbance areas of the interrelated projects (i.e., cultural resources sites), while others may range over a wider area within and beyond the planning area (i.e., air quality).

Table 4.28-1
Impact Characteristics of Interrelated Projects and Natural Processes

Interrelated Project	Air Emissions[1]	Surface Disturbance within the Planning Area (acres)	Ongoing Water Demand within the Planning Area (acre-feet/year)	Permanent Employment within the Planning Area
Past Actions				
Human Actions				
• Atlanta mining district	Not Applicable	500	Not Applicable	Not Applicable
• Mount Hamilton/ White Pine mining district	Not Applicable	400	Not Applicable	Not Applicable
• Pioche mining district	Not Applicable	700	Not Applicable	Not Applicable
• Robinson mining district	Not Applicable	5,400	Not Applicable	Not Applicable
• Tempiute mining district	Not Applicable	200	Not Applicable	Not Applicable
• Nevada Test Site	Not Applicable	No Effect	Not Applicable	Not Applicable
• Road and railroad development	Not Applicable	28,100	Not Applicable	Not Applicable
• Agricultural development	Not Applicable	See Present Actions	Not Applicable	Not Applicable
• Livestock grazing	Not Applicable	(Minimal over 11.5 million acres open to grazing)	Not Applicable	Not Applicable
• Designation of critical habitat for threatened and endangered species	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Natural Processes				
• Wildland fire	Not Applicable	1.0 million (over 20 years)	Not Applicable	Not Applicable
• Expansion of pinyon and juniper trees	No Effect	No Effect	Increased Transpiration (not estimated)	No Effect (Not Applicable)
• Spread of noxious/ invasive weeds	Not Applicable	168,000	Not Applicable	Not Applicable
Subtotal	Not Applicable	603,300	Not Applicable	Not Applicable

Table 4.28-1 (Continued)

Interrelated Project	Air Emissions[1]	Surface Disturbance within the Planning Area (acres)	Ongoing Water Demand within the Planning Area (acre-feet/year)	Permanent Employment within the Planning Area
Present Actions				
Human Actions				
• Bald Mountain mining district	PM_{10}, oxides of nitrogen, carbon monoxide, and sulfur dioxide within National Ambient Air Quality Standards; process emissions less than 100 tons per year	4,200	2,000	100
• Reopening the Robinson Mine	Would meet New Source Performance Standards	No new area	5,700	430
• Reclamation of the McGill tailings	Fugitive dust	3,500	10,000	1
• Reid Gardner Power Plant (Clark County)	Coal-fired; PM_{10}, oxides of nitrogen, carbon monoxide, and sulfur dioxide emissions greater than 100 tons per year; Prevention of Significant Deterioration source within National Ambient Air Quality Standards	No Effect	No Effect	No Effect
• Department of Defense activities	No Effect	(Minimal over 691,000 acres of Nevada Test and Training Range within the planning area)	No Effect	No Effect
• Agricultural development	No Effect	64,000	320,000 (assuming 5 acre-feet/acre/year)	320 (split with livestock grazing)
• Livestock grazing	No Effect	(Minimal over 11.2 million acres open to grazing)	550 (assuming 10 gallon/animal unit/day for livestock and wild horses)	320 (split with agricultural development)
• Falcon to Gonder 345-kV transmission line	No Effect	1,200 (assuming a 160-foot-wide right-of-way)	No Effect	No Effect
• Conservation plans for greater sage-grouse	No Effect	Vegetation would be treated to improve habitat for greater sage-grouse but not possible to quantify area	No Effect	No Effect

Table 4.28-1 (Continued)

Interrelated Project	Air Emissions[1]	Surface Disturbance within the Planning Area (acres)	Ongoing Water Demand within the Planning Area (acre-feet/year)	Permanent Employment within the Planning Area
• Off-highway vehicle recreation use	No Effect	(Entire planning area open except designated wilderness and wilderness study areas)	No Effect	No Effect
Natural Processes				
• Wildland fire	Short term and seasonal	See Future Actions	No Effect	No Effect
• Drought	(Greater during drought)	No Effect	(Would decrease supply)	No Effect
• Expansion of pinyon and juniper trees	(Reduced ground cover)	No Effect	(Increased transpiration)	No Effect
• Spread of forest insects and diseases	(Reduced ground cover)	No Effect	(Reduced transpiration)	No Effect
• Spread of noxious/ invasive weeds	No Effect	No Effect	No Effect	No Effect
Subtotal	Not Applicable	**72,900**	**338,250**	**1,171**
Reasonably Foreseeable Future Actions				
Human Actions				
• Lincoln County Land Act development	No Effect	13,500	13,500	Unknown
• Lincoln County Conservation, Recreation, and Development Act	No Effect	Up to approximately 90,000		Unknown
• White Pine County Conservation, Recreation, and Development Act	No Effect	Up to approximately 45,000		Unknown
• Transfer of lands to American Indian Tribes	No Effect	Location and area to be determined by Congress	Unknown	Unknown
• Water development in Lincoln County and White Pine County	No Effect	3,000 (200 wells at 1 acre per well, and 300 miles of 75-foot-wide pipeline right-of-way)	Unknown	20
• Coyote Springs residential development	No Effect	20,000	20,000	Unknown
• Paving Kane Springs Road	No Effect	Approximately 50 acres assuming 10 feet of new disturbance	No Effect	No Effect
• Road from Caliente to Mesquite	No Effect	Approximately 970 acres assuming a 80-mile-long, 100-foot-wide construction right-of-way	No Effect	No Effect

Table 4.28-1 (Continued)

Interrelated Project	Air Emissions[1]	Surface Disturbance within the Planning Area (acres)	Ongoing Water Demand within the Planning Area (acre-feet/year)	Permanent Employment within the Planning Area
• Toquop Energy Project	Coal-fired; would meet New Source Performance Standards	500	2,500	110
• White Pine Energy Station	Would meet New Source Performance Standards	Approximately 2,450 (assumes 1,400 acres for site, 20 miles of water pipeline at 60 feet wide, 2 miles of rail spur at 100 feet wide, and 34 miles of transmission line at 200 feet wide)	5,000	150
• Ely Energy Center	Would meet New Source Performance Standards			
• Southwest Intertie Project Corridor	No Effect	Approximately 18,600 acres assuming a 383-mile-long, 400-foot-wide right-of-way	No Effect	No Effect
• Wind energy development	No Effect	4,000 permanent	No Effect	100
• Holly Energy Pipeline	No Effect	Approximately 200 acres assuming a 22.6-mile-long, 75-foot-wide construction right-of-way	No Effect	No Effect
• Expansion of the Bald Mountain Mine	Would meet New Source Performance Standards	3,800	1,100	100
• Barrick Land Sale	No Effect	14,770	Unknown	Unknown
• Expansion of the Panaca pozzolana mine	No Effect	200	No Effect	15
• Department of Defense activities	No Effect	(Minimal over 691,000 acres of Nevada Test and Training Range within the planning area)	No Effect	No Effect
• Yucca Mountain Project	No Effect	No Effect	No Effect	No Effect
• Department of Energy Caliente rail corridor	No Effect	Approximately 2,400 acres assuming a 100-mile-long, 200-foot-wide right-of-way within the planning area	Unknown	10
• Bassett Lake dam rebuild and expansion	No Effect	Unknown	No Effect (no new water use not already prior appropriated)	No Effect
• Cave Lake dam rebuild	No Effect	No Effect	No Effect	No Effect

Table 4.28-1 (Continued)

Interrelated Project	Air Emissions[1]	Surface Disturbance within the Planning Area (acres)	Ongoing Water Demand within the Planning Area (acre-feet/year)	Permanent Employment within the Planning Area
• Comins Lake expansion	No Effect	Lake surface would expand approximately 600 acres	Additional lake surface evaporation (Water use is already appropriated)	No Effect
• Habitat conservation plans for threatened and endangered species	No Effect	Could restrict surface disturbance in certain areas	No Effect	No Effect
• Conservation plans for greater sage-grouse	No Effect	Vegetation would be treated to improve habitat for greater sage-grouse but not possible to quantify area	No Effect	No Effect
• Increased off-highway vehicle use from population growth in Clark County	No Effect	(Limited to existing roads and trails, and 730,000 acres emphasized for use but not all disturbed)	No Effect	No Effect
Natural Processes				
• Wildland fire	Short term and seasonal	60,000	No Effect	No Effect
• Drought	No Effect	No Effect	(Would decrease supply)	No Effect
• Expansion of pinyon and juniper trees	No Effect	No Effect	(Increased transpiration)	No Effect
• Spread of forest insects and diseases	No Effect	No Effect	No Effect	No Effect
• Spread of noxious/ invasive weeds	No Effect	No Effect	No Effect	No Effect
• Spread of West Nile virus	No Effect	No Effect	No Effect	No Effect
Subtotal	**Not Applicable**	***781,130***	**46,600**	**345**
TOTAL	**Not Applicable**	***1,457,330***	**383,850**	**1,516**

Note: All quantification is approximate.

[1]Air emissions from mobile sources and those that would not extend beyond 2 miles would not have any substantial cumulative impact.

Table 4.28-2
Interactions Between Resources and Interrelated Projects

Interrelated Project	Air Quality	Water Resources	Soils	Vegetation	Fisheries	Wildlife	Special Status Plant Species	Special Status Aquatic Species	Special Status Wildlife Species	Wild Horses	Cultural Resources	Paleontological Resources	Visual	Lands and Realty	Renewable Energy	Travel Management/Off-highway Vehicle Use	Recreation	Livestock Grazing	Woodland and Native Plant Products	Mineral Extraction	Watershed Management	Fire Management	Noxious and Invasive Weed Management	Special Designations	Economic and Social Conditions	American Indian Issues	Health and Safety
Past Actions																											
Human Actions																											
• Atlanta mining district									X	X	X	X								X	X		X		X	X	X
• Mount Hamilton/ White Pine mining district									X	X	X	X								X	X		X		X	X	X
• Pioche mining district								X			X	X								X	X		X		X	X	X
• Robinson mining district			X	X		X			X		X	X						X	X	X	X		X		X	X	X
• Tempiute mining district										X	X	X								X	X		X		X	X	X
• Nevada Test Site												X		X											X	X	X
• Road and railroad development				X		X	X		X	X	X	X		X				X	X			X	X		X		
• Agricultural development					X	X	X	X	X	X	X			X							X					X	
• Livestock grazing			X	X	X	X	X	X	X	X	X		X					X				X	X			X	
• Designation of critical habitat for threatened and endangered species				X		X			X	X	X			X	X	X	X	X	X	X	X			X	X		

Table 4.28-2 (Continued)

Interrelated Project	Health and Safety	American Indian Issues	Economic and Social Conditions	Special Designations	Noxious and Invasive Weed Management	Fire Management	Watershed Management	Mineral Extraction	Woodland and Native Plant Products	Livestock Grazing	Recreation	Travel Management/Off-highway Vehicle Use	Renewable Energy	Lands and Realty	Visual	Paleontological Resources	Cultural Resources	Wild Horses	Special Status Wildlife Species	Special Status Aquatic Species	Special Status Plant Species	Wildlife	Fisheries	Vegetation	Soils	Water Resources	Air Quality
Natural Processes																											
• Wildland fire		X				X	X		X	X	X				X			X	X	X	X	X	X	X	X	X	
• Expansion of pinyon and juniper trees						X	X		X	X								X	X								
• Spread of noxious/ invasive weeds			X		X	X	X		X	X				X	X		X	X	X			X		X	X	X	
Present Actions																											
Human Actions																											
• Bald Mountain mining district		X	X		X		X	X	X						X	X	X	X	X		X	X		X	X	X	X
• Reopening the Robinson Mine	X	X	X		X		X	X																		X	X
• Reclamation of the McGill tailings	X	X	X		X		X									X	X		X		X	X		X	X	X	X
• Reid Gardner Power Plant (Clark County)		X	X																								X
• Department of Defense activities			X										X	X			X										
• Agricultural development		X	X		X		X			X				X			X	X	X	X	X	X	X	X	X	X	

Table 4.28-2 (Continued)

Interrelated Project	Health and Safety	American Indian Issues	Economic and Social Conditions	Special Designations	Noxious and Invasive Weed Management	Fire Management	Watershed Management	Mineral Extraction	Woodland and Native Plant Products	Livestock Grazing	Recreation	Travel Management/Off-highway Vehicle Use	Renewable Energy	Lands and Realty	Visual	Paleontological Resources	Cultural Resources	Wild Horses	Special Status Wildlife Species	Special Status Aquatic Species	Special Status Plant Species	Wildlife	Fisheries	Vegetation	Soils	Water Resources	Air Quality
• Livestock grazing		X	X		X	X	X		X	X							X	X	X	X	X	X	X	X	X	X	
• Falcon to Gonder 345-kilovolt transmission line		X	X		X								X	X	X	X	X	X						X			
• Conservation plans for greater sage-grouse						X	X	X		X		X		X				X	X			X					
• Off-highway vehicle recreation use		X	X	X	X	X	X			X	X	X		X		X	X	X	X	X		X	X	X	X		X
Natural Processes																											
• Wildland fire	X	X	X		X	X	X		X	X	X			X	X		X	X	X	X	X	X	X	X	X	X	X
• Drought					X	X	X		X	X				X	X			X	X	X		X	X	X	X		X
• Expansion of pinyon and juniper trees						X			X	X								X	X					X	X	X	
• Spread of forest insects and diseases									X										X			X		X	X		
• Spread of noxious/ invasive weeds			X		X	X	X		X	X				X	X			X	X			X		X	X		

Table 4.28-2 (Continued)

Interrelated Project	Reasonably Foreseeable Future Actions	Human Actions	• Lincoln County Land Act development	• Lincoln County Conservation, Recreation, and Development Act	• White Pine County Conservation, Recreation, and Development Act	• Transfer of lands to American Indian Tribes	• Water development in Lincoln County and White Pine County	• Coyote Springs residential development
Health and Safety								
American Indian Issues			X	X	X	X	X	X
Economic and Social Conditions			X	X	X	X	X	X
Special Designations								
Noxious and Invasive Weed Management			X	X	X		X	X
Fire Management			X	X	X	X		X
Watershed Management			X	X	X	X		X
Mineral Extraction				X	X	X	X	
Woodland and Native Plant Products								
Livestock Grazing			X	X	X	X	X	
Recreation								
Travel Management/Off-highway Vehicle Use								
Renewable Energy								
Lands and Realty			X	X	X	X	X	X
Visual			X	X	X			X
Paleontological Resources			X	X	X	X	X	X
Cultural Resources			X	X	X	X	X	X
Wild Horses				X				
Special Status Wildlife Species			X	X	X		X	
Special Status Aquatic Species			X	X	X		X	
Special Status Plant Species			X	X	X		X	
Wildlife			X	X	X		X	X
Fisheries			X	X	X		X	X
Vegetation			X	X	X		X	X
Soils			X	X	X		X	X
Water Resources			X	X	X		X	X
Air Quality								

Table 4.28-2 (Continued)

Interrelated Project	Air Quality	Water Resources	Soils	Vegetation	Fisheries	Wildlife	Special Status Plant Species	Special Status Aquatic Species	Special Status Wildlife Species	Wild Horses	Cultural Resources	Paleontological Resources	Visual	Lands and Realty	Renewable Energy	Travel Management/Off-highway Vehicle Use	Recreation	Livestock Grazing	Woodland and Native Plant Products	Mineral Extraction	Watershed Management	Fire Management	Noxious and Invasive Weed Management	Special Designations	Economic and Social Conditions	American Indian Issues	Health and Safety
• Paving Kane Springs Road											X			X		X						X	X	X	X	X	
• Road from Caliente to Mesquite			X	X	X	X					X	X	X	X		X						X	X	X	X	X	
• Toquop Energy Project	X	X	X	X		X		X			X	X	X	X	X								X		X	X	
• White Pine Energy Station	X	X	X	X		X	X	X	X	X	X	X	X	X	X			X					X		X	X	X
• Ely Energy Center	X	X	X	X		X	X	X	X	X	X	X	X	X	X			X					X		X	X	X
• Southwest Intertie Project Corridor				X		X	X	X	X		X	X	X	X	X								X		X	X	
• Wind energy development			X	X		X	X		X	X	X	X	X	X	X				X				X		X	X	
• Holly Energy Pipeline	X	X	X	X		X	X	X	X	X	X	X	X	X	X			X					X		X	X	X
• Expansion of the Bald Mountain Mine	X	X	X	X		X			X	X	X	X	X	X					X	X	X		X		X	X	X
• Barrick Land Sale														X							X						
• Expansion of the Panaca pozzolana mine	X		X	X		X					X	X		X			X			X	X		X		X	X	X
• Department of Defense activities											X			X	X										X	X	

Table 4.28-2 (Continued)

Interrelated Project	Air Quality	Water Resources	Soils	Vegetation	Fisheries	Wildlife	Special Status Plant Species	Special Status Aquatic Species	Special Status Wildlife Species	Wild Horses	Cultural Resources	Paleontological Resources	Visual	Lands and Realty	Renewable Energy	Travel Management/Off-highway Vehicle Use	Recreation	Livestock Grazing	Woodland and Native Plant Products	Mineral Extraction	Watershed Management	Fire Management	Noxious and Invasive Weed Management	Special Designations	Economic and Social Conditions	American Indian Issues	Health and Safety
• Yucca Mountain Project											X			X		X									X	X	X
• Department of Energy Caliente rail corridor	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
• Bassett Lake dam rebuild and expansion					X		X							X			X						X		X	X	
• Cave Lake dam rebuild																	X						X		X	X	
• Comins Lake expansion					X		X							X			X						X		X	X	
• Conservation plans for greater sage-grouse				X		X			X	X				X		X		X		X		X					
• Habitat conservation plans for threatened and endangered species				X		X			X	X				X				X		X	X	X					
• Increased off-highway vehicle use from population growth in Clark County	X		X	X	X	X	X	X	X	X	X	X		X		X	X	X			X	X	X	X	X	X	
Natural Processes																											
• Wildland fire	X	X	X	X	X	X	X	X	X	X	X		X	X			X	X	X		X	X	X		X	X	X
• Drought	X		X	X	X	X		X	X	X			X	X				X	X		X		X				

Table 4.28-2 (Continued)

Interrelated Project	• Expansion of pinyon and juniper trees	• Spread of forest insects and diseases	• Spread of noxious/ invasive weeds	• Spread of West Nile virus
Health and Safety				X
American Indian Issues				
Economic and Social Conditions			X	
Special Designations				
Noxious and Invasive Weed Management	X	X	X	
Fire Management	X	X	X	
Watershed Management	X	X	X	
Mineral Extraction				
Woodland and Native Plant Products	X	X	X	
Livestock Grazing	X		X	
Recreation				
Travel Management/Off-highway Vehicle Use				
Renewable Energy				
Lands and Realty			X	
Visual		X	X	
Paleontological Resources				
Cultural Resources				
Wild Horses	X		X	X
Special Status Wildlife Species	X	X	X	X
Special Status Aquatic Species				
Special Status Plant Species				
Wildlife		X	X	X
Fisheries				
Vegetation	X	X	X	
Soils	X	X	X	
Water Resources	X			
Air Quality				

Past Actions

- Atlanta Mining District – The Atlanta Mining District was discovered in 1869 and included a historic underground and open pit gold and uranium mine located north of Pioche. Mining commenced in 1871 and continued intermittently until 1996 (Tschanz and Pampeyan 1970).

- Mount Hamilton/White Pine Mining District – The Hamilton or White Pine Mining District was located in 1865 and operations continued through the 1990s. This District experienced one of the largest mining rushes in U.S. history and produced silver, copper, lead, and zinc from underground and open pit mines located west of Ely in the White Pine Range (Hose et al. 1976).

- Pioche/Caselton Mining District – The Pioche/Caselton Mining District was discovered in 1863; production began in 1869 and continued until approximately 1960. Production from underground mines in the District, which was located in the Pioche Hills to the west of Pioche, included silver, zinc, gold copper, and lead (Tschanz and Pampeyan 1970).

- Robinson Mining District – The Robinson Mining District, which is one of the oldest and largest mining districts in the state, is located just west of Ely and dates back to 1867. Silver was the first commodity mined in the district, followed by gold. Copper mining began in 1908 and was active until approximately 1999 (Hose et al. 1976; BLM 1994b).

- Tempiute Mining District – The Tempiute Mining District began as a silver district and was developed from 1869 to 1883. Tungsten was discovered in 1916 and was ultimately mined from the 1930s to 1957 and again from 1977 to 1982. While currently inactive, the district has produced copper, lead, and zinc, in addition to silver and tungsten (Tschanz and Pampeyan 1970; Cox and Singer 1992).

- Nevada Test Site – This 1,375-square-mile area was originally established in the early 1950s as the Atomic Energy Commission's on-continent nuclear weapons proving ground. It lies contiguous with the Nevada Test and Training Range. A moratorium on nuclear weapons testing was implemented in 1992 and since that time, the site, which is located 65 miles north of Las Vegas, has diversified into many other programs such as hazardous chemical spill testing, environmental technology studies, conventional weapons testing, waste management, and emergency response training (U.S. Department of Energy 2004).

- Road and railroad development – Roads and railroads built in the planning area prior to the 1990s largely accommodated mining operations and supplied local communities. The Nevada Northern Ruth to Wendover line and the Union Pacific line from Caliente to Las Vegas are two historic rail lines located within the planning area.

- Agricultural development – Historic agricultural development in the planning area was generally associated with livestock and included irrigated hay pastures.

- Livestock grazing – Livestock grazing operations in the planning area developed during the mid- to late-1800s. Historic stocking rates were higher than present.

- Critical habitat has been designated for threatened and endangered species within the planning area. The most extensive designation involved the desert tortoise habitat in the Mojave Desert region of the southeastern part of the planning area. In the 2000 Desert Tortoise Amendment to the Caliente MFP, 203,670 acres were designated as three ACECs for the protection of designated critical habitat.

- Wildland fire – Over the 20 years between 1985 and 2005, wildland fire has burned approximately 400,000 acres within the planning area. The area burned varied greatly from year to year. In the year 2005, approximately 600,000 acres burned within the planning area.

- Expansion of pinyon and juniper trees and other woody species – Over the past 150 years, trees have increased in woodlands, spread into shrublands and grasslands, and are expected to continue expansion.

- Spread of noxious/invasive weeds – Noxious weeds have been spreading in the planning area to the point that approximately 168,000 acres managed by the Ely Field Office are now infested. Invasive annual grasses such as cheatgrass and red brome have become a primary problem over a much greater area.

Present Actions

- Bald Mountain Mining District – The Bald Mountain Mining District is located in White Pine County approximately 70 miles northwest of Ely, Nevada. The district dates back to 1869 with open pit gold mining and processing beginning in the 1980s (BLM 1995). Current operations are anticipated to continue through 2010 and beyond.

- Reopening the Robinson Mine – Quadra Mining Ltd. has purchased the Robinson Mine facilities east of Ely and resumed operations in the fourth quarter of 2004. Surface disturbance areas are expected to remain as identified in the 1994 EIS (BLM 1994b).

- Reclamation of the McGill tailings – The McGill tailings were generated through operations associated with a historic copper smelter and gravity separator located north of Ely. The smelter processed ore from 1908 to 1980, had 1,400 employees at its peak, and an 8.5-mile-long water supply pipeline (Hose et al. 1976). The tailings disposal area is currently undergoing reclamation.

- Reid Gardner Power Plant – Reid Gardner is a 590-megawatt, coal-fired power plant that was constructed in the mid-1960s just south of Moapa, Nevada. It is owned and operated by Nevada Power Company. Coal is delivered to the plant site via rail.

- Department of Defense Activities – The Military has used and would like to continue using the public lands in the planning area. A portion of the planning area lands fall under the Desert, Reveille, and

Gandy Military Operations Areas and several low-level Military Training Routes. The typical military uses are: overflights; fixed and rotary wing landing areas; Forward Air Refueling Points; electronic communication (fixed and mobile) and threat operations; Drop Zone operations (airdrops from 500 feet above ground level to 10,000 feet above ground level of equipment or personnel); no-drop visual-only convoy targets; and emergency access and response.

- Agricultural development – According to BLM's geographic information system database, approximately 63,800 acres are currently under agricultural production in the planning area. This amount includes irrigated hay pastures, row crops, grain crops, and orchards (BLM unpublished data).

- Livestock grazing – Approximately 11.2 million acres are currently available for grazing in the decision area. A total of approximately 545,267 animal unit months are permitted in the decision area, with approximately 206,707 animal unit months of use identified in 2002.

- Falcon to Gonder 345-kilovolt Transmission Line – A new 345-kilovolt transmission line has been constructed to connect the Falcon Substation (north of Dunphy and Battle Mountain, Nevada) to the Gonder Substation (north of Ely, Nevada). Reclamation is ongoing. Approximately 60 miles of the line lie within the planning area (BLM 2001h [Falcon to Gonder EIS]).

- Conservation plans for greater sage-grouse – The downward trend in population of the greater sage-grouse throughout the West resulted in petitions for listing the bird range-wide and locally as federally threatened or endangered. On January 4, 2005, the Secretary of the Interior announced that the greater sage-grouse did not warrant protection under the Endangered Species Act. However, implementation of conservation plans for greater sage-grouse within the planning area would include active management techniques to improve habitat quality for greater sage-grouse, maintain or increase management unit populations, and maintain or increase greater sage-grouse numbers.

- Off-highway vehicle recreation use – As large areas of BLM-managed land in Clark County are being closed to off-highway vehicle use due to measures taken to protect the desert tortoise and air quality, more recreation use has shifted to Lincoln and White Pine counties.

- Wildland fire – See Reasonably Foreseeable Future Actions.

- Drought – See Reasonably Foreseeable Future Actions.

- Expansion of pinyon and juniper trees and other woody species – Over the past 150 years, trees have increased in woodlands, spread into shrublands and grasslands, and are expected to continue expansion.

- Spread of forest insects and diseases – Several years of drought in western states have resulted in severe stress on pinyon pines. This stress has made the trees less able to fend off attacks by insects such as the Ips beetle. As mentioned in Section 3.5, white pine blister rust also is infecting and causing

mortality in bristlecone pines north and west of the planning area. It is expected to infect neighboring mountains in the foreseeable future.

- Spread of noxious/invasive weeds – Noxious and invasive weeds continue to spread on all lands, both public and private, reducing natural biodiversity, vegetation production, and soil quality. Due to their tolerance of fire and rapid spread into burned areas, invasive annual grasses such as cheatgrass and red brome are expected to remain a serious long-term challenge in the planning area.

Reasonably Foreseeable Future Actions

- Lincoln County Land Act development – As mandated by the Lincoln County Land Act of October 13, 2000, the Ely Field Office disposed of 13,500 acres of public land located north and west of Mesquite, Nevada. The sold land would be used to expand the community of Mesquite, Nevada (BLM 2001c).

- Lincoln County Conservation, Recreation, and Development Act of 2004 – The Lincoln County Conservation, Recreation, and Development Act was signed into law on November 30, 2004. The Act authorizes the sale of up to 90,000 acres of BLM-administered land in Lincoln County, with 10 percent of the revenues going to Lincoln County for economic development, 5 percent to the state for education, and 85 percent being retained by the federal government. The Act also designates approximately 770,000 acres of wilderness.

- White Pine County Conservation, Recreation, and Development Act of 2006 – The White Pine County Conservation, Recreation, and Development Act was signed into law on December 20, 2006. The Act authorizes the sale of up to 45,000 acres of BLM-administered land in White Pine County, with 10 percent of the revenues going to White Pine County for economic development, 5 percent to the state for education, and 85 percent being retained by the federal government. The Act also designates approximately 558,000 acres of wilderness.

- Transfer of lands to American Indian Tribes – As part of the White Pine County Conservation, Recreation, and Development Act, four parcels of land totaling 3,526 acres were transferred in trust to the Ely Shoshone Tribe. Proposals for the transfer of public lands within the decision area also have been prepared by the Duckwater Shoshone Tribe and Moapa Band of Paiutes. The location and land area of any such transfers would be determined by Congress.

- Water development in Lincoln County and White Pine County – Groundwater development in Lincoln County and White Pine County may occur. Proposals by the Southern Nevada Water Authority and Lincoln County Water District are currently being evaluated by the Ely Field Office in separate EISs. It is anticipated that the water would be used in White Pine or Lincoln counties for industrial or residential development or would be transported to Clark County. Water development is regulated by the Nevada State Engineer and not by the BLM Field Offices.

- Coyote Springs residential development – This planned development of approximately 50,000 people would be located near the Clark and Lincoln County line on Highway 93. Approximately 20,000 acres are designated for the development (Hartmann 2004).

- Paving Kane Springs Road – This approximately 40-mile-long paving project, which would be located between Elgin, Nevada, and Highway 93 northwest of Moapa, would result in minimal land disturbance (slight widening of the existing roadway). The road lies on lands managed by both the Ely Field Office and Lincoln County (Hartmann 2004).

- Road from Caliente to Mesquite – This roadway would provide access to the Lincoln County Land Act area and to the Toquop Energy Project site. The road would involve new construction disturbance along an approximately 80-mile-long, 100-foot-wide construction right-of-way (Hartmann 2004).

- Toquop Energy Project – Toquop Energy, Incorporated has the permits required to construct and operate a 1,100-megawatt, natural gas-fired, water-cooled, electric generating plant in southeastern Lincoln County. The project includes a 12.5-mile-long waterline, 1,300-foot-long electric utility line, a 2,400-foot-long, 20-inch-diameter gas pipeline, and a 14.4-mile-long access road (Toquop Energy 2004). The current proposal is for a coal-fired unit with fuel being delivered by rail to replace the gas-fired unit. The reconfigured project would include a 750-megawatt plant, a 45-mile long rail spur from the Union Pacific mainline in Meadow Valley Wash, and permanent employment of approximately 110 workers. The coal-fired plant is anticipated to have a lower water usage, and the reduced size would bring air emissions more in line with the permitted gas-fired plant. This major revision in the project description requires a supplemental or new EIS before project development could begin (2,500 versus 7,000 acre-feet per year).

- White Pine Energy Station – White Pine Energy Associates, LLC, is proposing to construct a coal-fired power plant in north Steptoe Valley, about 30 miles north of Ely, Nevada, between McGill and Cherry Creek. The project consists of power generation units and related facilities, rail line, and transmission lines connecting northern and southern Nevada. Up to three 530-megawatt units (1,600-megawatts total) could be constructed. As part of the plan, the existing Nevada Northern Railroad would be used to transport coal to the site.

- Ely Energy Center – Sierra Pacific Resources is proposing a coal-fired power plant and related facilities, rail line, and transmission lines connecting northern and southern Nevada. The power generation facility would be located in north Steptoe Valley, about 20 miles north of Ely, Nevada, and would initially consist of two 750-megawatt generation units, with the first unit becoming operational in 2011. The second unit would be operational by 2014. Two 500-megawatt coal gasification units also would be constructed, when the technology becomes commercially viable.

- Southwest Intertie Project Corridor – The Southwest Intertie Project was originally proposed as a 540-mile-long 500-kilovolt transmission line from Idaho to termination points in southern Nevada and Delta, Utah. A right-of way for the project was granted in the 1990s (BLM 2001h), but the project was never constructed. However, approximately 383 miles of the Southwest Intertie Project corridor were

maintained in the Ely planning area as a designated corridor. Two entities currently are considering use of the Southwest Intertie Project corridor for the construction of north-south transmission lines across the planning area. These are the Great Basin LLC 500-kilovolt line and the TransCanada direct current line.

- Wind energy development – The potential for wind energy development exists within the planning area. Based on Department of Energy evaluation of wind energy potential and current interest within the planning area, up to 40,000 acres of rights-of-way for wind farms could be granted during the life of the RMP. This would accommodate approximately 5,000 megawatts of generating capacity. Entities currently investigating wind energy projects in the planning area (from north to south) include: Nevada Wind (Antelope Range), Power Partners Wind (Diamond Range), Nevada Wind (Egan Range), Enxco Wind (Egan Range), Invenergy Wind (north Spring Valley), Spring Valley Wind (north Spring Valley), Nevada Wind (Schell Creek Range), and Table Mountain-Mount Wilson Wind (Wilson Creek Range).

- Holly Energy is proposing to construct a 12-inch-diameter refined liquids (gasoline and diesel fuel) pipeline from the Salt Lake City area to the Las Vegas area. This pipeline would be constructed in the existing Moapa corridor across the southeast corner of the planning area. Approximately 22.6 miles of the project would cross lands administered by the Ely Field Office.

- Expansion of the Bald Mountain Mine – Barrick Gold Corporation is planning to increase the size of the existing Bald Mountain Mine to enable it to continue mining and gold production for an additional 6 to 10 years. Bald Mountain Mine proposes an additional disturbance of 3,800 acres associated with pits, rock disposal areas, heap leaching, roads, growth media stockpiles, exploration, and underground mining activities. The Proposed North Operations Area would include the 4,200 acres of previously permitted disturbance and 3,800 acres of new disturbance, for a final disturbance footprint of about 8,000 acres. The North Operations Area EIS would incorporate existing analysis that includes several environmental assessments and the 1995 Bald Mountain Mine Expansion EIS.

- Barrick Land Sale – The proposed Northern Nevada Rural Economic Development and Land Consolidation Act of 2003 (H.R. 2869) may direct the Ely Field Office to sell approximately 14,770 acres of land located on Alligator Ridge and Bald Mountain in White Pine County to Barrick Gold Corporation.

- Expansion of the Panaca pozzolana mine – This existing, small-scale mine could be expanded. Pozzolana is a finely divided volcanic ash mineral composed of silica and aluminum that reacts chemically with lime, in the presence of moisture and at ordinary temperature, to form a strong, slow-hardening cement.

- Department of Defense activities – Military operations are described above in the past actions section and are expected to continue through the next 20 years.

- Yucca Mountain operations – On July 9, 2002, the U.S. Senate cast the final legislative vote approving the development of a deep underground facility, or repository, at Yucca Mountain, Nevada, for storage of highly radioactive nuclear waste. The repository is anticipated to store waste for at least

10,000 years. The Yucca Mountain Project is currently focused on preparing an application to obtain a license from the U.S. Nuclear Regulatory Commission to construct the repository. No construction date has been set (Office of Civilian Radioactive Waste Management 2004).

- Department of Energy Caliente rail corridor withdrawal – Approximately 308,600 acres in Clark, Esmeralda, Lincoln, and Nye counties has been withdrawn from surface entry and mining for a period of 20 years. During this period the land would be evaluated for potential construction, operation, and maintenance of a 307-mile-long branch rail line for the transportation of spent nuclear fuel and high-level radioactive waste to the proposed Yucca Mountain Repository (Office of Civilian Radioactive Waste Management 2004). Approximately 100 miles of the proposed railroad corridor would be within the planning area. The Department also is evaluating a rail route in western Nevada (the Mina corridor) that does not cross the planning area.

- Bassett Lake is a 77-acre reservoir located northwest of McGill, Nevada, on property owned by Kennecott Minerals Company. Discussions are underway among Kennecott, the Nevada Department of Wildlife, and White Pine County regarding the conversion of the lake from private to public ownership. It has been proposed that the dam creating the reservoir could be rebuilt and the pool size enlarged. Details on the project await resolution of ownership issues and a detailed engineering study.

- Cave Lake dam rebuild – The proposed project would repair the dam at the lake, probably between 2005 and 2007. No additional surface disturbance would be required, the lake would not increase in size, and fewer than 50 people are expected to be involved in construction (Richards 2004).

- Comins Lake expansion – Comins Lake south of Ely provides a productive year-round recreational fishery. Nevada Department of Wildlife is proposing to increase the area of Comins Lake for recreation purposes, effectively doubling its size to about 1,000 acres. A recent study evaluated reinforcing the existing roadway (Highway 93) at the lake crossing to act as a dam. The project is expected to be implemented in 2007 to 2008 (Richards 2004).

- Habitat conservation plans for threatened and endangered species – New habitat conservation plans could be developed for currently listed species. If additional species are listed as threatened or endangered, habitat conservation plans also would be developed for designated critical habitat within the planning area. It is anticipated that if new listings become necessary, they would most likely involve species that are dependent on sagebrush for their habitat requirements.

- Conservation plans for greater sage-grouse – See Present Actions.

- Increased off-highway vehicle use from population growth in Clark County – Off-highway vehicle use has shifted to Lincoln and White Pine counties as areas of BLM-administered public land in Clark County have been closed. As the population of Clark County increases, the demand for recreation use in the planning area is expect to continue increasing through the next 20 years.

- Wildland fire – The area burned by wildland fire would continue to vary greatly from year to year. While it is very difficult to quantify the number of acres that could be affected, the Proposed RMP would collectively cover larger areas than in past years. For the cumulative impact analysis, it has been assumed that an additional 600,000 acres could be affected.

- Drought – Over the past 6 to 7 years, most of the western U.S. has experienced drought. Parts of Nevada have been described as being in "extreme drought" by the U.S. Department of Agriculture (cited in article of Las Vegas Review-Journal, April 12, 2004). This drought is threatening crops and pastures, has raised the potential for wildland fires, and has affected BLM's ability to manage and succeed at restoration actions.

- Expansion of pinyon and juniper trees and other woody species – Over the past 150 years, trees have increased in woodlands, spread into shrublands and grasslands, and are expected to continue expansion.

- Spread of forest insects and diseases – Several years of drought in western states have resulted in severe stress on pinyon pines. This stress has made the trees less able to fend off attacks by insects such as the Ips beetle. As mentioned in Section 3.5, white pine blister rust also is infecting and causing mortality in bristlecone pines north and west of the planning area. It is expected to infect neighboring mountains in the foreseeable future.

- Spread of noxious/invasive weeds – Noxious and invasive weeds continue to spread on all lands, both public and private, reducing natural biodiversity, vegetation production, and soil quality. Due to their tolerance of fire and rapid spread into burned areas, invasive annual grasses such as cheatgrass and red brome are expected to remain a serious long-term challenge in the planning area.

- Spread of West Nile virus – In 2002 and 2003, the West Nile virus (transmitted by mosquitoes) began to cause bird, horse, and human deaths in Colorado and Utah. The virus expanded into Nevada in 2004 and is now present in White Pine and Clark counties.

4.28.2 Air Resources

Geographic Area for Analysis

The cumulative effects area for air resources includes projects and sources up to 62 miles (100 kilometers) beyond the planning area boundary.

Impacts of the Proposed RMP

The existing air quality of the planning area is typical of the largely undeveloped regions of the western U.S. For the purposes of statewide regulatory planning, this area has been designated as attainment for particulate matter with an aerodynamic diameter of 10 microns or less. (PM_{10}) and is unclassified for all other criteria air pollutants. The region is designated as a Class II area under the Prevention of Significant Deterioration regulations. The Class II designation allows for moderate growth or some degradation of air quality within certain limits above baseline air quality.

Under the Proposed RMP, emissions from wildland fires would affect the air resource. At the present time, wildland fires produce higher levels of smoke emissions than historical fires, because fuel available to be consumed by wildland fire has increased. Within the decision area, the proposed use of prescribed fire is expected to result in an increase of smoke emissions. As natural sources, wildland fires are not subject to air quality regulations, whereas prescribed fires and wildland fire use are subject to applicable smoke management regulations, including permitting. For each prescribed fire emitting more than 1.0 ton of PM_{10} and smaller, a permit application must be completed and submitted to the Nevada Division of Environmental Protection. Final approval must be obtained 24 hours prior to ignition and would be based on ambient air quality conditions. Prescribed fires are generally smaller, less intense, and shorter in duration than wildland fires, and would be expected to have fewer impacts to human health and environment in the planning area than unplanned wildland fires.

While the impact would be localized and temporary, the operation of vehicles on unpaved surfaces (including licensed vehicles, recreational off-highway vehicles, and competition off-highway vehicles) would generate PM_{10} (dust) emissions. Vehicle operation on BLM-administered lands would be restricted to designated roads and trails and permitted race courses.

Impacts of the Interrelated Projects

Present actions in the planning area that affect air resources are mainly related to mining and vegetation management/fire management practices. In the Bald Mountain and Robinson mining districts, open-pit mining generates particulate emissions and gaseous emissions from stationary and mobile sources. The Reid Gardner Station located near Moapa was permitted in 1980 and may emit 675 tons per year of oxides of nitrogen, 317 tons per year of sulfur dioxide, and 33 tons per year of PM_{10}. Particulate matter produced by land management activities or natural events on federally-administered lands originates from wildland fire, prescribed burning, road or wind-blown dust, volcanic eruptions, construction, mining, and vehicle use. Most particulate matter of concern is produced from fire, and most of this is PM_{10}.

Expected future actions in the planning area that would involve the air resource would be related to potential electric generating power projects. If constructed, the Toquop Energy Project would be a 750-megawatt coal-fired power plant located northwest of Mesquite, Nevada. The White Pine County coal-fired power plants may be constructed in the near future in Steptoe Valley between Lages Junction and McGill, Nevada. These power plants are still in the early design stages. Stringent permitting requirements exist with the Nevada Division of Environmental Protection and U.S. Environmental Protection Agency that would require modern control technology to limit the emissions and impacts from any new power plant that would affect air quality in the cumulative effects area.

Other potential mining sources include the Robinson Mine, a copper mine located west of Ely, Nevada, that has reopened and resumed open-pit mining due to the recent increase in copper prices. The Bald Mountain Mine may expand its operations depending on future gold prices. Mines can be substantial sources of particulates due to fugitive dust from disturbed areas, haul roads, and loading and unloading trucks. Particulates generated during mining activities are generally more coarse than those resulting from combustion and would deposit closer to the sources. As such, mining does not have the potential to contribute as much to cumulative impacts across a broad region, but is more likely to have local impacts.

A number of reasonably foreseeable projects could have shorter-term and smaller air quality impacts (such as fugitive dust) within the planning area including water development projects such as the one proposed by the Southern Nevada Water Authority, the Coyote Springs residential development, paving of the Kane Springs road, construction work on the road from Caliente to Mesquite, creation of a new 31-mile railroad spur to supply coal to the Toquop energy project, creation of new rights-of-way, and potentially rebuilding existing dams. Expansion or reopening of existing mines in the planning area would have similar small effects on the overall air quality within the planning area.

Protection of visibility in Class I areas threatened by reasonably foreseeable development of large stationary sources such as power plants is largely the responsibility of state regulators. Many states have adopted visibility protection plans as part of their State Implementation Plans, which dictate when and how much burning can take place. However, the State Implementation Plan for Nevada does not currently include visibility protection plans. Class I areas are subject to the most limiting restrictions regarding how much additional pollution can be added to the air. Fine particulate matter, $PM_{2.5}$, is the primary cause of visibility impairment. Emissions from wildland fires and prescribed burning, which stay suspended for many miles, are in the 0.1 to 2.5 micron size class and generally reduce visibility. Management of prescribed burns and reducing the size of wildland fires are measures that could reduce visibility impacts to sensitive areas.

Cumulative Impacts Conclusion

Cumulative impacts include those caused by sources and activities associated directly with the Proposed RMP and those caused by interrelated projects that have occurred historically, projects that are currently underway, and those that might reasonably occur in the future. Air resources in the planning area are mainly affected by mining and vegetation management/fire management practices. Regulatory decisions related to industrial development and mining would help prevent air quality degradation by applying mitigation measures on a case-by-case basis. Three potential electrical generating power projects would affect air

quality in the region if constructed. Permitting requirements of the Nevada Division of Environmental Protection and the U.S. Environmental Protection Agency would require modern control technology to limit emissions and impacts from these potential sources. Fire management treatments would include in-depth planning and analysis of potential incident and cumulative air quality impacts to reduce emissions associated with fires. Projected cumulative impacts are of such a nature that the planning area should be able to meet all applicable local, state, tribal, and National Ambient Air Quality Standards under the Clean Air Act (as amended), and help prevent deterioration of air quality within the planning area from all direct and authorized actions.

Variation in Cumulative Impacts between the Proposed RMP and Other Alternatives

Alternative A: Same as the Proposed RMP.

Alternative B: Same as the Proposed RMP.

Alternative C: Same as the Proposed RMP.

Alternative D: Under Alternative D, discretionary actions, such as issuing rights-of-way for new power plants, would be greatly limited. Thus, cumulative impacts to local and regional air quality would be less than the Proposed RMP.

4.28.3 Water Resources

Geographic Area for Analysis

The cumulative effects area for water resources includes the closed to semi-closed basins of White Pine, Lincoln, and northeastern Nye counties located within the boundaries of the planning area. The mountain ranges and valleys that feed into the planning area also are part of the cumulative effects area for water resources. A portion of the lower Colorado River Basin, notably the Virgin River and Muddy River tributaries and downstream, also is included in the cumulative effects area.

Impacts of the Proposed RMP

The Proposed RMP would minimize impacts on water resources through vegetation management, management of wild horses, livestock closures, and administration of commodity-producing activities in balance with ecological system and natural resource objectives. Mineral extraction would be managed to minimize impacts to streams and water bodies, and watershed management would be designed to improve water quality in perennial and intermittent streams. Fire management would reduce the impact of wildland fires, and noxious weed management would enhance water quantity and quality. Livestock grazing, recreation, and other uses would be administered in an approach that is balanced with ecological system objectives. There may be short-term effects on water quality from additional sediment or chemical inputs stemming from vegetation treatments. These are expected to be minimal as a result of the implementation of best management practices by the Ely Field Office.

Water uses by livestock and wild horses may decrease somewhat, and intensively-used areas (such as riparian/wetland areas around springs or ponds) may recover to the extent that water quality characteristics would be expected to improve. Watershed restoration efforts would be expected to improve water quality as well.

Colorado River salinity issues are described in Section 3.3, Water Resources. Salinity is the major quality concern for the river; water resource and land managers along its entire length must consider the consequences of their activities on this issue. The BLM is fully involved in a multi-agency salinity control forum that targets salinity reduction. Efforts by the Ely Field Office to control soil erosion and minimize soil salinization through removal of tamarisk provide benefits to the overall BLM program. However, given the size of the Colorado River tributary watershed within the planning area (6,800 square miles), in comparison to the overall river basin area (250,000 square miles), any management activity or alternative would not have measurable effects on Colorado River salinity. The vast majority of salinity contributions, and potential activities for its control, occur elsewhere in the Colorado River Basin.

Impacts of the Interrelated Projects

Conflicting uses and increasing demands on water resources are common in the western and southwestern U.S. A number of projects have the potential to affect future water availability and beneficial uses in the planning area. These projects are described in general below. NEPA actions and/or state and local

permitting processes pertain to these interrelated projects. In addition, the Nevada Office of the State Engineer administers surface water and groundwater rights throughout the state.

Agricultural development in the planning area consists mainly of irrigated crops in some of the major valleys of White Pine and Lincoln counties, especially those near population centers. Irrigation diversions consume surface water and water from shallow alluvial groundwater found in the valleys, as a general rule. Upstream of planning area lands, the vast majority of perennial streamflows are diverted by agriculture as they exit the mountain fronts. Agriculture in east-central Nevada consumes about 5 acre-feet of water per acre of irrigated land on an average annual basis. For crop irrigation in the planning area, this amounts to a total irrigation use of about 320,000 acre-feet of water per year. This water use for irrigation is expected to continue into the future for at least another 20 years. Due to the privately-held nature of most cropland resources and water rights, the Proposed RMP would have little or no effect on these water uses. Due to their location, extent, and/or compliance with regulatory programs, agricultural practices and industrial activities are expected to generate minimal water quality changes in the planning area overall, both during and after watershed restoration programs. Similarly, the potential for water quality changes resulting from the use of water resources by existing water rights holders in accordance with their current rights, are expected to be comparatively trivial on BLM-administered lands during and after watershed restoration.

Expected future actions in the planning area that would affect water resources involve appropriation and consumption of water for residential development, construction and operation of power plants, reopening of mines, and continued agricultural demand for water. Depending on their location, the sources and availability of water, and the amount and timing of withdrawals, these actions may impact water resource availability for other purposes in the planning area. The Coyote Springs residential development is in the early stages of planning. The estimated groundwater demand for this development is about 20,000 acre-feet per year for an indefinite period of time. The groundwater would probably come from alluvial basin aquifers.

As described in Chapter 3.0, the Southern Nevada Water Authority is considering various water supply alternatives for the Las Vegas region. The proposed project with the highest visibility in relation to the planning area involves the transfer of groundwater from Lincoln, Nye, and White Pine counties via pipeline into the Las Vegas area. Depending on the groundwater source areas and the timing and amount of groundwater withdrawal, implementing such a supply alternative could impact springs, seeps, playas, lakes, and riparian/wetland areas. Similarly, water supply proposals from Lincoln County Water District and other agencies or private groups may create water resource impacts in the planning area.

The Lincoln County Land Act sale for residential development of semi-arid land in southern Lincoln County would entail pumping about 13,500 acre-feet of water per year for an indefinite period of time from hydrologic basins in southern Lincoln County. Basins with pending water applications include Tule Desert, Clover Valley, Kane Springs Valley, and Lower Meadow Valley Wash. The water would be pumped from bedrock aquifers. The long-term impact of pumping this amount of water for an indefinite period of time is uncertain.

It is expected that there also would be some residential developments as a result of the recently passed Lincoln County and White Pine County Conservation, Recreation, and Development Acts, which are only in

the early stages of planning. These additional residential developments would be expected to have a cumulative effect on groundwater resources through the demand for residential water.

The Toquop Energy Project would be a 750-megawatt coal-fired power plant located northwest of Mesquite, Nevada. Anticipated water consumption would be up to 2,500 acre-feet of water per year for the life of the power plant, which would be approximately 50 years. The water would come from the Tule Desert hydrologic basin and be obtained with bedrock groundwater wells. This groundwater would be in addition to any water taken from the Tule Desert for the Lincoln County Land Act sale residential development. No impacts to natural bedrock springs are expected from these projects, based on conclusions in the original Toquop EIS (BLM 2003e), where analysis was based on water consumption of 7,000 acre-feet per year.

The White Pine County coal-fired power plants may be constructed in the near future in Steptoe Valley between Lages Junction and the town of McGill, Nevada. These power plants are still in the early design stages, but are expected to require a maximum of 5,000 acre-feet of water per year. It is currently expected that the water would come from wells that White Pine County holds the rights on.

The Robinson Mine, a copper mine located west of Ely, Nevada, has reopened and resumed open-pit mining due to the recent increase in copper prices. The mine pits at the Robinson Mine require dewatering and approximately 5,700 acre-feet of water per year would be pumped from bedrock wells to keep the mine pits dry. The water would be consumed by the mine for processing of ore and other mine-related water needs. The projected impact to groundwater resources would not extend beyond the mining district and would not affect municipal water supplies (BLM 1994b). The Bald Mountain Mine may expand its operations depending on future gold prices. If the mine expands to accommodate additional ore bodies, the mine would require about 1,100 acre-feet of additional groundwater per year. This water would come from bedrock groundwater aquifers. Impacts to natural springs are not expected.

An additional effect may be generated by the Comins Lake project. Assuming a free-water surface evaporation rate of about 4 feet per year, a proposed expansion of Comins Lake (near Ely) by about 600 acres, would induce additional surface water losses in the planning area by 2,400 acre-feet per year. This is not expected to affect Ely Field Office management plans, nor are Ely Field Office water resources management effects anticipated to substantially affect the planned lake expansion.

Additional rights-of-way issued through the Ely Field Office would result in alteration of surface drainage patterns and could lead to accelerated erosion and sedimentation on a localized basis. Much of this would be mitigated through the use of best management practices.

Cumulative Impacts Conclusions

Cumulative impacts of the Proposed RMP would be minimized over the long term by extensive vegetation management and administration of other land uses that would consider a balanced ecological system approach. Salinity inputs to the Colorado River system would be reduced over time. Short-term increases in runoff, soil erosion, and related sedimentation may occur on those areas where vegetation treatments occur. Interrelated projects would have the potential to create impacts on both surface and groundwater resources through additional erosion and sedimentation as a result of land disturbance, further consumption

of available water resources, and additional releases of undesirable water quality constituents (e.g., industrial chemicals, treated domestic effluent) into receiving waters. The net effects on water resources from the Proposed RMP and the interrelated projects may result in substantial cumulative impacts.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

Alternative A: Less short-term, greater long-term impacts than the Proposed RMP.

Alternative B: Similar short-term and long-term impacts to the Proposed RMP.

Alternative C: Greater short-term and long-term impacts than the Proposed RMP.

Alternative D: Greater short-term and long-term impacts than the Proposed RMP.

4.28.4 Soil Resources

Geographic Area for Analysis

The cumulative effects area for soil resources consists of the planning area and a small portion of the Colorado River basin, including portions of the Muddy River and Virgin River drainages.

Impacts of the Proposed RMP

Under the Proposed RMP, short-term increases in erosion and sedimentation would be expected as a result of the substantial area subject to vegetation treatments. Long-term reduction in erosion and sedimentation is anticipated as perennial understory cover and near-surface root biomass increase over the current condition in these areas. Additional soil resources would be exposed to herbicide treatments, but implementation of best management practices would minimize impacts. Soil salinization and resulting salinity inputs to drainages would decrease as a result of tamarisk control. Impacts on soils from producing commodities such as livestock, recreation, wild horses, and minerals would remain similar to or decrease from those of the current conditions and management approaches.

Impacts of Interrelated Projects

Impacts of interrelated projects would include those potentially resulting from the construction of power plants and residential developments, re-opening or expansion of mining activities in the planning area such as the Robinson Mine or the Bald Mountain Mine, and the creation of additional rights-of-way. Soil resource impacts from these projects would include the excavation, removal, and possible replacement of soil materials, which would generally result in a loss of productivity. Additional impacts may include compaction and increased erosion hazard, as well as areas of contaminated soil from inadvertent chemical spills. Such impacts would be minimized to the extent possible by applicable regulatory programs and corresponding implementation of erosion controls, spill prevention and countermeasures, stormwater pollution prevention plans, and reclamation/site restoration activities.

If extensive groundwater withdrawals are made by the Southern Nevada Water Authority, further impacts may occur to soil moisture regimes in riparian/wetland areas. If water tables are lowered as a result of groundwater withdrawals, then it may be possible for riparian/wetland areas to become drier. The potential degree and extent of such effects is unknown.

Cumulative Impacts Conclusion

Cumulative impacts of the Proposed RMP and interrelated projects would involve a short-term increase of erosion and sedimentation, with accompanying reduction in soil quality, when the activities are initially undertaken. Extensive vegetation treatment in the planning area would, in time, result in substantial reduction of erosion and sedimentation. Similarly, soil quality would increase over the long term as a result of vegetation treatments. Impacts from interrelated project development within the planning area would result in permanent removal or alteration of soil resources in specific areas (such as project footprints or some riparian/wetland areas). Regulatory programs (including permit approval and monitoring processes),

and the implementation of best management practices and mitigation measures, would reduce the degree of overall erosion and sedimentation impacts. Soil quality would be lost in the comparatively smaller areas affected by interrelated projects, but would improve over widespread areas with successful vegetation restoration.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

Alternative A: Less short-term, greater long-term impacts than the Proposed RMP.

Alternative B: Cumulative impacts would be similar to the Proposed RMP.

Alternative C: Cumulative impacts would be greater than the Proposed RMP.

Alternative D: Cumulative impacts would be greater than the Proposed RMP, particularly over the long term.

4.28.5 Vegetation Resources

Geographic Area for Analysis

The geographic area for cumulative impacts to vegetation is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

Direct effects of the Proposed RMP on vegetation would be achieving the desired range of conditions expressed in vegetation states for each vegetation community, including treatment over the next several decades of approximately 7.1 million acres that do not currently meet the criteria for being in healthy conditions. Treatment of these sites is necessary to reestablish the desired vegetation composition and restore resiliency. Impacts including increased erosion and spread of invasive species could occur in the event that a treatment is unsuccessful in achieving prompt revegetation. Numerous other aspects of the Proposed RMP would indirectly affect vegetation in an offsetting manner through changes in management of wild horses, travel management and off-highway vehicle use, forest/woodland and other plant products, fire, and special designations. Various additional indirect effects would occur through management changes related to lands and realty, renewable energy, recreation, and geology and mineral extraction.

Impacts of the Interrelated Projects

The primary past actions that have affected vegetation are historic mining activities and other human-caused surface disturbances, wildland fires and fire suppression, and historic grazing practices. Surface disturbances have affected only a small percentage of the total area within the planning area. Past grazing practices (including use by livestock and wild horses) and fire suppression, however, have been major contributors to current deteriorated vegetation conditions throughout the planning area. Partially due to these conditions, the spread of invasive and noxious weeds now threatens most of the ecological systems in the planning area, accentuating the need for prompt and effective restoration treatment.

Present actions affecting vegetation composition and ecological health include livestock and wildlife management, wild horse management, wildland fires, and watershed management. Vegetation also is affected by factors largely outside Ely Field Office's management, such as drought conditions, insects, occurrence of wildland fires, and introduction of invasive species in conjunction with disturbances on nearby private lands.

Key future actions anticipated to affect vegetation include potential restrictions associated with any additional species listings under the Endangered Species Act (a reduced or remote probability under the Proposed RMP), and the same natural processes mentioned above such as fire, insects, and drought. As indicated in **Table 4.28-1**, numerous reasonably foreseeable development projects would contribute to additional surface disturbances and loss of existing vegetation in those areas. These range in size from a few acres to over 100,000 acres of potential loss. These actions have the potential to contribute to further ecological deterioration with increased spread of invasive species.

Cumulative Impacts Conclusion

The actions related to the Proposed RMP would enhance vegetation resiliency on a long-term basis, although some elements of the alternative would contribute to temporary loss of vegetation and potential spread of invasive species. Most of the interrelated projects have produced or would result in the removal of native vegetation and potential spread of invasive species, either through physical disturbance or alteration of vegetation communities. The enhanced vegetation resiliency resulting from the Proposed RMP should offset a large portion of the past and potential future disturbance effects from interrelated projects.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

On a short-term basis, the primary factors involved are those that affect the spread of invasive species, contribute to loss of native vegetation diversity and vigor, or constrain the selection of treatments and resultant success for restoration of deteriorated sites. The primary long-term factors include actions that would impact the maintenance of resiliency on restored areas, such as grazing by livestock, wildlife, and wild horses.

Alternative A: Greater short-term, greater long-term impacts than the Proposed RMP.

Alternative B: Same short-term, same long-term impacts as the Proposed RMP.

Alternative C: Same short-term, greater long-term impacts than the Proposed RMP.

Alternative D: Greater short-term, greater long-term impacts than the Proposed RMP.

4.28.6 Fish and Wildlife

Aquatic

Geographic Area for Analysis

The geographic area for the cumulative impact analysis for fisheries includes perennial drainages within the planning area that support fish species. The study area also includes downstream extensions of perennial drainages into areas outside the planning area (i.e., Virgin River).

Impacts of the Proposed RMP

Under the Proposed RMP, the Ely Field Office would work with the Nevada Department of Wildlife to manage aquatic and riparian habitat for the purpose of maintaining and enhancing existing fisheries. Other programs such as vegetation treatment, wildlife management, wild horses, lands and realty, travel management, recreation, livestock grazing, woodland product harvests, geology and mineral extraction, fire management, and noxious weeds could cause sedimentation and habitat alteration due to surface disturbance. The Proposed RMP would not result in additional water use or affect fish habitat in terms of stream flows or water levels in reservoirs.

Impacts of the Interrelated Projects

A continuation of current and future activities involving road development, water development, livestock grazing, agricultural development, off-highway vehicle use, and land development would contribute to effects on fish habitat. Natural processes such as wildland fires and drought also would affect habitat by contributing to sedimentation, loss of riparian vegetation, and reduction in available wetted area. Impacts from water use could potentially alter flows in streams and affect the quantity of habitat. Surface disturbance activities could contribute to increased sedimentation in the drainages. Activities on public lands would implement erosion control measures to reduce sediment input to water bodies. Agricultural activities also could contribute fertilizers and pesticides in runoff or irrigation return flows.

Surface disturbance activities involving grazing, new rights-of-way, and recreation use on land surrounding Comins Lake would result in localized sediment effects on fish habitat. The Bassett Lake and Comins Lake expansion projects would enhance fish habitat by increasing wetted area in the reservoirs. Short-term and temporary sedimentation would occur in the construction area in or adjacent to the reservoirs. However, erosion-control would be required to minimize sediment input to the lakes.

During consultation, the U.S. Fish and Wildlife Service and the Ely Field Office determined that none of the proposed management actions in the RMP were likely to result in a "may affect" determination for any of the special status species unique to the Virgin River environment, including the Yuma clapper rail, woundfin, Virgin River chub, and Moapa dace. Similarly, these species would not be affected by cumulative effects related to the RMP management actions. Thus, these species are not addressed in the Biological Assessment associated with the RMP and are not addressed in this cumulative effects analysis.

Cumulative Impacts Conclusion

The cumulative effects of interrelated projects in combination with program-specific management under the Proposed RMP would generally improve maintenance and quality of fish habitat in the long term as restoration efforts improve both upland and riparian habitat conditions. This habitat improvement would tend to offset continued habitat losses and damage resulting from various interrelated projects including potential groundwater withdrawal.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

Alternative A: In comparison to the Proposed RMP, Alternative A would be expected to result in slightly less impacts on a short-term basis and greater impacts on a long-term basis. This prediction is based on the differences in treated areas under the Proposed RMP and Alternative A.

Alternative B: Same as the Proposed RMP.

Alternative C: Same as the Proposed RMP, on a short-term basis. On a long-term basis, sediment input could be greater due to widespread fires.

Alternative D: Cumulative effects of interrelated projects in combination with Alternative D would be less than the Proposed RMP in terms of surface disturbance as a result of less vegetation treatments. Under Alternative D, sediment input could be greater on a long-term basis mainly due to widespread fires.

Wildlife

Geographic Area for Analysis

The geographic area for cumulative impacts to wildlife is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

There would be a loss of wildlife habitat on less than 5 percent of the planning area. Direct loss of habitat would occur as a result of land disposals and construction activities associated with energy production and mineral development. Indirect losses would occur through fragmentation of habitat and avoidance of areas adjacent to project sites during construction and operation activities.

The quality of wildlife habitat on the remaining 95 percent of the planning area would improve as a result of wildlife habitat management, wild horse management, livestock grazing management, off-highway vehicle management, vegetation management, watershed management, fire management, and noxious and invasive weed management. The quality of wildlife habitat would be enhanced through increased forage, improved perennial vegetation cover and composition, and better community structure. On a watershed and

landscape level, restoration actions would create a mosaic of different vegetation phases and states that would provide habitat for a greater diversity of wildlife species.

A reduction in wild horse herd management areas and overall populations would improve wildlife habitats by increasing herbaceous forage and water availability in the short term, followed by an increase in overall habitat quality in the long term, particularly within the southern portion of the planning area.

Impacts of the Interrelated Projects

Cumulative effects to wildlife resources from past, present, and reasonably foreseeable interrelated projects and management actions that result in surface disturbance activities would be directly related to habitat loss or alteration, and habitat fragmentation. Habitat loss or alteration would result in direct losses of smaller, less mobile species (e.g., small mammals and reptiles), and the displacement of more mobile species into adjacent habitats that may currently be at or near carrying capacity, thus increasing the probability of higher mortality rates in the surrounding areas.

Ongoing and future interrelated actions would continue to impact wildlife habitat and species within the planning area. Although restoration of vegetation communities would be managed to promote ecological system health on a watershed management basis, reductions in habitat availability and quality would continue in areas that occur outside of Ely Field Office jurisdiction. Natural processes such as fire and drought would continue to result in localized habitat reductions and the spread of noxious and invasive weed species. Several of the reasonably foreseeable future actions could contribute to additional surface disturbances, loss of habitat, habitat fragmentation, and creation of migration barriers.

Cumulative Impacts Conclusion

The actions related to the Proposed RMP would improve wildlife habitat conditions on the watershed level and landscape level in the short and long term. However, the interrelated projects either have produced or would result in direct wildlife mortality, displacement of wildlife, habitat loss or alteration, and increased habitat fragmentation. The habitat improvement resulting from the vegetation restoration treatments should offset a large portion of the past and potential future habitat losses and damage resulting from interrelated projects.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

On a short-term basis, the primary factors involved are those that affect the spread of invasive vegetation species and the expansion of pinyon and juniper trees, contribute to the loss or reduction of native vegetation cover and structure, or constrain the selection of treatments and resultant success for restoration of deteriorated habitats. The primary long-term factors include actions that would impact or benefit wildlife by reducing habitat degradation and fragmentation and promoting ecological health and resiliency.

Alternative A: Greater short-term, greater long-term impacts than the Proposed RMP.

Alternative B: Same short-term, fewer long-term impacts than the Proposed RMP.

Alternative C: Greater short-term, greater long-term impacts than the Proposed RMP.

Alternative D: Greater short-term, greater long-term impacts than the Proposed RMP.

4.28.7 Special Status Species

Special Status Plant Species

Geographic Area for Analysis

The geographic area for cumulative impacts to special status plants is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

Vegetation management programs would include surveying and monitoring federal lands for Ute ladies'-tresses orchid, based on the availability and assistance of the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service would identify potential habitat areas for the species. Conservation and recovery actions would be implemented for any populations observed within the planning area. Monitoring and inventorying measures would be developed and implemented for other special status plant species.

The Highland Range, Schlesser Pincushion, and White River Valley ACECs will be designated for the protection of known populations of special status plant species. The establishment of these ACECs and the land use restrictions associated with them would improve the protection of known and potential habitat for special status plants in these areas. These and several other ACECs would be closed to locatable and mineral material development and would have no surface occupancy restrictions for leasable minerals. A detailed analysis of potential impacts to special status plants would be completed during watershed and habitat assessments. As part of the best management practices, potential mitigation measures and monitoring would be developed on a site-specific basis. Therefore, implementation of the Proposed RMP would enhance the conservation of special status plants.

Impacts of the Interrelated Projects

Cumulative impacts to special status plants from past, present, and reasonably foreseeable future actions include the loss of habitat and plants and degradation of habitat as a result of surface disturbances associated with natural processes (e.g., wildland fire) or human activities (e.g., mine development, road and railroad construction, and agricultural and livestock uses). Best management practices, mitigation measures, and monitoring have been implemented for some of the past actions and would be implemented for present and reasonably foreseeable future actions to minimize impacts to special status plants. Therefore, impacts to special status plants as a result of interrelated projects would be minimal.

Cumulative Impacts Conclusion

The impacts related to the Proposed RMP would have minimal effect on the Ute ladies'-tresses orchid and other special status plants on an overall basis, while at the same time protection of these species would be enhanced in several ACECs. Most of the interrelated projects have produced or would produce minimal effects to special status plants, either through physical disturbance or alteration of vegetation communities.

The improved knowledge base and potential mitigation measures related to the Proposed RMP should offset a large portion of the past and potential future adverse effects from interrelated projects.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

Alternative A: Greater potential for impact than the Proposed RMP because inventories and monitoring would not be completed for the Ute ladies'-tresses orchid, and ACECs would not be designated for this or other special status plant species.

Alternative B: Greater potential for impact than the Proposed RMP because ACECs would not be designated for special status plant species.

Alternative C: Greater potential for impact than the Proposed RMP because inventories and monitoring would not be completed for the Ute ladies'-tresses orchid and ACECs would not be designated for special status plant species.

Alternative D: Greater protection than the Proposed RMP relative to physical disturbances from other uses, but greater risk than the Proposed RMP from major wildland fire events and spread of weeds. Overall, impacts would be comparable to the Proposed RMP.

Special Status Aquatic Species

Geographic Area for Analysis

The geographic area for the cumulative impact analysis for special status aquatic species includes perennial drainages and springs within the planning area that provide occupied and designated critical habitat for sensitive aquatic species. The analysis area also includes perennial streams and springs on private, state, or tribal lands that are connected to drainages within the planning area and located immediately downgradient from the planning area boundary (e.g., Virgin River and springs that provide occupied and designated critical habitat for special status species).

Impacts of the Proposed RMP

Under the Proposed RMP, special status fish species would be managed through evaluations of their overall specific habitat conditions and factors affecting their populations planning area-wide and through habitat restoration and multiple use restrictions at the watershed level. Maintenance would occur where suitable habitat and populations exist, and mitigation would continue to be implemented where multiple-use impacts occur.

Habitat for the Pahrump poolfish (Shoshone Pond) would be improved under the Proposed RMP by building a new fence to exclude both human and livestock access. The fenced area also would be expanded in size to exclude new surface disturbance and minimize sedimentation and runoff from upland areas. The fenced area would be reseeded to minimize sedimentation input to the ponds.

Three of the ACECs designated in the Proposed RMP are designed to enhance protection and habitat for special status aquatic species. These include: Condor Canyon ACEC – 4,500 acres (Big Spring spinedace); Lower Meadow Valley Wash ACEC – 25,000 acres (Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace); and Shoshone Ponds ACEC – 1,240 acres (Pahrump poolfish). Additionally, establishment of the Goshute Canyon Natural Area – 7,600 acres would benefit habitat for the Bonneville cutthroat trout.

Impacts of the Interrelated Projects

The following information summarizes cumulative actions in relation to individual species based on geographical areas within the planning area.

- Big Spring Spinedace, Meadow Valley Wash Desert Sucker, and Meadow Valley Wash Speckled Dace: Cumulative actions in the area include the Pioche Mining District, expansion of the Panaca pozzolana mine, grazing, wildland fire, drought, and recreation use. Land development in the general area could use groundwater that may affect surface flows in Meadow Valley Wash. The Condor Canyon Habitat Management Plan was implemented in 1990 to protect the species. However, the management actions ceased after a wildland fire burned the canyon in 1999. The Lower Meadow Valley Multispecies Habitat Conservation Plan (in preparation) is designed to protect habitat for these species in the lower Meadow Valley Wash.

- Pahrump Poolfish: Cumulative actions for the Shoshone Ponds Area include wildland fire, drought, and recreation. Maintenance of adequate water levels, which provide the necessary wetted area and associated habitat parameters, is an important factor for the species.

- White River Springfish: Cumulative actions in the Ash Springs area include agricultural water use and grazing on adjacent private lands. Diseases also provide threats to the species. Maintenance of adequate water levels is an important factor for the species.

- Hiko White River Springfish, Pahranagat Roundtail Chub, and White River Spinedace: These fish species occur on private land in the White River Valley. Cumulative actions for these species include agricultural water use and surface disturbance, grazing, wildland fire, and drought conditions. Maintenance of adequate water levels, which provide the necessary wetted area and associated habitat parameters, is an important factor for the species.

- Railroad Valley Springfish: This fish species occurs on the Duckwater Indian Reservation. Cumulative actions in the area include agricultural water use and surface disturbance, grazing, wildland fire, and drought conditions. The Railroad Valley Habitat Management Plan was implemented to protect spring habitat for this species (U.S. Fish and Wildlife Service 1996).

Maintenance of adequate water resources in springs and streams is a primary key to protecting habitat for various special status aquatic species. Such resources may be potentially affected by various interrelated projects that utilize groundwater and surface water resources. Thus, additional residential/commercial land

development projects and water development projects could affect these species, depending on the specific quantities and locations of water supplies involved. Since the water supplies for the individual interrelated projects have not been identified at this time, it is impossible to analyze the effects on individual special status species. Additional NEPA analyses will be conducted as individual development projects are identified and evaluated for approval.

Cumulative Impacts Conclusion

Surface disturbance activities could result in localized water quality changes due to sedimentation or runoff contaminants, and habitat alteration or loss. Several programs such as vegetation restoration and weed management (i.e., tamarisk removal) could increase stream flows and spring discharges. Several of the interrelated projects could result in changes to surface water quantity in various streams or springs (e.g., groundwater withdrawal). In the long term, vegetation restoration could reduce stream flows originating from surface runoff, but could locally increase stream base flows and spring discharges. Other interrelated actions could combine with these water quantity changes to affect habitat for sensitive species. The cumulative effects of interrelated projects in combination with program-specific management under the Proposed RMP would result in impacts on sensitive fish species habitat due to surface disturbance in watersheds, but this would be balanced by an increased rate of maintenance and restoration of habitat for sensitive fish species.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

Alternative A: Cumulative effects would be greater than for the Proposed RMP.

Alternative B: Same as the Proposed RMP.

Alternative C: Same as the Proposed RMP.

Alternative D: Same as the Proposed RMP.

Special Status Wildlife Species

Geographic Area for Analysis

The geographic area for cumulative impacts to special status wildlife is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

Impacts would include the reduction of canopy cover of woody species that do not meet the desired range of conditions as stated in Chapter 2.0 (e.g., woodlands, forests lands, and shrubs) and the temporary loss of forage and cover in the areas being treated until the desirable perennial species become reestablished. It is anticipated that treated areas would result in increased herbaceous forage and ground cover for special

status species in the short term (less than 5 years), followed by the establishment of shrub vegetation in the long term (greater than 50 years) that meet the desired range of conditions for vegetation communities as described in Chapter 2.0, Vegetation. On a watershed level, restoration activities would result in higher quality forage, increased cover and vegetation structure, and increased habitat quality for special status species. On a landscape level, restoration activities to achieve desired ranges of vegetation conditions would improve special status species habitats by reducing habitat degradation and fragmentation, and promoting ecological health and resiliency.

A reduction in wild horse herd management areas and overall populations would improve special status species habitats by increasing herbaceous forage and water availability in the short term, followed by an increase in overall habitat quality in the long term, particularly within the southern portion of the planning area.

Increased management emphasis on habitat protection and improvement for special status wildlife species (e.g., greater sage-grouse) would impose a variety of constraints on other management programs and resource uses.

Impacts of the Interrelated Projects

The following information summarizes cumulative actions in relation to individual species based on geographical areas within the planning area.

- Desert tortoise: Construction activities and traffic related to railroad development, road maintenance, and road construction associated with interrelated projects within desert tortoise habitat could contribute direct impacts to desert tortoise including habitat degradation and direct mortality from collisions with vehicles. Some of the interrelated projects (e.g., land disposals and rights-of-way) also may contribute to indirect effects on desert tortoise (e.g., increased predation opportunities for ravens perching on transmission lines).

- Southwestern willow flycatcher and yellow-billed cuckoo: Construction activities and traffic related to railroad development and maintenance, highway construction and maintenance, and construction within utility corridors associated with interrelated projects within habitat for these species could create impacts in terms of noise and habitat degradation.

Greater sage-grouse: Construction and operation of facilities associated with energy production (i.e., power plants, wind turbines, substations, and transmission lines) could impact greater sage-grouse populations by reducing breeding and nesting habitat and increasing potential predation opportunities for raptor species.

Ongoing and future interrelated actions would continue to impact wildlife habitat and species within the planning area. Although restoration of vegetation communities would be managed to promote ecological system health on a watershed management basis, reductions in habitat availability and quality would continue in areas that occur outside of Ely Field Office jurisdiction. Natural processes such as fire and drought would continue to result in localized habitat reductions and the spread of noxious and invasive weed species.

Cumulative Impacts Conclusion

The impacts related to the Proposed RMP would improve special status species habitat conditions on the watershed and landscape level in the long term. However, the interrelated projects either have produced or would continue to result in direct mortality, displacement of individuals, habitat loss or alteration, habitat fragmentation, and possible population reductions of some special status species. The special status species habitat improvement resulting from the Proposed RMP should offset a large portion of the past and potential future habitat losses and damage resulting from interrelated projects. However, local greater sage-grouse populations may be reduced in numbers because of development in and around breeding habitat (i.e., leks) regardless of the habitat improvement that may occur elsewhere.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

On a short-term basis, the primary factors involved are those that increase the spread of invasive vegetation species and the expansion of pinyon and juniper trees, contribute to the loss or reduction of native vegetation cover and structure, or constrain the selection of treatments and resultant success for restoration of deteriorated habitats. The primary long-term factors include actions that would impact or benefit special status species by reducing habitat degradation and fragmentation, promoting ecological health and resiliency, and increasing overall biological diversity.

Alternative A: Greater short-term, greater long-term impacts than the Proposed RMP.

Alternative B: Same as the Proposed RMP.

Alternative C: Greater short-term, greater long-term impacts than the Proposed RMP.

Alternative D: Greater short-term, greater long-term impacts than the Proposed RMP.

4.28.8 Wild Horses

Geographic Area for Analysis

The cumulative effects area for wild horses is the array of existing herd management areas, a buffer around these herd management areas that horses occasionally use when they cross the boundaries, and a few herd management areas that abut the planning area boundary with the associated horse herds commonly crossing to adjoining areas outside the planning area.

Impacts of the Proposed RMP

Direct effects of the Proposed RMP on wild horses involve the reduction in herd management areas from 24 to 6 with accompanying reductions in total acreage of herd management areas from 5.4 million to 3.7 million acres and in the appropriate management level from a range of 1,986 to 2,141 to a range of 810 to 1,695. This would be a long-term change that would reduce population numbers but improve habitat conditions, health of individual animals, and long-term herd viability. Indirect effects of the alternative include the effects of proposed vegetation restoration treatments that would generally improve wild horse habitat; changes in management of recreation and off-highway vehicle use that would reduce conflicts of such uses with wild horse herds in some herd management areas while increasing conflicts in others; and allocation of a portion of the increased forage production on vegetation treatment areas within herd management areas to wild horses.

Potential impacts of wild horse management on other resources and management programs include potential conflicts with or constraints imposed on other users of the lands within herd management areas. Resource conflicts may include vegetation, wildlife and fisheries, special status species, visual resources, recreation, and cultural resources. Constraints in relation to other users could affect lands and realty, livestock grazing, renewable energy, travel management, mineral development, and fire management. The reduction in number of herd management areas in the decision area would reduce the occurrences of these conflicts.

Impacts of the Interrelated Projects

The primary past actions that have affected wild horse populations and their habitat are livestock grazing, as it affects vegetation resources of the planning area, and the Wild Free-Roaming Horse and Burro Act, as it affects the process of controlling wild horse populations. Numerous other human-caused surface disturbances, wildland fires, and human activities have contributed to current habitat conditions, but generally to a lesser degree than historic grazing practices. Past grazing practices by both wild horses and livestock have been major contributors to current vegetation conditions throughout the planning area. Partially due to these conditions, the spread of invasive and noxious weeds now threatens most of the ecological systems in the planning area.

Present actions affecting wild horses are mainly those that affect the available habitat, including the supply of both forage and water within the herd management areas. Key examples include drought conditions, wildland fires, and competition with livestock and, to a lesser degree, wildlife.

Key future actions anticipated to affect wild horses include potential restrictions associated with any additional species listings under the Endangered Species Act (a reduced or remote probability under the Proposed RMP) and the same natural processes mentioned above including fire, drought, and climate change. Each of these has the potential to either reduce areas available for grazing or the level of forage production on the available area. It seems probable that the West Nile virus would begin affecting wild horses within the planning area in the next few years. It is not known how the virus would affect horses in the wild, or whether wild herds would be more or less vulnerable to this mosquito-borne disease than domestic horses. Small herds appear to be more vulnerable than larger herds. Several of the reasonably foreseeable future actions could contribute to additional surface disturbances, loss of vegetation or habitat, and creation of migration barriers in one or more of the herd management areas.

Cumulative Impacts Conclusion

The impacts related to the Proposed RMP generally would improve habitat for wild horse herds on a long-term basis, while many of the potential impacts associated with interrelated projects would reduce habitat, but typically to a lesser degree. Thus, the overall cumulative effects would be general improvement in the habitat necessary for long-term herd health and viability.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

On a short-term basis, the primary factor involved is the acreage of current herd management areas that would be temporarily affected by watershed treatment, fire rehabilitation, or increased competition with other users. The primary long-term factor is the potential for permanent or long-range losses or habitat restrictions associated with potential additional species listed under the Endangered Species Act. Overall summary assessments of these combined factors follow below by alternative.

Alternative A: Less short-term, greater long-term impacts than the Proposed RMP.

Alternative B: Same short-term, greater long-term impacts than the Proposed RMP.

Alternative C: Same short-term, greater long-term impacts than the Proposed RMP.

Alternative D: Greater short-term, greater long-term impacts than the Proposed RMP.

4.28.9 Cultural Resources

Geographic Area for Analysis

The geographic area for cumulative impacts to cultural resources is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

Cultural properties within the planning area would continue to deteriorate through natural agents, unauthorized public use, and vandalism. Direct impacts associated with land management actions would be reduced or eliminated in compliance with federal and state cultural resource mandates and existing best management practices, and implementation of use allocations. Under the Proposed RMP, an overall decrease in the number of acres open to livestock/wild horse grazing and off-highway vehicle use and restricting recreational events to specified areas would decrease the use intensity within the planning area, thereby preserving the regional database for cultural resources. The designation of eight ACECs for the protection and preservation of cultural sites within the planning area also may result in an increase in the regional database depending on additional inventories of these sites.

Impacts of the Interrelated Projects

Cumulative impacts to cultural resources could occur through incremental degradation of the resource base from a variety of sources, which reduce the information and interpretive potential of cultural properties. Other regional resource, land use, and economic development planning efforts could affect the types and intensity of uses on private, state, or other federal lands within the planning area and could, therefore, potentially affect the regional cultural resource database. Development of lands that are not protected by federal or state cultural resource statutes and regulatory protections could decrease the regional resource base and potentially limit management options within the planning area.

Surface disturbance activities associated with power plants, mining, land disposal, renewable energy, road development, transmission lines, and fire management have been subject to NEPA review prior to project activities in adherence to federal and state laws. As directed by law, cultural resources eligible to the National Register of Historic Places have been avoided, or if this was not possible, recovered for their scientific value. Data recovery of important cultural resources has expanded the regional database and knowledge of prehistoric and historic contexts. Future actions involving surface disturbing activities as presented in **Table 4.28-1** would require a similar set of procedures. Impacts associated with off-highway vehicle use and livestock grazing have contributed to the degradation of site settings and incidental damage to cultural resources. These impacts would be mitigated on a case-by-case basis as discovered. Natural-caused disturbances, such as wildland fires, damage or completely destroy cultural resources, in particular historic structures and rock art.

Cumulative Impacts Conclusion

There would be a high level of protection of cultural resources under the Proposed RMP (overall decrease in lands available to off-highway vehicle use and livestock/wild horse grazing and the designation of ACECs to protect cultural resources) offsetting the expected increase in visitor and recreation use in the planning area. Thus, the overall cumulative effects would be minimal.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

Analysis of cumulative effects focuses primarily on direct and indirect impacts associated with the various alternatives. An overall summary assessment of direct and indirect impacts follows below by alternative.

Alternative A: Greater direct and indirect impacts than the Proposed RMP.

Alternative B: Similar direct and indirect impacts as the Proposed RMP.

Alternative C: Greater direct and indirect impacts than the Proposed RMP.

Alternative D: Less direct and indirect impacts than the Proposed RMP.

4.28.10 Paleontology

Geographic Area for Analysis

The geographic area for cumulative impacts to paleontological resources is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

Impacts associated with land management actions in the Proposed RMP would be minimized or reduced in accordance with federal legislation and existing best management practices, and through implementation of use allocations. Under the Proposed RMP, an overall decrease in the number of acres open to off-highway vehicle use and restricting recreational events to specified areas would decrease the use intensity within the planning area; thereby preserving the regional database for paleontological resources. However, impacts to paleontological resources could continue to occur through incremental degradation of the resource base from a variety of sources, which reduce the information and scientific research potential of fossil material. Geological formations with exposures containing vertebrate and invertebrate fossils would continue to be impacted by weathering and other natural agents.

Impacts of the Interrelated Projects

The primary factors that have affected and continue to affect paleontological resources are planned and dispersed off-highway vehicle use, recreation, land disposals, creation of rights-of-way, and mining activities that involve surface disturbing activities as presented in **Table 4.28-1**. The direct effects of planned off-highway vehicle use, developed recreation, lands and realty actions, and mining have been mitigated in compliance with federal legislation and existing best management practices. Impacts associated with dispersed off-highway use and recreation (e.g., trilobite collecting) have increased as visitor and recreational use has increased. Off-highway vehicle use and recreation have been the major contributors to illegal collecting of fossils and soil erosion that exposes subsurface fossil material.

Cumulative Impacts Conclusion

There would be a high level of protection of paleontological resources under the Proposed RMP (overall decrease in lands available to off-highway vehicle use and mineral development) offsetting the expected increase in visitor and recreation use in the planning area. Thus, the overall cumulative effects would be minimal.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

Paleontological resources are nonrenewable, therefore, analysis of cumulative effects focuses primarily on direct and indirect impacts associated with the various interrelated projects. An overall summary assessment of direct and indirect impacts follows below by alternative.

Alternative A: Greater direct and indirect impacts than the Proposed RMP.

Alternative B: Similar direct and indirect impacts as the Proposed RMP.

Alternative C: Greater direct and indirect impacts than the Proposed RMP.

Alternative D: Less direct and indirect impacts than the Proposed RMP.

4.28.11 Visual Resources

Geographic Area for Analysis

The geographic area for cumulative impact analysis of visual resources lies entirely within the planning area boundary.

Impacts of the Proposed RMP

The primary factor involved for long term impacts is the visual resource management classification system established for the decision area. Effort would be made to design activities to meet the visual resource management classification, and mitigation would be considered to lessen visual impacts. Vegetation treatments could create visual disturbances in the short term that would lessen over the long term. Co-location of utility rights-of-way and communication sites would serve to lessen long-term impacts.

Increased emphasis on visual resource management within the decision area would affect a variety of other resource uses through more emphasis on additional mitigation measures to protect visual resource quality. This may affect actions related to vegetation treatments, lands and realty, renewable energy, forest/woodland products, geology and mineral extraction, and fire management.

Impacts of the Interrelated Projects

Potential impacts to visual resources could occur from mining activities in the Robinson and Bald Mountain mining districts; energy projects such as the transmission lines in the Southwest Intertie Project corridor, the Toquop energy project, the White Pine County power plant projects, and wind energy development; and the development of the Department of Energy and Toquop rail lines.

Cumulative Impacts Conclusion

Cumulative impacts to visual resource use would occur through the degradation of visual resources resulting from a number of activities within the planning area. Under the Proposed RMP, impacts to visual resources would be minimal, those impacts mainly being from surface disturbances associated with the vegetation treatments, and the reduction in surface disturbances associated with the elimination of cross-country off-highway vehicle use and the co-location of utility rights-of-way and communication sites. Some interrelated projects would result in surface disturbances, increased air emissions, and local visual impacts. An increase in the area designated as Class II and III and a decrease in the area designated as Class IV would lead to more emphasis on mitigation for visual impacts from proposed actions across the planning area. The designation of the Pony Express Visual Resource Management Class II corridor places the scenic values of this area at a higher level. Interrelated projects would not occur within Class I areas.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

Cumulative impacts would differ due to differences in management direction for off-highway vehicle use, approval of utility rights-of-way and communication sites, and vegetation treatments and fire management.

Alternative A: Greater impacts than the Proposed RMP due to maintaining approximately 9.8 million acres of off-highway vehicle open areas.

Alternative B: Slightly less impacts than the Proposed RMP.

Alternative C: Greater impacts than the Proposed RMP due to wider and additional designated utility corridors.

Alternative D: Greater impacts than the Proposed RMP due to non-suppression of wildland fires.

4.28.12 Lands and Realty

Geographic Area for Analysis

The geographic area for cumulative impacts to lands and realty is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

The cumulative impacts to the management of lands and realty would occur through the changes in ownership and management of land resources, the availability of lands for disposal, and changes in access to land resources. Under the Proposed RMP, there would be more acreage excluded from disposal and more right-of-way exclusion and avoidance areas resulting from the designation of new ACECs. This amount would be very minor in comparison with the size of the planning area. Co-location of utility rights-of-way and communication sites would be encouraged.

Impacts of the lands and realty program on other resources and uses would be widespread involving potential loss of resources, new surface disturbances, habitat losses and fragmentation, degradation of visual resource quality, additional constraints on fire management, and increased potential for introduction and establishment of invasive species.

Impacts of the Interrelated Projects

Impacts from interrelated projects to lands and realty could come from the Lincoln County Conservation, Recreation, and Development Act; the White Pine County Conservation, Recreation, and Development Act; the transfer of lands to American Indian Tribes (the area and location of which are to be determined by Congress); the Barrick Gold Corporation Land Sale; water development in White Pine and Lincoln counties; residential developments; road development; energy development; mining activities; and the development of the Department of Energy and Toquop rail lines. Interrelated projects could reduce the amount of developable land within the planning area and create pressure for development in additional areas. They also would contribute to many of the same impacts noted above as being generated by the lands and realty program and affecting other resources.

Cumulative Impacts Conclusion

Cumulative impacts to the management of lands and realty would occur as a result of new avoidance and exclusion areas and management direction encouraging co-location of utility rights-of-way and communication sites. Interrelated projects could increase pressure for development and create a higher demand for developable lands in the planning area. Cumulative impacts of the lands and realty program and interrelated actions on other resources and uses would be largely a function of the collective disturbance areas involved as shown in **Table 4.28-1**.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

The primary factors involved for impacts associated with lands and realty are the amount of lands available for disposal and the designation of utility corridor widths and communication sites.

Alternative A: Less impact than the Proposed RMP.

Alternative B: Similar impacts to the Proposed RMP.

Alternative C: Greater impacts than the Proposed RMP, due to wider utility corridors.

Alternative D: Greater impacts than the Proposed RMP, due to restriction on new land use authorizations and land disposals.

4.28.13 Renewable Energy

Geographic Area for Analysis

The geographic area for cumulative impacts to renewable energy is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

Areas with potential for wind and solar energy development exceed the foreseeable demand. Development proposals would be handled on a case-by-case basis subject to NEPA analysis, and not restricted to the areas identified as having high potential for wind and solar development. Development of renewable energy facilities would affect numerous other resources and uses within the planning area through potential loss of resources, new surface disturbances, habitat losses and fragmentation, degradation of visual resource quality, interference with wild horse gathers, additional constraints on fire management, and increased potential for introduction and establishment of invasive species.

Impacts of the Interrelated Projects

Impacts from interrelated projects to renewable energy could come from power plant and transmission line development, as well as water development. Interrelated power and transmission projects could make renewable energy development more economically viable by potentially increasing access to transmission lines, and building more transmission capacity. Power plants, water development, and residential development could have impacts in terms of reducing the amount of water available for solar energy development. These interrelated projects also would contribute to many of the same impacts noted above as being generated by the renewable energy program and affecting other resources.

Cumulative Impacts Conclusion

Interrelated power plant and transmission line projects could create better access to electrical transmission lines. Interrelated power plants, water development, and residential development projects could impact renewable energy development through the use of water that could otherwise be used for development of concentrated solar power. Cumulative impacts of the renewable energy program and interrelated projects on other resources and uses would be largely a function of the collective disturbance areas involved as shown in **Table 4.28-1**.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

The primary factors involved for impacts associated with renewable energy are the amount of land available for renewable energy and the resources to develop renewable energy projects. Because renewable energy development proposals would be handled on a case-by-case basis throughout the entire planning area under each alternative, there is little difference in impact between each alternative.

Alternative A: Slightly less impact than the Proposed RMP.

Alternative B: Slightly less impact than the Proposed RMP.

Alternative C: Slightly greater impact than the Proposed RMP, due to designations of wider utility corridors.

Alternative D: Substantially less impact than the Proposed RMP to other resources and uses, but much greater impact to renewable energy because no new rights-of-way would be designated, nor would there be new land use authorizations.

4.28.14 Travel Management and Off-highway Vehicle Use

Geographic Area for Analysis

The geographic area for cumulative impacts associated with travel management and off-highway vehicle use is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

Under the Proposed RMP, off-highway use would be restricted to designated roads and trails. This would have a large impact on motorized recreational opportunities. The more proactive approach to prioritizing road and trail designations through an updated transportation plan would have long term impacts to travel management. These changes in approach, however, would substantially reduce the impacts of vehicles and off-highway vehicles on other resources throughout the planning area.

Impacts of the Interrelated Projects

Impacts from interrelated projects would occur due to the paving of Kane Springs Road, the development of a road from Caliente to Mesquite, development of the proposed Department of Energy and Toquop rail lines, and an increase in demand for recreational off-highway vehicle use. New roads could improve accessibility while increased usage of roads and trails could increase maintenance needs and travel times. The proposed rail line could interfere with existing roads and trails and necessitate creation of new segments parallel with the rail lines leading to safe crossing points. Some of the interrelated projects would tend to increase vehicle and off-highway vehicle use on some designated roads and trails, thereby contributing cumulatively to the impacts of travel management and off-highway vehicles on other resources throughout the planning area.

Cumulative Impacts Conclusion

The cumulative impacts of travel management and off-highway vehicle use would occur through the degradation of transportation resources, and changes in designation and management of transportation resources. The reduction of cross-country off-highway vehicle use and the prioritization of road and trail designations through an updated transportation plan would have short and long term impacts to travel management, but would reduce off-highway vehicle use opportunities and impacts of such use on other resources. The interrelated projects would have minimal effects on transportation planning and road and trail designations, although new housing and energy development could contribute additional traffic and increase the need for road maintenance.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

The primary factor involved for impacts associated with travel management and off-highway vehicle use is the number of roads and the amount of land available for travel and off-highway vehicle use.

Alternative A: Less impact than the Proposed RMP to travel management, but substantially greater impacts of travel on other resources.

Alternative B: Greater impact than the Proposed RMP to travel management and similar impacts of travel on other resources.

Alternative C: Less impact than the Proposed RMP to travel management and similar impacts of travel on other resources.

Alternative D: Greater impacts than the Proposed RMP to travel management, but substantially fewer impacts of travel on other resources.

4.28.15 Recreation

Geographic Area for Analysis

The geographic area for cumulative impacts associated with recreation includes the planning area and population centers outside the planning area that lie within a reasonable driving distance for recreational activities (e.g., Clark County).

Impacts of the Proposed RMP

Impacts to recreation under the Proposed RMP include a reduction of areas offering motorized recreation opportunities, an increase in special recreation management areas, and a potential increase in wildlife, creating more viewing and hunting opportunities. The designation of 20 ACECs would provide management to protect resources in these areas, providing passive recreation opportunities. The elimination of areas open to cross-country off-highway vehicles use would reduce motorized recreation opportunities. The designation of five special recreation management areas totaling over 1.2 million acres and four motorcycle special recreation permit areas totaling approximately 1.33 million acres would serve to focus recreation activities in areas that could be managed to protect relevant resources and the recreation setting. Management activities could potentially place stipulations on outfitter and guide permits, thus affecting recreational hunting opportunities. This overall management approach would substantially reduce impacts from recreational activities on other resources.

Impacts of the Interrelated Projects

Impacts from interrelated projects would occur due to an increase in demand for recreational off-highway vehicle use that would put more pressure on existing resources, and the rebuilding and expansion of reservoirs which would provide more recreational opportunities in the long term. The general effects of the interrelated projects are expected to range from being neutral to substantially increasing the recreational demands within the planning area.

Cumulative Impacts Conclusion

The cumulative impacts to recreation could occur through the degradation of recreation resources, changes in designation and management of recreation resources, and changes in accessibility to and availability of recreation resources. Interrelated projects would have a mixed impact on recreation. Rebuilding of dams and expansion of lakes could reduce recreation opportunities in the short term, while creating an overall increase in recreation opportunities in the long term. Increased residential development and population in the planning area and adjacent areas would lead to an increase in demand for recreational opportunities, with associated increases in impacts to other resources.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

The primary factor involved for impacts to recreation is the quantity of land available for recreational activities, and the quality of recreational opportunities available upon that land.

Alternative A: Less impact than the Proposed RMP.

Alternative B: Similar impact to the Proposed RMP.

Alternative C: Slightly greater impact than the Proposed RMP.

Alternative D: Greater impact than the Proposed RMP due to a reduction of recreation opportunities.

4.28.16 Livestock Grazing

Geographic Area for Analysis

The cumulative effects area for livestock grazing includes the entire planning area, a few grazing allotments that cross the planning area boundary (some of these are administered by the Ely Field Office and others are administered by adjoining Field Offices), and the scattered locations throughout Nevada and Utah from which allotment permittees bring livestock to graze within the planning area.

Impacts of the Proposed RMP

The Proposed RMP could affect the current levels of grazing use and the area available for grazing, especially in relation to sheep and goat grazing on 12 allotments in occupied desert bighorn and Rocky Mountain sheep habitat. Adjustments to animal unit months for sheep grazing would be subject to on-the-ground review and evaluation when permit changes are considered. It also would enhance the flexibility of the Ely Field Office to administer grazing permits to meet specific needs on a site-specific basis, managing allotments that become vacant, for any reason, including relinquishment to best meet site-specific and RMP objectives. The allotment evaluation and term permit renewal process would continue to evaluate the 54,357 animal unit months current active use of sheep grazing on approximately 100,000 acres of occupied bighorn sheep habitat within the decision area. Any changes made to livestock use or management resulting from evaluations would continue to affect vegetation, fish and wildlife habitat, wild horse habitat, special status species habitat, cultural resources, visual resources, fire management, and noxious/invasive weed management. These impacts, however, generally would be reduced under the Proposed RMP as a result of the watershed analysis process, and the allotment evaluation and term permit renewal process. Livestock grazing would be indirectly affected by changes in several other resource programs. For example, the extensive vegetation treatments to restore vegetation resiliency would result in short-term reductions in forage and long-term increases in forage available for livestock grazing; a reduction in wild horse herd management areas generally would reduce conflicts with livestock; proposed land disposals would reduce the lands available for grazing; changes in management of off-highway vehicle use and recreation would tend to concentrate and redistribute potential conflicts with livestock grazing; while energy development, mineral extraction, and utility rights-of-way would tend to create inconsequential conflicts with livestock by reducing forage or imposing some constraint on livestock grazing.

Impacts of the Interrelated Projects

The primary past actions that have affected vegetation resources and thereby current livestock grazing in the planning area are historic mining activities and other human-caused surface disturbances, wildland fires and fire suppression, and historic grazing practices that have contributed to current ecological conditions. Surface disturbances have affected only a small percentage of the total area within the planning area; past grazing practices (including use by livestock, wild horses, and wildlife) and fire suppression, however, have been major contributors to current deteriorated vegetation conditions throughout the planning area. Partially due to these conditions, the spread of invasive and noxious weeds now threatens most of the ecological systems in the planning area.

Present actions affecting livestock grazing are mainly those that reduce the areas available for grazing or the level of forage production on those areas. Key examples include drought conditions, wildland fires, land disposal actions, and special designations that restrict grazing.

Key future actions (aside from the Proposed RMP) anticipated to affect livestock grazing include potential restrictions associated with any additional species listings under the Endangered Species Act (a reduced or remote probability under the Proposed RMP), and the same natural processes mentioned above including fire and drought. Each of these has the potential to either reduce areas available for grazing or the level of forage production on the available area. Additionally, several of the reasonably foreseeable actions could contribute to additional surface disturbances, loss of vegetation, and impediments to livestock movement within various allotments.

Cumulative Impacts Conclusion

The impacts of the Proposed RMP and interrelated projects to livestock grazing would reduce forage for livestock in the short-term on any given treatment area during vegetation treatment activities and generally increase forage over the long-term as treated vegetation communities reach their potential productivity. Interrelated projects typically would reduce the area available for grazing. Overall the cumulative effects would enhance available forage on a long-term basis as the increasing forage productivity on treated areas offsets and later exceeds future incremental reductions associated with interrelated projects. Impacts from the allotment evaluation and term permit renewal processes are expected to continue to meet RMP goals and objectives, including the standards for rangeland health.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

On a short-term basis, the primary factor involved is the acreage of current livestock grazing area that would be temporarily removed for watershed treatment, fire rehabilitation, or temporary conflicts with other users. The primary long-term factors include permanent or long-range losses for land disposals, special designations, and habitat restrictions associated with potential additional species listed under the Endangered Species Act. Overall summary assessments of these combined factors follow below by alternative.

Alternative A: Less short-term, greater long-term impacts to livestock grazing than the Proposed RMP.

Alternative B: Greater short-term, greater long-term impacts to livestock grazing than the Proposed RMP.

Alternative C: Same short-term, greater long-term impacts to livestock grazing than the Proposed RMP.

Alternative D: Greater short-term, greater long-term impacts to livestock grazing than the Proposed RMP. However, impacts of livestock grazing on other resources would be eliminated under this alternative.

4.28.17 Forest/Woodland and Other Plant Products

Geographic Area for Analysis

The cumulative effects area for forest/woodland and other plant products includes pinyon-juniper woodlands throughout east-central Nevada since both the demand for forest/woodland products within the planning area and alternative supply sources involve areas extending beyond the planning area boundaries.

Impacts of the Proposed RMP

The direct effects of the Proposed RMP would include removal of pinyon and juniper trees in a variety of situations to achieve the desired range of conditions for woodland sites (see Sections 2.4.5, 3.5, and 4.5, Vegetation). These actions may reduce the short-term production of pinyon pine nuts and other products in localized areas; however, the expected level of production for most forest/woodland products in the planning area would continue to exceed the anticipated demand over the long term (see Section 4.17, Forest/Woodland and Other Plant Products). The Proposed RMP also would allow and encourage harvesting of a greater variety of forest/woodland and other plant products within the planning area. Indirect effects of the Proposed RMP on forest/woodland and other plant products would include reduced disturbance by off-highway vehicles in woodland communities in large portions of the planning area and reduced risk of catastrophic fire events in overmature woodlands over the long term as vegetation treatments are used to achieve the desired range of conditions. The Proposed RMP also would increase diversity of age classes within the various plant communities, ensuring sustained yield for future generations.

Impacts of the Interrelated Projects

The primary past actions that have affected production of forest/woodland and other plant products are historic mining activities and other consumptive uses of fuelwood, various human-caused surface disturbances, wildland fires, and historic grazing practices. Surface disturbances and fires have affected only a small percentage of the total area within the planning area, but fuelwood harvest occurred over vast areas during the mid to late 1800s and early 1900s. Aggressive fire suppression has been a major contributor to current woodland conditions throughout the planning area. These past actions, along with climate fluctuations, have contributed to the expansion of pinyon pine and juniper into areas once dominated by sagebrush.

Present actions affecting vegetation composition and ecological health, and thereby production of forest/woodland and other plant products, include livestock grazing, wild horse management, wildlife fire management, watershed management, and spread/control of invasive species. To a lesser degree, other land uses such as harvest of forest/woodland and other plant products, geology and mineral extraction, rights-of-way, transportation, wildlife management, and recreation affect woodland conditions in localized areas. Various natural factors such as drought conditions and wildland fire use ignitions also affect woodlands and production of other plant products.

Key future actions, outside the Proposed RMP, anticipated to affect forest/woodland and other plant products include creation of additional rights-of-way, and the same natural processes mentioned above including fire, drought, disease, and insect infestations. Several of the reasonably foreseeable actions could contribute to additional surface disturbances and loss of woodland communities, especially in relation to rights-of-way and land disposals. These have the potential to alter distribution of vegetation communities or contribute to further ecological deterioration with increased spread of invasive species and increased risk of major fire events. Most of these are actions directly addressed in this RMP rather than being cumulative effects contributed by external factors. However, spread of insect infestations such as the Ips beetle, which is now affecting sizeable areas throughout the western U.S., may dramatically alter the regional supplies of pinyon pine nuts. Thus, production of pinyon pine nuts throughout the planning area may be directly affected by local infestations, and demand may be affected as infestations occur in other portions of the region.

Cumulative Impacts Conclusion

The impacts associated with the Proposed RMP and interrelated projects would generally result in reduced acreage of dense, overmature woodlands, increased diversity of age classes within most woodland sites, healthier and more resilient overall woodland communities, and comparable or potentially increased annual production of forest/woodland products on a sustained yield basis.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

On a short-term basis, the primary factors involved are those that affect the production rate and harvest of key forest/woodland products such as fuelwood and pinyon pine nuts. The primary long-term factors include actions that would impact the distribution and resiliency on pinyon-juniper woodlands, such as wildland fires and insect infestations.

Alternative A: Less short-term, greater long-term impacts than the Proposed RMP.

Alternative B: Same short-term and long-term impacts as the Proposed RMP.

Alternative C: Same short-term and greater long-term impacts as the Proposed RMP.

Alternative D: Greater short-term, greater long-term impacts than the Proposed RMP.

4.28.18 Geology and Mineral Extraction

Geographic Area of Analysis

The geographic area for cumulative impacts associated with the minerals program is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

Under the Proposed RMP, exploration and development for the various categories of minerals would be conducted in accordance with established rules and regulations in a program that allows for reasonable access to lands and provides protection for other resources. The primary impact to other resources would be the potential additional surface disturbance of approximately 18,300 acres over the reasonably foreseeable future. Over the long term, most of these impacts can be mitigated.

Impacts of the Interrelated Projects

The impacts of most of the interrelated projects (as listed in **Table 4.18-2**) to minerals exploration and development would be minimal. Several of the interrelated projects would contribute to increased local demand for sand, gravel, ballast rock, and other types of construction materials. Conservation plans for greater sage-grouse and species under the Endangered Species Act may affect mineral exploration and development. For instance, habitat constraints could affect economic recoverability or have the effect of completely precluding development of mineral resources. Several of the interrelated projects also would contribute to additional surface disturbance of public lands within the planning area, thus adding to the cumulative disturbance area and resultant impacts to various resources.

Cumulative Impacts Conclusion

Impacts of the Proposed RMP and certain interrelated projects on mineral exploration and development could be restrictive, with potential impacts coming primarily from interrelated projects involving endangered species recovery and protection. Cumulative impacts from mineral exploration and development plus interrelated projects would focus primarily on increased surface disturbances and resultant effects on other resources as shown in **Table 4.28-1**.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

Cumulative impacts of the other alternatives would be similar to the Proposed RMP except for Alternative D under which additional mineral development and other industrial activities involving public lands would be severely restricted.

Alternative A: The cumulative impacts of Alternative A would be less than the Proposed RMP.

Alternative B: The cumulative impacts of Alternative B would be the same as the Proposed RMP.

Alternative C: The cumulative impacts of Alternative C would be the same as the Proposed RMP.

Alternative D: The cumulative impacts of Alternative D would be essentially limited to the impacts of past mineral development activities plus potential future locatable mineral development restricted to less than half the total decision area.

4.28.19 Watershed Management

Geographic Area for Analysis

The cumulative effects area for watershed management consists of the area within the planning area boundary including land either administered by other agencies or privately owned, plus those portions of individual watersheds that cross the planning area boundaries into areas managed by adjoining BLM Field Offices.

Impacts of the Proposed RMP

Direct effects of the Proposed RMP on watershed management would be to prioritize the watersheds to be treated under the Vegetation Resources Program and to optimize the allocation of additional vegetation production (forage) on areas following watershed analysis and treatment. The prioritization of watershed for analysis and treatment places 41 watersheds in a high priority category to be analyzed within the next 10 years and the remaining 20 watersheds in a low priority category to be analyzed beyond the next 10 years. This prioritization approach focuses initial efforts in those watersheds where the combination of treatment needs, affected resource values (e.g., special status species), and expected beneficial effects are considered to be greatest. Following watershed treatment the additional forage produced on the treated areas would be allocated to livestock, wild horses, and/or reserved for watershed maintenance and wildlife, depending on the degree of watershed function.

Impacts of the Interrelated Projects

The primary past actions that have affected current watershed condition and ecological health are historic mining activities and other human-caused surface disturbances, wildland fires, and historic grazing practices. Surface disturbances and fires have affected only a small percentage of the total area within the planning area. Past grazing management and aggressive fire suppression, however, have been major contributors to current deteriorated ecological conditions throughout the planning area. Partially due to these conditions, the spread of invasive and noxious weeds now threatens most of the ecological systems in the planning area, accentuating the need for prompt and effective restoration treatment.

Present actions affecting watershed management (prioritization) are mainly those that affect the vegetation composition and ecological health of watersheds. Key examples include livestock grazing, wild horse management, drought conditions, wildland fires, and spread of invasive species. To a lesser degree, other land uses such as mineral extraction, rights-of-way, transportation, wildlife management, and recreation affect watershed conditions in selected areas.

Key future actions anticipated to affect watershed management include grazing by livestock and wild horses, creation of additional rights-of-way, potential restrictions associated with any additional species listings under the Endangered Species Act (a reduced or remote probability under the Proposed RMP), and the same natural processes mentioned above including fire, drought, and climate change. These have the potential to contribute to further deterioration of watershed conditions or affect the timing and selection of watershed treatments available for restoration. The potential for such effects would diminish as increasingly

greater portions of the planning area are restored to resilient vegetation conditions. Additional rights-of-way granted throughout the planning area would result in alteration of surface drainage patterns and could lead to accelerated erosion and sedimentation on a localized basis.

Cumulative Impacts Conclusion

Most of the interrelated projects have individually localized, but cumulatively widespread, effects on ecological health and watershed function, depending on the nature and areal extent of disturbances involved. On a short-term basis, the Proposed RMP would tend to be additive to such impacts, but on a long-term basis, the vegetation improvement associated with the treatments should more than offset the effects of the interrelated projects. This expectation of improved conditions, however, could be delayed or reduced by extended periods of drought, major insect infestations, or disease outbreaks. In other cases, insects and disease could help in meeting management goals.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

On a short-term basis, the primary factors involved are those that affect the current condition of watersheds or constrain the selection of treatments and resultant success for restoration of deteriorated sites. The primary long-term factors include actions that would impact the maintenance of resiliency on restored areas, such as grazing by livestock and wild horses.

Alternative A: Greater short-term, greater long-term impacts on ecological health and watershed management than the Proposed RMP.

Alternative B: Same short-term, same long-term impacts on ecological health and watershed management as the Proposed RMP.

Alternative C: Same short-term, greater long-term impacts on ecological health and watershed management than the Proposed RMP.

Alternative D: Greater short-term, greater long-term impacts on ecological health and watershed management than the Proposed RMP.

4.28.20 Fire Management

Geographic Area for Analysis

The cumulative effects area for fire management includes the planning area and surrounding jurisdictions that also manage fires, such as other BLM Field Offices and National Forest Ranger Districts.

Impacts of the Proposed RMP

The primary direct effect of the Proposed RMP would be substantially greater use of prescribed fire and wildland fire, along with herbicides and mechanical treatments, as vegetation management tools in the vegetation treatment process. Since more fires would be involved, there is a greater short-term risk of a prescribed fire escaping from control, but the effects of vegetation treatments, including the use of fire, would reduce the risk of catastrophic fire events on a long-term basis. Increased use of prescribed fire and other vegetation treatments in wildland urban interface areas would reduce the current fuel loading of these areas and the associated risks of larger fires that would jeopardize human safety and property. Direct effects of the proposed fire management actions would include short-term reductions in forage and habitat for wildlife, wild horses, and livestock on localized areas where fire is used in vegetation treatments. As with the use of other vegetation treatment tools, the long-term effects would be more forage and habitat for these same resource users. Increased use of fires is expected to result in more frequent smoke emissions spread over smaller areas and over shorter time periods when compared to the effects of larger wildland fires.

Impacts of the Interrelated Projects

The primary factors that have affected fire management (and fire history) within the planning area are the same factors that have affected vegetation and ecological health including historic mining activities, historic grazing practices, historic fuelwood harvest, past fire suppression efforts, and expansion of weedy annual species such as cheatgrass. Surface disturbances and fires have affected only a small percentage of the total area within the planning area, a smaller percentage than would have been affected in the absence of fire suppression efforts. Past grazing practices and fire suppression efforts have been major contributors to current deteriorated ecological conditions throughout the planning area. Past fire suppression activities have resulted in dense or overmature stands of pinyon-juniper and sagebrush in numerous areas with accumulation of heavy fuels in many woodland areas. Partially due to these factors plus drought and other climatic changes, the spread of invasive and noxious weeds has provided an abundance of fine fast burning (flashy) fuels across much of the region and contributed to a shorter fire cycle in the affected areas.

Present management actions and natural events affecting fire management include primarily factors addressed herein as parts of Alternative A in Section 4.20, Fire Management, that provide potential ignition sources (e.g., recreation, off-highway vehicle use, and mineral development) and factors that affect fuel supply (e.g., vegetation treatments, livestock grazing, wild horse management, harvest of forest/woodland products, watershed management, and natural events such as spread of invasive species). Interaction of fire management with actions external to the public lands of the planning area primarily involves the presence of potential ignition sources on adjoining properties outside the Ely Field Office's jurisdiction. For

example, wildland fires commonly originate along highways and railroad rights-of-way or from human activities on residential and commercial properties adjoining public lands. Various natural factors such as drought conditions and thunderstorms also affect fire management.

Key future actions (aside from the Proposed RMP) anticipated to affect fire management include construction activities, recreational uses, vehicular traffic, railroad traffic, industrial and residential development adjacent to public lands, and the same natural processes mentioned above including drought, climate change, and continued spread of invasive species. All of the human-related reasonably foreseeable actions mentioned above are expected to provide additional potential fire ignition sources relatively proportional to the level of activity involved.

Cumulative Impacts Conclusion

The cumulative impacts on fire management involve the effects of the Proposed RMP (increased use of prescribed fires to achieve desired range of conditions for vegetation and greater flexibility in responding to accidental or natural ignitions) offsetting the increased frequency of accidental ignitions expected from the escalating use of the planning area for such activities as recreation, industrial development, and off-highway vehicle use.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

In this section, the alternatives are compared on the basis of how they affect overall risks associated with fire and the ability of the Ely Field Office to use natural and prescribed fire as a tool in achieving the stated vegetation management goals. In general, these comparisons are dependent on factors addressed within Section 4.20, Fire Management, and are not driven by external factors associated with a cumulative analysis.

Alternative A: The continuing increase in both flashy and heavy fuels would result in greater short-term and long-term impacts than the Proposed RMP.

Alternative B: Similar short-term and long-term impacts as the Proposed RMP.

Alternative C: Short-term impacts may be similar to or greater than the Proposed RMP; long-term impacts would be greater than the Proposed RMP.

Alternative D: Both short-term and long-term impacts would be greater than the Proposed RMP.

4.28.21 Noxious and Invasive Weed Management

Geographic Area for Analysis

The cumulative effects area for noxious and invasive weed management includes the planning area plus surrounding areas that could be the source of weed seeds transported by motor vehicles, construction vehicles, off-highway vehicles, and railroads.

Impacts of the Proposed RMP

Direct effects of the Proposed RMP on management of invasive and noxious weeds would include widespread treatment of weed populations in association with vegetation treatments to achieve the desired range of conditions within various vegetation communities. Treated areas at or near these desired conditions would have a lower probability for invasion and spread of invasive or noxious weed species. These management activities would improve vegetation resiliency in the long term, but do involve some short-term risk of greater weed spread in the event of treatment failure in drought years or due to other circumstances. Indirect effects of the Proposed RMP include the reduction in disturbance and seed spread from uncontrolled widespread use of off-highway vehicles, the improvement of vegetation communities in wild horse herd management areas currently unable to support existing populations, and improved protection of vulnerable sites such as riparian areas.

The noxious and invasive weed management program has the potential to impact a variety of other resources, including wildlife and special status species, through the toxicity effects associated with pesticides. Under the Proposed RMP and the Ely Field Office's use of chemicals in accordance with applicable BLM policy and label directions, such impacts are expected to be minimal.

Impacts of the Interrelated Projects

The primary past actions that have affected noxious and invasive weed management are those factors that have contributed to the introduction and spread of these weed species throughout the planning area. Key actions include historic mining activities, road construction, vehicle traffic, local agriculture, other human-caused surface disturbances, wildland fires, historic grazing practices, and drought. Although surface disturbances and fires have affected only a small percentage of the total area within the planning area, they provided fresh barren areas for colonization by invasive species. Past grazing practices (including use by wild horses and wildlife) and aggressive fire suppression have been major contributors to current deteriorated vegetation conditions throughout the planning area, which have effectively reduced the ability of native perennial species to compete against weedy species invading native vegetation communities. Agricultural practices, highway and railway traffic, livestock movement, and recreational activities have been common vectors helping to introduce and spread propagules (seeds, spores, etc.) of invasive species.

Present actions affecting noxious and invasive weed management include agriculture, livestock grazing, wild horse management, mineral development and other construction activities, drought conditions, wildland fires, insect infestations, vegetation/watershed treatments, land disposal actions, recreation, highway traffic,

and off-highway vehicle use. Several of these various actions have been addressed in Alternative A in Section 4.21 through specific types of management actions. Others, however, are not subject to Ely Field Office jurisdiction based on where they occur (often on adjoining private lands) or the nature of the activity (e.g., highway traffic, drought, and insect infestations).

Key future actions anticipated to affect noxious and invasive weed management include the same array listed above plus additional rights-of-way and land disposals, most of which are addressed as parts of the Proposed RMP. Each of these actions presents additional risk of introduction and dispersal of noxious or invasive weed seeds.

Cumulative Impacts Conclusion

The Proposed RMP would work to control the spread and reduce the occurrence of invasive and noxious weed species in the planning area. At this time, however, it is undetermined whether the rate of vegetation treatment and improvement toward the desired range of conditions would be adequate to offset the recently increasing rate of introduction and spread of invasive and noxious species, some of which is associated with interrelated past, present, and future projects.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

On a short-term basis, the primary factors involved are those that affect the introduction and spread of invasive species, contribute to loss of native vegetation diversity and vigor, or constrain the selection of treatments and resultant success for restoration of deteriorated sites. The primary long-term factors include actions that would impact the maintenance of resiliency on restored areas, such as grazing by livestock and wild horses.

Alternative A: Same short-term, greater long-term impacts on management of noxious and invasive weeds than the Proposed RMP.

Alternative B: Same short-term, lesser long-term impacts on management of noxious and invasive weeds than the Proposed RMP.

Alternative C: Same short-term, greater long-term impacts on management of noxious and invasive weeds than the Proposed RMP.

Alternative D: Greater short-term, greater long-term impacts on management of noxious and invasive weeds than the Proposed RMP.

4.28.22 Special Designations

Geographic Area for Analysis

The geographic area for cumulative impacts to special designations is the area within the boundaries of the planning area.

Impacts of the Proposed RMP

Under the Proposed RMP, 20 ACECs totaling approximately 317,800 acres and two new back-country byways would be designated. These designations would provide enhanced protection and management emphasis for the relevant resources of these sites. Eight areas totaling 2,155 acres would be dropped from special designation, which would have minimal impact as management prescriptions under the Proposed RMP have been determined to adequately protect the resource values associated with these areas. Designation of the additional ACECs also would result in potential constraints related to uses of other resources in the areas, thereby impacting other resource programs.

Impacts of the Interrelated Projects

The interrelated projects would increase access to and activity within the special designation areas, the latter resulting from increased population due to residential development. Impacts to special designations could result in the degradation of special designation areas, changes in designation of special designation areas, changes in access to special designation areas, and changes in management prescriptions for special designation areas. For example, impacts from interrelated projects would occur due to an increase in access to the desert tortoise ACECs in the southeastern part of the planning area through the development of a road from Caliente to Mesquite, development of the proposed Department of Energy and Toquop rail lines, and the paving of the Kane Springs Road. These interrelated projects could potentially result in increased mortality of desert tortoise through collisions with vehicles.

Cumulative Impacts Conclusion

Impacts to special designations under the Proposed RMP would be an increase in areas managed as ACECs, providing more effective protection of resources, and the creation of new back-country byways. Impacts from the interrelated projects would include increased use of the designated ACECs and back-country byways, resulting in resource degradation and increased need for management by the Ely Field Office.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

The primary factor involved for impacts to special designations is the quantity of land given special designations, and the management prescriptions for these lands.

Alternative A: Less impact than the Proposed RMP.

Alternative B: Similar impact to the Proposed RMP.

Alternative C: Slightly greater impact than the Proposed RMP.

Alternative D: Less impact than the Proposed RMP since the need for special designations would be eliminated.

4.28.23 Economic Conditions

Geographic Area of Analysis

For cumulative economic and social effects, the external boundaries of the planning area and surrounding communities extending as far as Las Vegas constitute the relevant geographic area of analysis. This area would capture the preponderance of direct and indirect economic impacts associated with the interrelated projects located within and adjacent to the planning area's boundaries and the management actions associated with the Proposed RMP. Many of the demands and pressures affecting the Ely Field Office originate outside of the planning area and, hence, are captured in this cumulative analysis area.

Impacts of the Proposed RMP

The Proposed RMP would result in slight to moderate, long-term impacts in the form of increased additional local employment opportunities, personal income, sales for local businesses, and tax revenues for local governments. Some of the gains would arise as a result of the increased funding for restoration, while other gains would accrue over the long term, as the level of developed and organized recreation and woodland commodity use increases in response to ecological health restoration. Resident households associated with the incremental jobs would spawn demand for housing along with visitor populations, and demand on local public facilities and services.

Impacts of the Interrelated Projects

Virtually all the identified interrelated past, present, and reasonably foreseeable projects have actual or potential economic and social consequences. Such consequences manifest themselves in the following contexts:

- Capital investments associated with past and present projects result in the development of residential, commercial, and public infrastructure with economic lives extending beyond that of the interrelated project itself.

- Short- and long-term influences of activities in one period that establish land use patterns affecting economic and social conditions in subsequent periods. For example, once built, highways and state parks can stimulate recurring local economic stimulus related to recreational visitors, tourists, and other travelers.

- Private real estate speculation and development and public sector land use, facility, and service planning initiatives prompted by prospective future activities, whether real or merely suggested by information such as the mapping of high potential mineral development areas.

- Effects tied to actions, activities, and projects located outside the planning area, but having indirect connections to resources within the planning area. Examples of such actions include past, current, and

potential future Department of Defense and Department of Energy activities on federal lands adjacent to the planning area, accessed via highway and railroad connections in the planning area.

- Reasonably foreseeable actions can generate subtle economic impacts in the present, with more tangible economic effects arising as a project transitions from concept to reality. Cumulative effects are shaped not just by the characteristics of the specific project, but also by other activities occurring in the same timeframe. In fact, the degree of overlap in schedules and relative scales of interrelated projects are critical factors influencing cumulative impacts. The timing aspects of the majority of the interrelated projects is not available to include in this discussion.

- Temporary, short-term and long-term effects on local employment, population, housing demand, community facilities and services, fiscal conditions, and social values and attitudes towards public land management would be expected.

The recent reopening of the Robinson mine, other mineral development projects, changes in agricultural development, the Yucca Mountain Nuclear Repository, and the White Pine Energy Station and Ely Energy Center are the projects having the highest potential for short and long-term economic and social effects in the planning area. The short-term effects would occur during initial project start-up and construction, with long-term effects associated with the ongoing operations. Water development projects also could have substantial long-term consequences depending upon the timing and use/application of the subsequent water production. These interrelated actions may be accompanied by both positive and negative economic and social effects.

The reasonably foreseeable projects with potential long-term employment effects tend to be somewhat geographically clustered in the northern and southern portions of the planning area. Hence, associated economic and social impacts would tend to be concentrated in the Ely and Caliente areas, or in new development areas such as Coyote Springs or involved with the Lincoln County Land Act and the Lincoln County and White Pine County Conservation, Recreation, and Development Acts. Of themselves, large-scale mineral and energy development projects, the Yucca Mountain – Caliente rail line, and new land development activities are those with the highest potential to be important. That potential increases if multiple projects are simultaneously active. At the same time, the possibility exists for some offsetting impacts; for instance, the expansion of one mine or startup of an energy development project as another mine is closing, thereby dampening the impacts associated with the former.

Cumulative Impacts. Because of the factors described above, almost all of the interrelated projects have actual or potential cumulative economic and social impacts when considered in conjunction with the Proposed RMP. Potential cumulative economic effects associated with the Proposed RMP include the linkages between economic and population growth in Clark County and recreation use, local water development, and demands for land disposal, energy production, transmission capacity, and residential development within the planning area. These uses and demands create pressures on local agricultural operations through indirect impacts on grazing and demand for developable land that could trigger contractions in the local agricultural sector and its economic contributions to the local economy. The increase in BLM funding for watershed restoration, if it coincides with a resurgence in mining and other

energy development, could create short-term synergistic impacts on the local labor market, housing, and community service conditions. The cumulative effects of these influences accentuate the on-going transition between a commodity-based and more service-based economy.

Another series of cumulative effects involves land use and administration of public lands in and around the planning area by multiple governmental agencies. The Ely Field Office and U.S. Forest Service management of vast tracts of land and resources in the region generate economic effects that vary over time, but are relatively consistent from year-to-year during the short-term. However, activities at the Nellis Air Force Base flight range and the Nevada Test Site, including the potential construction at the Yucca Mountain Nuclear Repository and transportation network, are known to fluctuate and could dramatically alter the planning area's economic setting over the long-term. A decision to proceed with the Yucca Mountain Nuclear Repository could increase demand for land disposal, water development, and recreation and commodity use in the planning area, potentially affecting the Ely Field Office's management. Completion of the Lincoln County Land Act sale and subsequent new development would generate cumulative social and economic effects in nearby Mesquite and Clark County. Employment and population growth also could accompany the project, with the scale and timing dependent on the transportation mode and access routes selected. The development-related economic and social impacts would be substantial.

Cumulative economic impacts would arise in conjunction with Congressionally-mandated land and realty actions in Lincoln and White Pine counties, as they could give rise to future economic development activities, impact future management and watershed restoration priorities within the planning area, and the locations and levels of use on public lands, all of which could indirectly affect local economic conditions.

Potential cumulative economic impacts arising from the other projects could create temporary and short-term economic fluctuations, varying in scale, but similar to those characterizing the region's recent history. For example, mineral resource development in the northern portion of the planning area could result in population, economic, and social effects to nearby communities outside the planning area, such as Elko, Nevada. Most, if not all, of those communities already host businesses and residents associated with mineral development elsewhere in eastern Nevada. As such, the changes may be viewed more in the context of normal or typical events and less as fundamental changes in the region's economic environment.

The cumulative economic effects described above have corollary cumulative effects in terms of social and community well-being. In the case of past actions, the cumulative effects manifest themselves as physical vestiges of the activity, as well as in present social conditions and attitudes. Historical and existing social linkages bind together generations of past, current, and future residents of the region. Past and present residents have contributed to the formation of local governance, community service capabilities, and local organizations and institutions that function today. Development pressures from outside the region may reshape and influence the established social structure and order within the planning area. Given the rural nature of the planning area and the attendant low population base, the opportunities to effect change or address issues within state and federal government arenas may be constrained. The net cumulative effect of these factors maybe a diminished sense of self-determination and local control that characterizes much of the rural West. Cumulative impacts on social conditions associated with the long-term land development activities have the potential to be substantial.

Cumulative Impacts Conclusion

Several of the interrelated projects pose a potential for generating substantial impacts on economic and social conditions in portions of, or across much of the planning area. The greatest likelihood arises in the context of potential long-term changes associated with major future land development activities in southern Lincoln County, the proposed Yucca Mountain Nuclear Repository, water development and pipeline proposals seeking changes in the location and type of use of surface and groundwater resources in the region, and the White Pine Energy Station and Ely Energy Center. The Proposed RMP, and any of the alternatives thereto, would incrementally contribute to those impacts in a cumulative sense, if for no other reason than that several of them would directly or incidentally involve public lands, for utility rights-of-way, for instance. Although the duration, timing, and extent of the overall cumulative effects is indeterminate based on current information, the potential for impacts, including short-term impacts, increases if development of two or more of the interrelated projects were to occur concurrently.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

The potential cumulative economic and social effects do not vary appreciably between the RMP management alternatives, because the scale and timing of the interrelated projects, many of which are outside to the region, have few direct linkages to the key local economic parameters affected by the management alternatives. From a cumulative effects perspective, a key issue is whether differences in the alternatives increase or diminish the likelihood of a present action maintaining its current status or of a reasonably foreseeable future action occurring or not occurring. The potential for cumulative social effects does not vary appreciably between the alternatives because the most pronounced influences affecting these impacts are outside the region.

Alternative A: Additional activity in the region associated with the interrelated projects could accelerate the onset of subsequent use restrictions and economic impacts triggered by declining ecological health.

Alternative B: Potential cumulative effects under Alternative B would include substantial economic impacts to affected ranchers with allotment permits in the areas unavailable due to bighorn sheep and desert tortoise habitat.

Alternative C: Corridor management policies under this alternative may increase the likelihood of one or more of the interrelated energy projects occurring, with resulting small increase in cumulative effects on employment, income, and other economic activity. Land use authorization policies may interact with the Yucca Mountain Nuclear Repository and aid other projects to allow more economic growth and community expansion over time.

Alternative D: The no net loss of public lands provision under Alternative D would result in cumulative interactions with interrelated projects requiring public land for development. The prohibition on land use authorizations would severely limit the development of interrelated projects such as power plants and wind energy farms. However, the timing, location, and scale of the impacts are unknown. The removal of

livestock grazing throughout the decision area would result in substantial economic impacts within the planning area and to surrounding areas where some of the affected ranchers may reside.

4.28.24 Social Conditions

See the preceding section on economic conditions.

4.28.25 American Indian Issues

American Indian issues identified through scoping (land disposals, access to sacred sites, pinyon pine nut harvesting, tribal outfitter guide service) and comments expressed by representatives of American Indian groups participating as cooperators in the RMP process were examined in relation to the Proposed RMP. No cumulative impacts from interrelated projects were identified; however, natural processes such as drought, fire, and insect destruction of pinyon pines, would have an impact on future pine nut harvests.

4.28.26 Environmental Justice

Following the definition for cumulative impacts, an impact must result from Ely Field Office management actions before a cumulative impact would occur. Since no environmental justice issues have been identified in relation to the Proposed RMP, no cumulative impacts are anticipated.

4.28.27 Health and Safety

Geographic Area for Analysis

The cumulative effects area for health and safety includes all areas within the planning area boundary plus adjoining areas and communities potentially affected by atmospheric emissions, hazardous materials spills, or wildland fires originating within the planning area.

Impacts of the Proposed RMP

Direct effects of the Proposed RMP would not differ from the other alternatives with respect to health and safety, in that activities under this alternative would be conducted in accordance with applicable regulations and BLM policy regarding health and safety and protection of personal property. Thus, there are no program-specific impacts for health and safety under the Proposed RMP. However, actions from other resource programs such as vegetation and fire management would have substantial effect on health and safety issues. Vegetation treatments, including fuel reduction in wildland urban interface areas, and the fire management plans of the Proposed RMP would reduce the long-term risk of large-scale fires and the risk of personal injuries and destruction of personal property associated with wildland fires.

Impacts of the Interrelated Projects

The primary past actions that contribute to health and safety issues within the planning area are those that contribute to current fire hazards. Numerous other past actions, such as mining and smelting operations, contributed to previous health and safety issues (mine subsidence and smelter emissions) that no longer persist as major public land issues in the area. Past actions contributing to current fire hazard conditions include historic grazing practices, aggressive fire suppression, and various surface disturbances that have either facilitated expansion of annual weed species or lead to accumulation of unusually heavy fuel loads in various vegetation types. Other activities, such as development of roads, railroads, other rights-of-way, agricultural practices, and mineral extraction have contributed to the presence of widespread human activities that constitute potential ignition sources for wildland fires.

Present and future actions potentially contributing to the current and future fire hazards include almost all human activities occurring on the public lands, particularly those that involve construction equipment and activity, traffic and vehicle use, and recreation involving off-highway vehicle use. Thus, almost any of the interrelated projects involving human activity may be a contributing factor in terms of providing an ignition source.

Cumulative Impacts Conclusion

The Proposed RMP would reduce the long term risk of large-scale fires and the risk of personal injuries and destruction of personal property associated with wildland fires, largely offsetting the anticipated increases in wildland fire risk arising from various interrelated projects.

Variation in Cumulative Impacts Between the Proposed RMP and Other Alternatives

The primary factors involved in health and safety issues related to wildland fires include the following (listed from short term to longer term): 1) suppression of wildland fires as necessary to protect persons and property, 2) the prompt and orderly reduction in fuel loading around vulnerable communities (i.e., wildland urban interface management), and 3) reduction of excessive fuel loadings throughout the planning area so that a more natural fire regime may be reestablished with resilient vegetation communities.

Alternative A: Greater short-term, greater long-term impacts than the Proposed RMP.

Alternative B: Same short-term, same long-term impacts as the Proposed RMP.

Alternative C: Same short-term, greater long-term impacts than the Proposed RMP.

Alternative D: Greater short-term, greater long-term impacts than the Proposed RMP.

4.28.28 Summary of Cumulative Impacts

Table 4.28-3, which follows, presents a summary of the cumulative impacts to each resource program for the Proposed RMP. The detailed discussion of cumulative impacts begins in Section 4.28.2.

Table 4.28-3
Cumulative Impacts of the Proposed RMP

AIR RESOURCES
Cumulative impacts include those caused by sources and activities associated directly with the Proposed RMP and those caused by interrelated projects that have occurred historically, projects that are currently underway, and those that might reasonably occur in the future. Air resources in the planning area are mainly affected by mining and vegetation management/fire management practices. Regulatory decisions related to industrial development and mining would help prevent air quality degradation by applying mitigation measures on a case-by-case basis. Three potential electrical generating power projects would affect air quality in the region if constructed. Permitting requirements of the Nevada Division of Environmental Protection and the U.S. Environmental Protection Agency would require modern control technology to limit emissions and impacts from these potential sources. Fire management treatments would include in-depth planning and analysis of potential incident and cumulative air quality impacts to reduce emissions associated with fires. Projected cumulative impacts are of such a nature that the planning area should be able to meet all applicable local, state, tribal, and National Ambient Air Quality Standards under the Clean Air Act (as amended), and help prevent deterioration of air quality within the planning area from all direct and authorized actions.
WATER RESOURCES
Cumulative impacts of the Proposed RMP would be minimized over the long term by extensive vegetation management and administration of other land uses that would consider a balanced ecological system approach. Salinity inputs to the Colorado River system would be reduced over time. Short-term increases in runoff, soil erosion, and related sedimentation may occur on those areas where vegetation treatments occur. Interrelated projects would have the potential to create impacts on both surface and groundwater resources through additional erosion and sedimentation as a result of land disturbance, further consumption of available water resources, and additional releases of undesirable water quality constituents (e.g., industrial chemicals, treated domestic effluent) into receiving waters. The net effects on water resources from the Proposed RMP and the interrelated projects may result in substantial cumulative impacts.
SOIL RESOURCES
Cumulative impacts of the Proposed RMP and interrelated projects would involve a short-term increase of erosion and sedimentation, with accompanying reduction in soil quality, when the activities are initially undertaken. Extensive vegetation treatment in the planning area would, in time, result in substantial reduction of erosion and sedimentation. Similarly, soil quality would increase over the long term as a result of vegetation treatments. Impacts from interrelated project development within the planning area would result in permanent removal or alteration of soil resources in specific areas (such as project footprints or some riparian/wetland areas). Regulatory programs (including permit approval and monitoring processes), and the implementation of best management practices and mitigation measures, would reduce the degree of overall erosion and sedimentation impacts. Soil quality would be lost in the comparatively smaller areas affected by interrelated projects, but would improve over widespread areas with successful vegetation restoration.
VEGETATION RESOURCES
The actions related to the Proposed RMP would enhance vegetation resiliency on a long-term basis, although some elements of the alternative would contribute to temporary loss of vegetation and potential spread of invasive species. Most of the interrelated projects have produced or would result in the removal of native vegetation and potential spread of invasive species, either through physical disturbance or alteration of vegetation communities. The enhanced vegetation resiliency resulting from the Proposed RMP should offset a large portion of the past and potential future disturbance effects from interrelated projects.
FISH AND WILDLIFE
Aquatic
The cumulative effects of interrelated projects in combination with program-specific management under the Proposed RMP would generally improve maintenance and quality of fish habitat in the long term as restoration efforts improve both upland and riparian habitat conditions. This habitat improvement would tend to offset continued habitat losses and damage resulting from various interrelated projects including potential groundwater withdrawal.
Wildlife
The actions related to the Proposed RMP would improve wildlife habitat conditions on the watershed level and landscape level in the short and long term. However, the interrelated projects either have produced or would result in direct wildlife mortality, displacement of wildlife, habitat loss or alteration, and increased habitat fragmentation. The habitat improvement resulting from the vegetation restoration treatments should offset a large portion of the past and potential future habitat losses and damage resulting from interrelated projects.

Table 4.28-3 (Continued)

SPECIAL STATUS SPECIES
Plant Species
The impacts related to the Proposed RMP would have minimal effect on the Ute ladies'-tresses orchid and other special status plants on an overall basis, while at the same time protection of these species would be enhanced in several ACECs. Most of the interrelated projects have produced or would produce minimal effects to special status plants, either through physical disturbance or alteration of vegetation communities. The improved knowledge base and potential mitigation measures related to the Proposed RMP should offset a large portion of the past and potential future adverse effects from interrelated projects.
Aquatic Species
Surface disturbance activities could result in localized water quality changes due to sedimentation or runoff contaminants, and habitat alteration or loss. Several programs such as vegetation restoration and weed management (i.e., tamarisk removal) could increase stream flows and spring discharges. Several of the interrelated projects could result in changes to surface water quantity in various streams or springs (e.g., groundwater withdrawal). In the long term, vegetation restoration could reduce stream flows originating from surface runoff, but could locally increase stream base flows and spring discharges. Other interrelated actions could combine with these water quantity changes to affect habitat for sensitive species. The cumulative effects of interrelated projects in combination with program-specific management under the Proposed RMP would result in impacts on sensitive fish species habitat due to surface disturbance in watersheds, but this would be balanced by an increased rate of maintenance and restoration of habitat for sensitive fish species.
Wildlife Species
The impacts related to the Proposed RMP would improve special status species habitat conditions on the watershed and landscape level in the long term. However, the interrelated projects either have produced or would continue to result in direct mortality, displacement of individuals, habitat loss or alteration, habitat fragmentation, and possible population reductions of some special status species. The special status species habitat improvement resulting from the Proposed RMP should offset a large portion of the past and potential future habitat losses and damage resulting from interrelated projects. However, local greater sage-grouse populations may be reduced in numbers because of development in and around breeding habitat (i.e., leks) regardless of the habitat improvement that may occur elsewhere.
WILD HORSES
The impacts related to the Proposed RMP generally would improve habitat for wild horse herds on a long-term basis, while many of the potential impacts associated with interrelated projects would reduce habitat, but typically to a lesser degree. Thus, the overall cumulative effects would be general improvement in the habitat necessary for long-term herd health and viability.
CULTURAL RESOURCES
There would be a high level of protection of cultural resources under the Proposed RMP (overall decrease in lands available to off-highway vehicle use and livestock/wild horse grazing and the designation of ACECs to protect cultural resources) offsetting the expected increase in visitor and recreation use in the planning area. Thus, the overall cumulative effects would be minimal.
PALEONTOLOGICAL RESOURCES
There would be a high level of protection of paleontological resources under the Proposed RMP (overall decrease in lands available to off-highway vehicle use and mineral development) offsetting the expected increase in visitor and recreation use in the planning area. Thus, the overall cumulative effects would be minimal.
VISUAL RESOURCES
Cumulative impacts to visual resource use would occur through the degradation of visual resources resulting from a number of activities within the planning area. Under the Proposed RMP, impacts to visual resources would be minimal, those impacts mainly being from surface disturbances associated with the vegetation treatments, and the reduction in surface disturbances associated with the elimination of cross-country off-highway vehicle use and the co-location of utility rights-of-way and communication sites. Some interrelated projects would result in surface disturbances, increased air emissions, and local visual impacts. An increase in the area designated as Class II and III and a decrease in the area designated as Class IV would lead to more emphasis on mitigation for visual impacts from proposed actions across the planning area. The designation of the Pony Express Visual Resource Management Class II corridor places the scenic values of this area at a higher level. Interrelated projects would not occur within Class I areas.

Table 4.28-3 (Continued)

LANDS AND REALTY
Cumulative impacts to the management of lands and realty would occur as a result of new avoidance and exclusion areas and management direction encouraging co-location of utility rights-of-way and communication sites. Interrelated projects could increase pressure for development and create a higher demand for developable lands in the planning area. Cumulative impacts of the lands and realty program and interrelated actions on other resources and uses would be largely a function of the collective disturbance areas involved as shown in **Table 4.28-1**.
RENEWABLE ENERGY
Interrelated power plant and transmission line projects could create better access to electrical transmission lines. Interrelated power plants, water development, and residential development projects could impact renewable energy development through the use of water that could otherwise be used for development of concentrated solar power. Cumulative impacts of the renewable energy program and interrelated projects on other resources and uses would be largely a function of the collective disturbance areas involved as shown in **Table 4.28-1**.
TRAVEL MANAGEMENT AND OFF-HIGHWAY VEHICLE USE
The cumulative impacts of travel management and off-highway vehicle use would occur through the degradation of transportation resources, and changes in designation and management of transportation resources. The reduction of cross-country off-highway vehicle use and the prioritization of road and trail designations through an updated transportation plan would have short and long term impacts to travel management, but would reduce off-highway vehicle use opportunities and impacts of such use on other resources. The interrelated projects would have minimal effects on transportation planning and road and trail designations, although new housing and energy development could contribute additional traffic and increase the need for road maintenance.
RECREATION
The cumulative impacts to recreation could occur through the degradation of recreation resources, changes in designation and management of recreation resources, and changes in accessibility to and availability of recreation resources. Interrelated projects would have a mixed impact on recreation. Rebuilding of dams and expansion of lakes could reduce recreation opportunities in the short term, while creating an overall increase in recreation opportunities in the long term. Increased residential development and population in the planning area and adjacent areas would lead to an increase in demand for recreational opportunities, with associated increases in impacts to other resources.
LIVESTOCK GRAZING
The impacts of the Proposed RMP and interrelated projects to livestock grazing would reduce forage for livestock in the short-term on any given treatment area during vegetation treatment activities and generally increase forage over the long-term as treated vegetation communities reach their potential productivity. Interrelated projects typically would reduce the area available for grazing. Overall the cumulative effects would enhance available forage on a long-term basis as the increasing forage productivity on treated areas offsets and later exceeds future incremental reductions associated with interrelated projects. Impacts from the allotment evaluation and term permit renewal processes are expected to continue to meet RMP goals and objectives, including the standards for rangeland health.
FOREST/WOODLAND AND OTHER PLANT PRODUCTS
The impacts associated with the Proposed RMP and interrelated projects would generally result in reduced acreage of dense, overmature woodlands, increased diversity of age classes within most woodland sites, healthier and more resilient overall woodland communities, and comparable or potentially increased annual production of forest/woodland products on a sustained yield basis.
GEOLOGY AND MINERAL EXTRACTION
Impacts of the Proposed RMP and certain interrelated projects on mineral exploration and development could be restrictive, with potential impacts coming primarily from interrelated projects involving endangered species recovery and protection. Cumulative impacts from mineral exploration and development plus interrelated projects would focus primarily on increased surface disturbances and resultant effects on other resources as shown in **Table 4.28-1**.
WATERSHED MANAGEMENT
Most of the interrelated projects have individually localized, but cumulatively widespread, effects on ecological health and watershed function, depending on the nature and areal extent of disturbances involved. On a short-term basis, the Proposed RMP would tend to be additive to such impacts, but on a long-term basis, the vegetation improvement associated with the treatments should more than offset the effects of the interrelated projects. This expectation of improved conditions, however, could be delayed or reduced by extended periods of drought, major insect infestations, or disease outbreaks. In other cases, insects and disease could help in meeting management goals.

Table 4.28-3 (Continued)

FIRE MANAGEMENT
The cumulative impacts on fire management involve the effects of the Proposed RMP (increased use of prescribed fires to achieve desired range of conditions for vegetation and greater flexibility in responding to accidental or natural ignitions) offsetting the increased frequency of accidental ignitions expected from the escalating use of the planning area for such activities as recreation, industrial development, and off-highway vehicle use.
NOXIOUS AND INVASIVE WEED MANAGEMENT
The Proposed RMP would work to control the spread and reduce the occurrence of invasive and noxious weed species in the planning area. At this time, however, it is undetermined whether the rate of vegetation treatment and improvement toward the desired range of conditions would be adequate to offset the recently increasing rate of introduction and spread of invasive and noxious species, some of which is associated with interrelated past, present, and future projects.
SPECIAL DESIGNATIONS
Impacts to special designations under the Proposed RMP would be an increase in areas managed as ACECs, providing more effective protection of resources, and the creation of new back-country byways. Impacts from the interrelated projects would include increased use of the designated ACECs and back-country byways, resulting in resource degradation and increased need for management by the Ely Field Office.
ECONOMIC CONDITIONS
Several of the interrelated projects pose a potential for generating substantial impacts on economic and social conditions in portions of, or across much of the planning area. The greatest likelihood arises in the context of potential long-term changes associated with major future land development activities in southern Lincoln County, the proposed Yucca Mountain Nuclear Repository, water development and pipeline proposals seeking changes in the location and type of use of surface and groundwater resources in the region, and the White Pine Energy Station and Ely Energy Center. The Proposed RMP, and any of the alternatives thereto, would incrementally contribute to those impacts in a cumulative sense, if for no other reason than that several of them would directly or incidentally involve public lands, for utility rights-of-way, for instance. Although the duration, timing, and extent of the overall cumulative effects is indeterminate based on current information, the potential for impacts, including short-term impacts, increases if development of two or more of the interrelated projects were to occur concurrently.
SOCIAL CONDITIONS
See economic conditions.
AMERICAN INDIAN ISSUES
Cumulative impacts, if present, are identified in the corresponding topic areas of Section 4.28.
ENVIRONMENTAL JUSTICE
Following the definition for cumulative impacts presented at the beginning of this section, an impact must result from BLM management direction before a cumulative impact will occur. Since no environmental justice issues have been identified in relation to the Proposed RMP, no cumulative impacts are anticipated.
HEALTH AND SAFETY
The Proposed RMP would reduce the long term risk of large-scale fires and the risk of personal injuries and destruction of personal property associated with wildland fires, largely offsetting the anticipated increases in wildland fire risk arising from various interrelated projects.

4.29 Proposed Mitigation and Potential Effectiveness

Mitigation of impacts can be addressed in many different ways. According to the Council on Environmental Quality regulations, mitigation includes:

a) Avoiding the impact altogether by not taking a certain action or parts of an action.

b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

e) Compensating for the impact by replacing or providing substitute resources or environments (Title 40 Code of Federal Regulations Subpart 1508.20).

Mitigation has been built into the Proposed RMP through the development of management actions that address programmatic management issues, while also reducing impacts. That is, management actions have been structured to avoid or minimize impacts, as specified by the Council on Environmental Quality regulations. Further, the best management practices presented in Section 1 of Appendix F would be implemented by the Ely Field Office on a project-specific basis, as appropriate for site conditions and the proposed disturbance. The Ely Field Office and other BLM offices have developed these best management practices through many years of experience with on-the-ground projects. The following proposed mitigation is in response to anticipated impacts and would be in addition to the best management practices. The potential effectiveness of the proposed mitigation measures is addressed in order for the BLM Nevada State Director to make an informed decision regarding whether to include the proposed mitigation as part of his final decision, documented in the Record of Decision.

Vegetation

Impact: Increased frequency and size of wildland fires in the Mojave Desert due to invasive annual species.

Proposed Mitigation 1: Increase fire suppression forces within the Mojave Desert through the establishment of a fire station in the Mojave Desert and increased aerial resources in Mesquite, Nevada.

Effectiveness: A shorter response time with more suppression forces could reduce the size of wildland fires.

Fish and Wildlife

Impact: Disturbance of wildlife during sensitive times or in sensitive locations as a result of designating special recreation management areas and special recreation permit areas where off-highway vehicle use is anticipated to increase.

Proposed Mitigation 2: The following adaptive management measures may be identified during activity level planning for special recreation management areas and special recreation permit areas to mitigate potential localized disturbances to wildlife: placement of signs and public education at key recreation access areas; identification of seasonal motorized route closures to protect wildlife during sensitive periods in their lifecycle; re-routes of existing roads and trails; permanent closures of existing routes; and the establishment of recreation use limitations.

Effectiveness: These measures would reduce the potential disturbances to wildlife during sensitive times of their lifecycle or sensitive areas identified during activity level planning. Monitoring would be implemented as a component of activity level plans to determine the overall effectiveness of any mitigation measures.

Impact: Loss of wildlife habitat as a result of energy production and mineral development.

Proposed Mitigation 3: Enhance wildlife habitat (based on the acres disturbed/lost) in another area away from the energy or mineral project site. Enhancement would be performed on a case-by-case basis in accordance with NEPA, and funding would be provided by the Proponent.

Effectiveness: Improving wildlife habitat away from the project site would provide quality habitat for those animals that are displaced by the project. This would reduce impacts to wildlife populations in the development area.

Special Status Species

Impact: Impacts to special status sagebrush obligate species from vegetation treatments and restoration.

Proposed Mitigation 4: Initiate quantitative habitat evaluations of areas proposed for treatment to ensure that:

1) Within Wyoming big sagebrush, no more than 20 percent of the greater sage-grouse breeding habitat serviced by any single lek location is treated (including areas burned by wildland fire) within a 30-year period, regardless of the techniques used.

2) In mountain big sagebrush, no more than 20 percent of the greater sage-grouse breeding habitat serviced by any single lek location is treated (including areas burned by wildland fire) within a 20-year period, regardless of the techniques used.

Effectiveness: These measures would maintain adequate greater sage-grouse breeding habitat during the period of vegetation treatments. Site-specific evaluations would occur as part of watershed planning, and follow-up monitoring would be implemented to determine the overall effectiveness of any treatment program.

Lands and Realty

Impact: The disposal and potential development of lands under the military operations areas could adversely affect the vital training of U.S. combat forces and negatively impact military combat readiness.

Proposed Mitigation 5: The two possible forms of mitigation are proposed as follows:

1) The Ely Field Office would provide public notice prior to disposal of public land under military operations areas, acknowledging the risks associated with the development of the land and the possible restrictions to uses that would be compatible with the military operations areas.

2) The Department of Defense proposes that lands disposed under military operations areas would be subject to an easement acknowledging the existing military operations areas and the risks associated with the development of the land. Land use would be restricted to uses compatible with the military operations areas. The specific details of the easement would be approved by the Department of Defense and the Federal Aviation Administration in conjunction with the Ely Field Office at a later date.

Effectiveness: By restricting land use to those uses compatible with military operations areas, the ability to conduct training essential to the combat readiness of the U.S. military would be preserved.

4.30 Unavoidable Adverse Impacts

Unavoidable adverse impacts are impacts that remain following the implementation of mitigation measures, or impacts for which there are no mitigation measures. Some unavoidable adverse impacts occur as a result of proposed management under one or more of the alternatives, while others are a result of public use of the BLM-administered lands within the decision area. For example, watershed restoration activities would be the primary cause of unavoidable adverse impacts from management actions; while public uses such as livestock grazing, mineral development, and off-highway vehicle use would be the primary causes of unavoidable adverse impacts by the public. Potential unavoidable adverse impacts are difficult to quantify and could extend far into the future. The following sections discuss those unavoidable adverse impacts that have been identified for the proposed management actions in the decision area. If a resource program is not mentioned, it was determined that there would be no important unavoidable adverse impacts to that resource or resource use.

Air Quality – Smoke generated from wildland fires, wildland fire use, and prescribed burns would be unavoidable, but impacts would be short term.

Water Resources – Vegetation treatment that is part of watershed restoration could result in increased sedimentation of surface waters. This impact is expected to be short term until new vegetation stabilizes treated areas.

Soils Resources – Vegetation treatment that is part of watershed restoration could result in increased soil erosion. This impact is expected to be short term until new vegetation stabilizes treated areas. Authorized and unauthorized off-highway vehicle use would continue to be a concern as it relates to rutting and soil erosion.

Vegetation and Special Status Plants – Vegetation treatment that is part of watershed restoration would alter vegetation communities and could result in the direct loss of special status plant populations that have not been previously discovered. Field investigations conducted as part of the watershed analysis process would minimize this risk of adversely affecting undiscovered rare plant populations. Special status plants would have better survival prospects in restored watersheds.

Fish, Wildlife, and Special Status Species – Vegetation treatment that is part of watershed restoration, particularly managed/prescribed fire and mechanical tools and techniques, could result in increased sedimentation to surface waters and a reduction of certain types of wildlife habitat. These effects could lead to increased mortality of some individuals on a local basis. These impacts are expected to be short term until new vegetation stabilizes treated areas, and restored watersheds would provide better habitat for fish and wildlife in the long term. Off-highway vehicle use also could disturb sensitive wildlife.

Wild Horses – The public would have less opportunity to view wild horses due to reduction in wild horse management areas.

Cultural Resources – While measures are in place to identify and mitigate impacts to cultural resources, some impacts would be unavoidable. Vegetation treatment tools and techniques have the potential to disturb recorded and unrecorded cultural resource sites. Off-highway vehicle use, other forms of recreation that could result in casual collecting or vandalism, and mineral exploration and development activities would continue to result in adverse impacts to cultural resources. Lastly, natural processes of erosion and weathering would continue to degrade cultural resources.

Visual Resources – Wildland fire and vegetation treatment, particularly wildland fire use/prescribed fire and mechanical tools and techniques, would cause changes in the visual character of those areas affected. Pinyon-juniper woodlands would experience the most noticeable changes. Treated areas may display reduced or unnoticeable visual contrast once vegetation has become reestablished, or they may show signs of human intervention for decades following treatment. Mineral development would have adverse but localized impacts to visual resources. Unauthorized, cross-country, off-highway vehicle travel could create linear scaring of the landscape.

Renewable Energy – The development of wind and solar energy projects would result in unavoidable adverse impacts to a number of resources due to the large amount of land and number of large facilities required for such renewable energy projects. Surface disturbance and facility construction primarily would impact soils, vegetation, wildlife, special status species, visual resources, dispersed recreation, livestock grazing, and weed management. Operation of wind turbines would cause some direct mortality of birds and bats. While mitigation measures would be required in the construction and operation plans submitted by private developers, it would not be possible to mitigate many of the impacts entirely.

Recreation – Watershed restoration and mineral development activities could displace recreation during active periods. Once restoration is established and development areas are reclaimed, recreation could once again take place in these areas. Changes in the amount and patterns of off-highway vehicle use could result in increased conflicts between users and unanticipated changes in recreation resource conditions.

Livestock Grazing – Watershed restoration would modify range conditions, potentially reducing areas available for grazing in treated watersheds until vegetation in treated areas has recovered sufficiently to withstand grazing. In the long term, restored watersheds would provide improved range and increased forage. There would be a loss of grazing on approximately 94,400 acres due to land disposals (76,000), mineral development (18,300), and designation of ACECs (120).

Forest/Woodland and Other Plant Products – An unavoidable impact of watershed restoration would be a reduction in the number of mature pinyon pines found in the decision area. (Pinyon pine would not be removed under Alternative D.) This reduction would not adversely affect fuelwood and pinyon pine nut harvesting, as supply would continue to exceed demand. Other plants also would be affected by vegetation treatment, which could adversely affect their use until restoration is completed.

Geology and Mineral Extraction – An unavoidable effect of closing areas to mineral leasing, entry, or sales, is the requirement to forego the development of potential mineral resources in these areas and the societal benefits that would be derived from these minerals.

Watershed Management – Livestock grazing, fire management, off-highway vehicle use, and mineral exploration and development activities could slow watershed restoration success.

Fire Management – Off-highway vehicle use, other forms of recreation, and mineral exploration and development activities would continue to be potential causes of wildland fires.

4.31 Relationship Between the Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

Not all of the management actions proposed for the decision area have implications for short-term uses and long-term productivity. Short-term is defined as 10 years beginning with the signing of the Record of Decision. Long-term is defined as greater than 10 years beginning at the same point. Managed short-term uses of renewable resources, such as forage use for livestock grazing and forest/woodland products use for commercial and personal needs, would not cause reductions in long-term productivity. Management would be expected to maintain and enhance long-term productivity. Use of nonrenewable resources, such as oil, gas, and other mineral development, would eliminate the availability of these resources for future generations. Thus, by their extractive nature, these short-term uses would not maintain long-term productivity.

The component of the Ely RMP/EIS that would have the greatest influence on the maintenance and enhancement of long-term productivity is the restoration of watersheds through implementation of the watershed analysis process. The alternatives analyzed in the RMP/EIS would implement restoration activities on individual watersheds, targeting different numbers of acres to be treated each year. The vegetation treatment component of watershed restoration can be viewed as a short-term use of the environment, since the various tools and techniques that may be used (such as wildland fire use, herbicide treatment, or mechanical treatment) would disturb the communities being treated. However in the long term, the goal of the treatments is to restore the communities to a more resilient and productive state through the removal of over-mature or invasive-dominated vegetation. The restoration process could take 50 to 100 years, depending on the vegetation community being treated and climatic factors following treatment. Thus, restoration activities could reduce productivity in the short term but would ultimately enhance productivity in the long term.

4.32 Irreversible or Irretrievable Commitments of Resources

The management actions proposed for the decision area could result in either the irreversible or irretrievable commitment of certain resources. Irreversible is a term that describes the loss of future options. It applies primarily to the effects of use of nonrenewable resources, such as minerals or cultural resources, or to those factors, such as soil quality, that are renewable only over very long periods of time. Irretrievable is a term that applies to the loss of production, harvest, or use of natural resources. For example, livestock forage production from an area is lost while an area is undergoing landscape restoration. The production lost is irretrievable, but the action is not irreversible. Once the watershed is restored, forage production would increase and livestock grazing could resume, potentially at a higher rate. Irreversible and irretrievable commitments for the Proposed RMP are summarized on **Table 4.32-1**.

Table 4.32-1
Irreversible and Irretrievable Commitment of Resources for the Proposed RMP

Resource Program	Irreversible Commitments	Irretrievable Commitments	Explanation
Physical and Biological Resources			
Air Quality	No	No	No decisions that would permanently degrade air quality are proposed.
Water Resources	No	No	Water quality effects that occur during watershed restoration would be reversible.
Soil Resources	Yes	No	Loss of soils due to erosion during watershed restoration would be irreversible.
Vegetation	Yes	Yes	Changes in vegetation communities from wildland fire, cheatgrass invasion, or watershed restoration activities may not be reversible or may be reversible only after many decades. Vegetation production lost to drought, wildland fire, and invasive plants and resources committed for vegetation treatment would be irretrievable.
Fish and Wildlife			
Aquatic Habitat and Fisheries	No	No	No decisions that would permanently degrade aquatic habitat are proposed. Water quality effects that occur during watershed restoration would be reversible.
Wildlife	Yes	Yes	Changes in wildlife habitat from wildland fire, invasive plants, or watershed restoration activities may not be reversible or may be reversible only after many decades. Big game production lost to wildland fire and habitat changes would be irretrievable.
Special Status Species			
Plant Species	Yes	No	Effects to special status plants from authorized and unauthorized activities, wildland fire, invasive plants, or watershed restoration activities may not be reversible.
Aquatic Species	No	No	No decisions that would permanently degrade aquatic habitat are proposed. Water quality effects that occur during watershed restoration would be reversible.
Wildlife Species	Yes	No	Effects to special status animals from authorized and unauthorized activities, wildland fire, invasive plants, or watershed restoration activities may not be reversible.

Table 4.32-1 (Continued)

Resource Program	Irreversible Commitments	Irretrievable Commitments	Explanation
Wild Horses	No	No	No decisions that would preclude the management of wild horse herds at the appropriate management level are proposed.
Cultural Resources	Yes	No	Authorized mitigation of cultural sites prior to disturbance and unauthorized collecting and vandalism would result in an irreversible commitment of the resource.
Paleontological Resources	Yes	No	Authorized and unauthorized collecting of fossils would result in an irreversible commitment of the resource.
Visual Resources	No	Yes	The opportunities to view undisturbed settings that are lost during watershed restoration activities would be irretrievable.
Resource Uses			
Lands and Realty	Yes	No	As a practical matter, disposal of public lands would be irreversible. Authorized activities that make lands unsuitable for disposal would be minimal.
Renewable Energy	No	No	No decisions that would limit the development of renewable energy are proposed.
Travel Management and Off-highway Vehicle Use	Yes	No	Scarring of the landscape that results from authorized and unauthorized off-highway vehicle use can be irreversible.
Recreation	No	Yes	Recreation opportunities that are lost during watershed restoration activities would be irretrievable.
Livestock Grazing	Yes	Yes	Invasion of rangelands by cheatgrass may be irreversible. Loss of forage production during watershed restoration would be irretrievable.
Forest/Woodland and Other Plant Products	No	Yes	Loss of forest/woodland and other plant products during watershed restoration would be irretrievable.
Geology and Mineral Extraction			
Leasable Minerals	Yes	Yes	Production of oil and gas would be an irreversible use of the resource. Closing an area to leasing would constitute an irretrievable commitment of the potential resources for the life of the RMP.
Locatable Minerals	Yes	Yes	Mining of locatable minerals (primarily hard-rock) would be an irreversible use of the resource. Withdrawal of an area from mineral entry would constitute an irretrievable commitment of the potential resources for the life of the RMP.

Table 4.32-1 (Continued)

Resource Program	Irreversible Commitments	Irretrievable Commitments	Explanation
Mineral Materials	Yes	Yes	Mining of mineral materials (e.g. sand and gravel) would be an irreversible use of the resource. Denial of the sale of mineral materials would constitute an irretrievable commitment of the resources for the life of the RMP.
Watershed Management	Yes	Yes	Changes in vegetation communities that would result from restoring or not restoring watersheds may not be reversible or may be reversible only after many decades. Resources committed for watershed restoration would be irretrievable.
Fire Management	Yes	Yes	The effects of a high intensity wildland fire would be reversible only after several decades. Resources committed for fire suppression and rehabilitation would be irretrievable.
Noxious and Invasive Weed Management	Yes	Yes	Invasion of vegetation treatment areas by cheatgrass and other noxious or invasive weeds may be irreversible. The resources committed to manage weeds (e.g., fuel, herbicides) would be irretrievable.
Special Designations	No	No	Special designations require no irreversible or irretrievable commitment of resources.
Economic and Social Conditions			
Economic Conditions	Yes	No	Disposal of public land to facilitate economic development of the cities and counties within the planning area would be irreversible.
Social Conditions	No	No	No decisions that would affect social conditions are proposed.
Native American Issues	No	No	No decisions that result in Native American issues are proposed.
Environmental Justice	No	No	No decisions that would affect environmental justice are proposed.
Health and Safety	No	No	No decisions that would degrade health or safety are proposed.

4.33 Energy Requirements and Conservation Potential of Alternatives and Mitigation Measures

Since the majority of the management direction contained in the Ely RMP/EIS is at the land use planning level, no direct energy consumption is involved. Site-specific restoration activities require energy in the form of liquid fuels for vehicles and equipment. The amount of fuel consumed and the potential for conservation would depend on the tools and techniques being applied to a specific watershed, the remoteness of the treatment area, and a number of other factors. The NEPA analysis that is completed for the individual projects would consider the energy requirements and conservation potential of the tools and techniques that are being proposed.

4.34 Natural or Depletable Resource Requirements and Conservation Potential of Alternatives and Mitigation Measures

Since the majority of the management direction contained in the Ely RMP/EIS is at the land use planning level, specific natural or depletable resource requirements are not identified as part of the proposed management actions. Certain programs by their nature utilize renewable and nonrenewable resources, as specified by BLM's multiple use policies. For example, the livestock grazing and wild horse programs utilize forage for domestic livestock and wild horses, while the minerals program develops depletable fluid and non-fluid minerals. However, the alternatives analyzed in this Final EIS, aside from Alternative D, do not differ in any significant way as to their natural or depletable resource utilization or conservation potential. Alternative D includes provisions that would seriously constrain or preclude utilization or development of these same natural and depletable resources.

4.35 Urban Quality, Cultural Resources, and the Design of the Built Environment, Including the Reuse and Conservation Potential of Various Alternatives and Mitigation Measures

The management actions contained in the Proposed RMP and other alternatives would have no effect on urban quality or the built environment. Various historic and cultural resources are found throughout the planning area. One of the three management choices for these resources is their conservation for future generations; the other two are scientific study and public use.

Management of cultural resources in the decision area would vary not only by the alternative chosen, but also by site type and its specific use allocation. Overall, the majority of sites types would be best protected and preserved in place under the Proposed RMP and Alternative A, since most sites would be allocated and managed for Conservation, Scientific, or Public Use, with greater emphasis on Conservation Use. Alternative B is similar to Alternative A for prehistoric sites; however, for all other site types, the emphasis would be to allocate and manage the resources for Public Use. Under Alternative C, a greater number of sites would be discharged from management. Alternative D would manage cultural resources the same as Alternative A, which does not designate use allocations for individual site types.

4.36 Adverse Energy Impact

BLM Instruction Memorandum No. 2002-053 directs that the adverse impacts of decisions on "energy development, production, supply, and/or distribution" be considered. The Approved RMP would provide NEPA coverage for oil and gas leasing in the entire decision area. Adequate analysis under NEPA would ensure that legally defensible leases can be issued and industry can have confidence that challenges to leases can be successfully defended. The decisions that would result from this planning process do not address any specific energy project. Provisions have been made in the Proposed RMP for energy development, production, and distribution. However, closing certain areas to oil, gas, and geothermal leasing has been proposed and has the potential to affect future energy development. Of the total of 6.76 million acres having high potential for oil and gas resources, about 0.29 million acres would be closed to leasing on a discretionary basis under the Proposed RMP. Of the total of 4.67 million acres having medium potential for geothermal resources, about 0.29 million acres would be closed to leasing on a discretionary basis under the Proposed RMP.

Under Alternative A, approximately 60 percent of the decision area would remain unavailable for oil and gas leasing due to the absence of appropriate planning decisions with adequate NEPA analysis. The other alternatives considered in this EIS would have essentially the same area closed to leasing as the Proposed RMP with the exception of Alternative D. Alternative D would close 6.76 million acres of high potential areas to oil and gas leasing and 5.28 million acres of medium potential areas to geothermal leasing.

The reasonably foreseeable development scenarios anticipate 8,400 acres of disturbance for oil and gas exploration and development, and 134 acres of disturbance for geothermal exploration and development. Given that 10.1 million acres would remain open to oil and gas leasing and 10.1 million acres would remain open to geothermal leasing, the proposed closing to leasing of those areas outlined in the Proposed RMP would have a minimal adverse energy impact. When specific proposals are made for energy development, production, supply, and/or distribution, the decisions reached by the Ely Field Office would be reviewed again for adverse energy impact, and the results of that review would be disclosed.

5.0 CONSULTATION AND COORDINATION

5.1 Description of Specific Actions Taken to Consult and Coordinate

From the initiation of work on the RMP/EIS, the Ely Field Office has set consultation and coordination with affected or interested parties as a key priority. There have been seven primary elements of consultation through preparation of the Proposed RMP/Final EIS:

- RMP/EIS scoping process
- Planning bulletin mailings
- RMP/EIS web page
- Informal presentations to interested groups
- Cooperating agency involvement
- Public comment period on the Draft RMP/EIS
- Public meetings on the Draft RMP/EIS

Each of these activities is summarized below.

5.1.1 RMP/EIS Scoping Process

On February 10, 2003, with the publication in the Federal Register of the Notice of Intent (60[27]:6770-6771) to begin the planning process, the BLM Ely Field Office initiated public scoping for issues pertaining to the RMP/EIS. Scoping is the process required in the early stages of developing an EIS to encourage public participation and solicit public input on the scope and significance of the proposed action (Council on Environmental Quality Regulations, Title 40 Code of Federal Regulations Subpart 1501.7). Scoping helps identify issues important to the management of the area and assists in determining the extent of the analysis as well as specific issues to be examined in the planning process.

A 60-day scoping period formally began with the publication of the Notice of Intent in the Federal Register on February 10, 2003, documenting BLM's intent to prepare an EIS. Individuals and organizations were invited to submit comments in writing to the BLM. The notice also published information on the web site address where public scoping meeting dates would be posted and described how the scoping meetings would be publicized in local media before the meetings were to take place.

On February 24, 2003, a Planning Bulletin was sent to over 3,000 homes and organizations. The bulletin again provided information on how the public could obtain information about the upcoming public scoping meetings. Additionally, the bulletin provided an overview of the EIS process and timeline and general information about the RMP/EIS scope and issues to be addressed.

Once scoping meetings were scheduled, public notice of the meetings was published in local newspapers (see **Table 5.1-1**).

Table 5.1-1
List of Paid Newspaper Advertisements Announcing Scoping Meetings

Location	Periodical
Ely, Nevada	Ely Times
Las Vegas, Nevada	Las Vegas Review Journal Las Vegas Sun
Mesquite, Nevada	Desert Valley Times
Pioche, Nevada	Lincoln County Record
Tonopah, Nevada	Tonopah Times-Bonanza
St. George, Utah	The Spectrum

Additional press releases noting meeting dates and providing an explanation of the planning process were sent to numerous media outlets. See **Table 5.1-2** for a list of print and radio media that received various press releases.

Table 5.1-2
List of Media Outlets Receiving Various Press Releases

Location	Print	Radio
Alamo, Nevada	Our Valley Voice	--
Elko, Nevada	Elko Daily Free Press	KELK 1240 AM KLKO 93.7
Ely, Nevada	Ely Times	KCLS 101.7 FM KELY 1230 AM KDSS 92.7 FM
Eureka, Nevada	The Eureka Sentinel	--
Las Vegas, Nevada	Las Vegas Review Journal Las Vegas Sun Los Angeles Times	KNPR
Mesquite, Nevada	Desert Valley Times	--
Pioche, Nevada	Lincoln County Record	--
Reno, Nevada	Associated Press Reno-Gazette Journal	KOH KUNR
Tonopah, Nevada	Tonopah Times-Bonanza	--
Wendover, Nevada	High Desert Advocate	--
Cedar City, Utah	The Spectrum	Star 98 KREC, KSNN, KZHK, KUNF, KDXU, KSUB
St. George, Utah	The Spectrum	--

Six public meetings were held in March/April, 2003. During the meetings, the BLM took notes as the public provided oral comments. Written comments also were received throughout the 60-day comment period, ending April 10, 2003. Both written comments and those received at scoping meetings are in the administrative record. Summaries of these comments are contained in the scoping report for the RMP/EIS. **Table 5.1-3** provides the date, location, and attendance for the six scoping meetings. The Scoping Report has been incorporated into the administrative record and is available for review at the Ely Field Office.

Table 5.1-3
Public Scoping Meeting Locations and Dates

City, State	Location	Date	Attendance
Ely, Nevada	Bristlecone Convention Center	Monday, March 24, 2003	33
Caliente, Nevada	Caliente Elementary School Gymnasium	Tuesday, March 25, 2003	12
Mesquite, Nevada	City Hall	Wednesday, March 26, 2003	10
Las Vegas, Nevada	BLM Las Vegas Field Office	Thursday, March 27, 2003	12
Reno, Nevada	Airport Plaza Hotel	Monday, March 31, 2003	14
Tonopah, Nevada	Tonopah Convention Center	Tuesday, April 1, 2003	4
		Total	**85**

Written comments also were solicited during the scoping process. Ninety-three (93) letters were received via mail, fax, e-mail, an on-line web comment form, or handed in during the scoping meetings. These letters from individuals and organizations contained 798 unique comments for consideration in the planning process. Comment letters were received primarily from Nevada, but a few comments also were received from the states of Washington, Idaho, Montana, Wyoming, Utah, and Colorado. Comments from Nevada were distributed by county as shown in **Table 5.1-4**.

Table 5.1-4
Comment Letters Received by County in Nevada

County	Letters	Percent
Carson	11	13
Clark	35	42
Elko	2	2
Eureka	1	1
Lincoln	9	11
Nye	1	1
Washoe	17	19
White Pine	8	10
Total	**84**	**100**

5.1.2 Planning Bulletins

A total of four planning bulletins have been sent to all parties who had previously indicated their desire to be included on the project mailing list. These bulletins were distributed to a mailing list of over 3,000 interested parties. The planning bulletins provide updates on the project progress, schedule, and information on important milestones and events. Planning Bulletin #1 became available in late February 2003 and Planning Bulletin #2 in late August 2003. These planning bulletins have discussed topics such as:

- The purpose of and schedule for the RMP/EIS;
- The need for ecological restoration within the planning area;
- Opportunities for public involvement;
- Results of the scoping process;

- Nomination of ACECs;
- The involvement of cooperating agencies;
- Progress on developing alternatives to be analyzed in the RMP/EIS;
- Interesting information about the planning area and the activities of the Ely Field Office; and
- Short biographies of team members that are preparing the RMP/EIS.

Planning Bulletin #3, sent in September of 2005, provided a summary of the content of the Draft RMP/EIS, notified the recipients that public meetings on the Draft were scheduled to be held in six locations in Nevada, and outlined the schedule and steps for completion of the Proposed RMP/Final EIS. In addition, a mailer was included to allow the planning bulletin recipients to indicate their preference for receiving a copy of the Proposed RMP/Final EIS.

Planning Bulletin #4 was sent to the public in January of 2007 to update the public on the status of the Proposed RMP/Final EIS. This bulletin informed the readers of planning activities during the past year and the approximate schedule for mailing of the Proposed RMP/Final EIS.

5.1.3 RMP/EIS Web Page

During the preparation of the Draft RMP/EIS, a web page was available to the public to access background information on the planning area as well as information on the ongoing planning and EIS process. In August 2005, it was necessary to close the RMP/EIS web site (as well as most Department of the Interior web sites) in response to a court order that was unrelated to the Ely RMP/EIS.

5.1.4 Informal Presentations

The Ely Field Office has strived to make the EIS process as inclusive as possible. In addition to input from the general public, BLM staff has encouraged participation and collaboration from multiple governmental entities and public organizations. BLM staff has attended numerous meetings in addition to the six official public scoping meetings and provided presentations to organizations and commissions as invited (see **Table 5.1-5**).

Table 5.1-5
Presentations Provided to Organizations

Meeting/Organization	Date	Approximate Attendance
White Pine County Public Land Users Advisory Committee	10/08/02	8
Ely Shoshone Tribe	10/17/02	6
Northeastern Great Basin Resource Advisory Council	12/06/02	20
Nevada Department of Wildlife (Northern Division)	03/06/03	10
Nevada Department of Wildlife (Southern Division)	03/13/03	10
Ely Rotary Club	03/20/03	25
Mojave Southern Resource Advisory Council	04/04/03	20
Mount Wheeler Power Board of Directors	04/08/03	10
Duckwater Shoshone Tribe	04/10/03	5
Tri-County (White Pine, Lincoln, Nye) Meeting	04/30/03	20
White Pine Economic Development Committee	05/07/03	15
Coyotes Motorcycle Club	05/15/03	15
Goshute Tribal Council	09/12/03	10
Mojave Southern Resources Advisory Council	10/17/03	20
Utility Organizations	10/23/03	6
Total		**200**

5.1.5 Cooperating Agencies

Letters inviting various agencies and organizations to participate in the RMP/EIS planning process as formal cooperating agencies were sent to over 30 groups. Cooperating agencies are requested to assist in developing management direction and alternatives, reviewing environmental effects, and selecting a preferred alternative. They also are invited to participate on RMP/EIS-related conference calls and attend RMP/EIS-related meetings. Entities invited to serve as cooperating agencies are as follows:

Federal Government

Forest Service
Army Corps of Engineers
Fish and Wildlife Service
Bureau of Indian Affairs
National Park Service
Department of Defense
Minerals Management Service
Department of Energy
Natural Resource Conservation Service

State Government

Nevada Division of State Lands
Nevada Division of State Parks
Nevada Department of Transportation
University and Community College System of Nevada
Nevada Department of Wildlife
Nevada Department of Agriculture
Nevada Division of Water Resources
Nevada Division of Environmental Protection
Nevada State Historic Preservation Office
Nevada Division of Minerals
Nevada Wildhorse Commission

County Government

White Pine County
Lincoln County
Nye County

Tribal Governments

Duckwater Shoshone
Ely Shoshone
Goshute Shoshone
Moapa Paiute
Paiute Indian Tribe of Utah
Las Vegas Paiute
Yomba Shoshone

Several of the entities agreed to serve as cooperating agencies and had varying levels of involvement in the development of the Draft RMP/EIS. These agencies and groups continued to be involved through preparation of the Proposed RMP/Final EIS. All cooperating agencies were briefed on a regular basis regarding the status of and modifications to the Proposed RMP and Final EIS. Cooperating agencies for the Ely RMP/EIS are as follows:

- Great Basin National Park
- Humboldt-Toiyabe National Forest
- Nellis Air Force Base
- Nevada Department of Transportation
- Nevada Department of Wildlife
- Nevada Division of Minerals
- Nevada State Historic Preservation Office
- Lincoln County
- Nye County
- White Pine County
- Duckwater Shoshone Tribe
- Ely Shoshone Tribe
- Moapa Band of Paiutes
- Yomba Shoshone Tribe

5.1.6 Public Comment on the Draft RMP/EIS

On July 29, 2005, a Notice of Availability was published in the Federal Register (70[145]:43902-43903) announcing the availability of the Draft Ely District RMP/EIS for public review and comment. This began a 120-day comment period that ended on November 28, 2005. The minimum comment period required by BLM regulations for a Draft RMP is 90 days, but the Ely Field Office deemed it more appropriate to specify a 120-day review due to the size and complexity of the Draft RMP/EIS. Although the comment period was not formally extended, BLM did accept, review, and respond to comments received after November 28, 2005.

As described in Section 5.5 of the Draft RMP/EIS, copies of the Draft were sent to over 600 agencies, organizations, and individuals. A total of 650 comment letters on the Draft RMP/EIS were received via U.S. mail and email. These included 81 unique letters and 569 form letters. **Table 5.1-6** summarizes the type of entity that submitted comments. A complete list of commenters can be found in Appendix I.

Table 5.1-6
Comment Letters Received on the Draft RMP/EIS

Federal Agency	6
State Agency	6
Local Government	4
Tribal	1
Non Governmental Organization	20
Business	16
Individual	28
Form Letter	569

Each comment letter was assigned a unique number and then reviewed by BLM.

Comments within the letter were identified and assigned a unique number using the letter number as a prefix. A total of 1667 comments were identified in the set of comment letters received on the Draft RMP/EIS. The next step in the process was for BLM to prepare a response to each comment. Appendix I contains copies of the main body of the comment letters with individual comments contained in each letter bracketed and numbered. Copies of attachments to those letters are not included in Appendix I; these attachments also were reviewed and are included in the Administrative Record. Opposite each comment is BLM's response. Although multiple copies of form letters or form emails may have been received, only one representation of each is reproduced and responded to in Appendix I. However, a list of all commenters that submitted the form letter is included.

Responses to comments take different forms depending on the content of the comment. Some responses answer a comment in total, while others refer the commenter to sections of the RMP/EIS where a topic is discussed. In response to some comments, text, tables, or maps in the Proposed RMP/Final EIS have been revised or expanded. Per Council on Environmental Quality Regulations, BLM has explained why other comments do not warrant further agency response. Such comments may express statements of opinion

(including agreement or opposition), may raise topics that are beyond the scope of the Ely RMP/EIS, or may request information that was not deemed necessary to prepare the RMP/EIS.

Verbal comments also were received at the public meetings that were held on the Draft RMP/EIS. These meetings are discussed further in the following section. Transcripts of the meetings are also included in Appendix I, along with responses to the verbal comments that were contained in the statements made at the meetings.

5.1.7 Public Meetings

Public meetings on the Draft RMP/EIS were held in October, 2005 in six locations in Nevada. **Table 5.1-7** provides the meeting locations, dates, and attendance.

Table 5.1-7
Public Meeting Locations, Dates, and Attendance

City, State	Location	Date	Attendance
Ely, Nevada	Bristlecone Convention Center	October 17, 2005	3
Caliente, Nevada	Caliente Elementary School Gymnasium	October 18, 2005	3
Mesquite, Nevada	Mesquite Campus Library	October 19, 2005	8
Las Vegas, Nevada	BLM Las Vegas Field Office	October 20, 2005	18
Reno, Nevada	Airport Plaza Hotel	October 24, 2005	6
Tonopah, Nevada	Tonopah Convention Center	October 25, 2005	0
Total			**38**

After a brief introduction by BLM staff, the meeting attendees were invited to provide oral and written comments on the Draft RMP/EIS. BLM staff took notes and a verbatim account of each meeting was recorded by a court reporter. Appendix I presents the comments received from the public on the Draft RMP/EIS. Transcripts from the public meetings are presented in their entirety in that appendix; comments are bracketed and responses to those comments are provided.

5.2 Tribal Consultation

5.2.1 Tribal Consultation Responsibilities

As a federal agency, the BLM is mandated to consult with American Indian tribes concerning the identification of cultural values, religious beliefs, and traditional practices of American Indian people, as well as other possible environmental and social concerns that may be affected by actions on federal lands. Tribal consultation is the active, affirmative process of: 1) identifying and seeking input from appropriate American Indian governing bodies, community groups, and individuals; and 2) considering their interests as a necessary and integral part of the BLM's decision making process. The aim of consultation is to involve affected American Indian groups in the identification of issues and the definition of the range of acceptable management options.

Tribal consultation includes the identification of places (i.e., physical locations) of cultural value to American Indian groups. Places that may be of cultural value include, but are not limited to, locations associated with the traditional beliefs concerning tribal origins, cultural history, or the nature of the world; locations where religious practitioners go, either in the past or the present, to perform ceremonial activities based on traditional cultural rules or practice; ancestral habitation sites; trails; burial sites; and places from which plants, animals, minerals, and waters possessing healing powers or used for other subsistence purposes, may be taken. Additionally, some of these locations may be considered sacred to particular American Indian individuals or tribes. Under the auspices of the American Indian Religious Freedom Act of 1978, Executive Order 13007, the Native American Graves Protection and Repatriation Act of 1990, and the National Historic Preservation Act, as amended, the BLM must take into account the effects of land use decisions on these types of locations. See Traditional Cultural Properties under Section 3.9, Cultural Resources, for a summary on tribal consultation conducted as part of the RMP/EIS process.

The BLM works in cooperation with American Indian tribes to coordinate and consult before making decisions or approving actions that could result in changes in land use, physical changes to lands or resources, changes in access, or alienation of lands. The Federal Land Policy and Management Act and the National Historic Preservation Act of 1966, as amended, require coordination with tribes in preparing and maintaining inventories of the public lands and determining their various resources and other values, developing and maintaining long-range plans providing for the use of the public lands, and managing the public lands. Federal programs are required to be carried out in a manner sensitive to American Indian concerns and tribal government planning and resource management programs.

In compliance with the federal mandates identified above, a number of Western Shoshone, Goshute, and Southern Paiute reservations, colonies, organizations, and individuals were contacted for the Ely RMP/EIS. The Western Shoshone included the Te-Moak Tribes, Battle Mountain Band, Elko Band, South Fork Band, Wells Band, Duckwater Shoshone Tribe, Ely Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Duck Valley Sho-Pai Tribes, the Western Shoshone Historic Preservation Society, Nevada Indian Commission, Intertribal Council of Nevada, and Western Shoshone Defense Project. Included for the Gosiute were the Goshute Tribe (Ibapah) and Skull Valley Band of Gosiute. The Southern Paiute included

the Paiute Tribe of Utah, Las Vegas Paiute Tribe, Moapa Paiute Tribe, the Colorado Indian Tribes, the Chemehuevi Tribe, and individuals residing in Eagle Valley and Caliente.

The coordination and consultation process was initiated with mail and telephone correspondence. Letters were posted describing the RMP/EIS process and soliciting input from the tribes and individuals. The letters were followed by telephone calls to discuss the RMP/EIS, potential cultural concerns and sites, individuals knowledgeable about the area, and possible meetings. Meetings and interviews were then scheduled and held over a 2-week period. Participants included the Ely Shoshone, Duckwater Shoshone, Yomba Shoshone, Battle Mountain Shoshone, Ibapah Goshute, Paiute Tribe of Utah, Moapa Paiute, and individuals residing in Caliente and Eagle Valley. In the meetings and interviews, the RMP/EIS was described and discussions were held regarding places of importance to the tribes. Questions were asked about tribal concerns for these places, and the nature and importance of the overall cultural landscapes. Details of the correspondence and meetings with the tribes and individuals are detailed in a separate, confidential report.

5.3 Agencies Contacted During Preparation of the Ely RMP/EIS

Bureau of Land Management, Arizona Strip Field Office, Utah
Bureau of Land Management, Battle Mountain Field Office
Bureau of Land Management, Cedar City Field Office, Utah
Bureau of Land Management, Elko Field Office
Bureau of Land Management, Fillmore Field Office, Utah
Bureau of Land Management, Las Vegas Field Office
Bureau of Land Management, Salt Lake Field Office, Utah
Bureau of Land Management Sciences Center
Bureau of Land Management, St. George Field Office, Utah
Bureau of Land Management, Tonopah Field Station Office
Lincoln County Planning Office
Nevada Division of Environmental Protection
Nevada Division of Minerals
Nevada Department of Wildlife
Nevada Natural Heritage Program
Ruby Lake National Wildlife Refuge
U.S. Army Corps of Engineers
U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services
U.S. Department of Energy, National Renewable Energy Laboratory
U.S. Fish and Wildlife Service
U.S. Geological Survey

5.4 Plan Distribution

Since initial scoping, BLM has maintained a mailing list of individuals, businesses, special interest groups, and federal, state, Tribal, and local government representatives interested in development of the Ely RMP. In an effort to reduce printing costs, BLM has continued to update the RMP/EIS mailing list by removing those no longer interested in the process and addresses from which mailings have been returned.

Copies of the Proposed RMP/Final EIS also are available for public inspection at the following locations:

BLM Battle Mountain Field Office
BLM Billings Field Office
BLM Caliente Field Station
BLM Carson City Field Office
BLM Denver Field Office
BLM Elko Field Office
BLM Ely Field Office
BLM Las Cruces Field Office
BLM Las Vegas Field Office
Great Basin National Park
U.S. Forest Service, Ely Ranger District
Austin Branch Library
Battle Mountain Branch Library
BLM Library
Caliente Branch Library
Colorado State University Library
Goldfield Public Library
Government Publications Library
Lincoln County Courthouse
Lincoln County Public Library
Nye County Courthouse
Nye County Public Library
Round Mountain Public Library
Tonopah Library District
University of Nevada Libraries
Washoe County Library
White Pine County Courthouse
White Pine County Public Library

The Proposed RMP/Final EIS also is available electronically at the Ely RMP/EIS website: http://www.blm.gov/nv/st/en/fo/ely_field_office.html.

Concurrent with the distribution of the Proposed RMP/Final EIS, a Notice of Availability was published by the Environmental Protection Agency in the Federal Register, which marks the beginning of the 30-day protest period. BLM also published a Notice of Availability in the Federal Register announcing the availability of the Proposed RMP/Final EIS for public review and comment.

5.5 List of Agencies, Organizations, and Persons to whom Copies of this Statement are Sent

The Proposed RMP/Final EIS has been mailed to agencies, organizations, and individuals in hard copy, CD-ROM, or Summary format per their requested media type. All persons who commented on the Draft RMP/EIS but did not request a specific media type of the Proposed RMP/Final EIS were sent a CD-ROM containing the entire document, plus a mailer they could use to request a printed Summary or hard copy. Hard copies of the Proposed RMP/Final EIS also have been distributed to agencies and Tribal governments as required by regulation or policy.

Federal Agencies

- Department of Agriculture
  - Animal and Plant Inspection Service, Portland, Oregon
  - Fish and Wildlife Service
    - Nevada Fish and Wildlife Office – Reno, Nevada
    - Ruby Lake National Wildlife Refuge – Ruby Valley, Nevada
  - Forest Service
    - Ely Ranger District – Ely, Nevada
    - Humboldt-Toiyabe National Forest – Reno, Nevada
    - Rocky Mountain Research Station – Reno, Nevada
  - Natural Resources Conservation Service
    - Caliente Service Center – Caliente, Nevada
    - Ely Service Center – Ely, Nevada
- Department of Defense
  - Department of the Air Force
    - Air Force Regional Environmental Office, Region 9 – San Francisco, California
    - Bolling Air Force Base – Washington, D.C.
    - Nellis Air Force Base – Nevada
    - Office of the Deputy A/S of the U.S. Air Force – Washington, D.C.
  - Department of the Army
    - Army Corps of Engineers, North Western Division – Portland, Oregon
    - Army Corps of Engineers, South Pacific Division – San Francisco, California
  - Department of the Navy
    - Naval Air Station – Fallon, Nevada
- Department of Energy
  - Office of Environmental Compliance (EH-23) – Washington, D.C.
  - Office of National Transportation
    - Office of Civilian Radioactive Waste Management – Washington, D.C.
- Department of the Interior
  - Agricultural Research Service – Reno, Nevada
  - Bureau of Indian Affairs
    - Eastern Nevada Agency – Elko, Nevada
    - Western Nevada Agency – Carson City, Nevada
    - Western Region Office – Phoenix, Arizona
  - Bureau of Land Management
    - Battle Mountain Field Office – Battle Mountain, Nevada
    - Billings Field Office – Billings, Montana
    - Carson City Field Office – Carson City, Nevada
    - Denver Federal Center – Denver, Colorado
    - Elko Field Office – Elko, Nevada
    - Las Cruces Field Office – Las Cruces, New Mexico

Las Vegas Field Office – Las Vegas, Nevada
Nevada State Office – Reno, Nevada
Washington Office – Washington, D.C.
U.S. Fish And Wildlife Service
Desert National Wildlife Refuge Complex – Las Vegas, Nevada
Headquarters (Region 9) – Washington, D.C.
Nevada Fish and Wildlife Office – Las Vegas, Nevada
Nevada Fish and Wildlife Office – Reno, Nevada
Pahranagat National Wildlife Refuge – Alamo, Nevada
U.S. Geological Survey
National Center – Reston, Virginia
Western Mineral Resources Reno Office – Reno, Nevada
Minerals Management Service
Offshore Environmental Assessment Program – Herndon, Virginia
National Park Service
Denver Service Center – Denver, Colorado
Division of Environmental Compliance – Washington, D.C.
Great Basin National Park – Baker, Nevada
Natural Resources Library – Washington, D.C.
Office of Environmental Policy and Compliance – Washington, D.C.
Office of Public Affairs – Washington, D.C.
Resource Advisory Council
Mojave/Southern Great Basin – Las Vegas, Nevada
Northeast Great Basin – Carson City, Las Vegas, and Silver City, Nevada
Northwest – Virginia City, Nevada
U.S. Environmental Protection Agency
Office of Federal Activities, Region IX – San Francisco, California
Office of Federal Activities – Washington, D.C.

State Agencies
Commission on Economic Development – Carson City, Nevada
Commission on Mineral Resources
Division of Minerals – Carson City, Nevada
Department of Administration
Nevada State Clearinghouse – Carson City, Nevada
Department of Agriculture – Reno, Nevada
Department of Conservation and Natural Resources
Commission for the Preservation of Wild Horses – Carson City, Nevada
Division of Environmental Protection – Carson City, Nevada
Bureau of Water Pollution Control – Carson City, Nevada
Division of Forestry, Las Vegas – Ely and Wells, Nevada
Division of State Lands – Carson City, Nevada
Division of State Parks
Cathedral George State Park – Panaca, Nevada
Lake Tahoe – Nevada State Park, Incline Village, Nevada
Main Office – Carson City, Nevada
Division of Water Resources – Carson City, Nevada
Department of Transportation
Carson City Headquarters – Carson City, Nevada
Las Vegas Office – Las Vegas, Nevada

Department of Wildlife
- Baker Office – Baker, Nevada
- Eastern Region Office – Elko, Nevada
- Headquarters/Western Region – Reno, Nevada
- Pioche Office – Pioche, Nevada
- Southern Region Office – Las Vegas, Nevada

Division of Child and Family Services, Caliente Youth Center – Caliente, Nevada
Nevada Legislative Committee on Public Lands – Carson City, Nevada
Nevada Historical Society – Reno, Nevada
Nevada State Office of Energy – Carson City, Nevada
Nevada System of Higher Education
- Desert Research Institute – Reno, Nevada
- University and Community College System of Nevada – Las Vegas, Nevada
- University of Nevada Reno – Reno, Nevada
  - Cooperative Extension Administrative Office – Las Vegas, Nevada
  - Department of Biotechnology – Reno, Nevada
  - Lincoln County Cooperative Extension – Caliente, Nevada
  - Bureau of Mines and Geology – Reno, Nevada
  - White Pine County Cooperative Extension – Ely, Nevada

Office of the Governor
- Nevada Agency for Nuclear Projects – Carson City, Nevada

State Historic Preservation Office – Carson City, Nevada

Counties

Clark County
- Department of Comprehensive Planning – Las Vegas, Nevada

Eureka County
- Natural Resources Department – Eureka, Nevada
- Eureka County Annex – Eureka, Nevada
- Board of Commissioners – Eureka, Nevada

Lander County
- Lander County Austin Office – Austin, Nevada
- Public Land Use Advisory Committee – Austin, Nevada

Lincoln County
- Planning and Public Lands Commission – Pioche, Nevada
- Board of Commissioners – Pioche, Nevada
- Wildlife Advisory Board – Pioche, Nevada
- Conservation District – Caliente, Nevada

Nye County
- Department of Natural Resources – Tonopah, Nevada
- Road Department – Tonopah, Nevada
- Nuclear Waste Project Office – Tonopah, Nevada
- County Commissioners – Tonopah, Nevada
- Road Department – Pahrump, Nevada

White Pine County
- Chamber of Commerce – Ely, Nevada
- Wildlife Advisory Board – Ely, Nevada
- County Commissioners – Ely, Nevada
- County Engineer – Ely, Nevada
- Historical And Archaeological Society – Ely, Nevada
- Public Land Use Advisory Committee – McGill, Nevada

Municipalities
Carson Colony Recreation Department – Carson City, Nevada
Ely City Council – Ely, Nevada
Carson City Planning Division – Carson City, Nevada

Media
Anvil Magazine – Georgetown, California
Arizona Capital Times – Phoenix, Arizona
Equestrian Connection – Citrus Heights, California
KBZB Radio – Pioche, Nevada
KOZZ Radio – Reno, Nevada
KTVN Channel 2 CBS – Reno, Nevada
KVBC Channel 3 – Las Vegas, Nevada
Laughlin Gambler – Laughlin, Nevada
Sans Sports Magazine – Costa Mesa, California
Western Outdoors – San Clemente, California
Working Moms and Dads Magazine – Tucson, Arizona

Libraries
Washoe County Library – Reno, Nevada
Austin Branch Library – Austin, Nevada
Caliente Branch Library – Caliente, Nevada
White Pine County Library – Ely, Nevada
Library of Congress Exchange and Gift Division – Washington, D.C.
Government Publications Department – Riverside, California
Alamo Branch Library – Alamo, Nevada
Battle Mountain Branch Library – Battle Mountain, Nevada
Lincoln County Library – Pioche, Nevada
Goldfield Public Library – Goldfield, Nevada
Colorado State University Library – Fort Collins, Colorado
Round Mountain Public Library – Round Mountain, Nevada
White Pine County Library – Ely, Nevada
University of Nevada Libraries – Reno, Nevada
Cataloging/Library Systems, BLM Library – Denver, Colorado
Tonopah Library District – Tonopah, Nevada

Elected Officials
Office of Senator John Ensign – Reno, Nevada
Office of Senator Harry Reid – Reno, Nevada
Office of Senator Bruce Thompson – Reno, Nevada
Brent Eldridge, White Pine County Commissioner – Ely, Nevada
Jim Gibbons, Governor, State of Nevada – Carson City, Nevada
Corrine Hogan, County Clerk, Lincoln County Clerk – Pioche, Nevada
Ronda Hornbeck, Chair, Lincoln County Board of Commissioners – Pioche, Nevada
John W. Marvel, Nevada State Assembly – Battle Mountain, Nevada
Kevin Phillips, Mayor, City of Caliente – Caliente, Nevada
Tommy (George T.) Rowe, Commissioner, Lincoln County Board of Commissioners – Pioche, Nevada

Tribal Organizations
Duckwater Shoshone Tribe – Duckwater, Nevada
Ely Shoshone Tribe – Ely, Nevada

Moapa Band of Paiutes – Moapa, Nevada
Yomba Shoshone Tribe – Austin, Nevada

Organizations
American Wildlands – Reno, Nevada
Animal Welfare Institute – Louisville, Kentucky
Animal Welfare Institute – Washington, D.C.
Arthur Carhart National Wilderness Training Center – Missoula, Montana
Baker Area Citizens Advisory Board – Baker, Nevada
BlueRibbon Coalition – Pocatello, Idaho
C/O The Klamath Forest Alliance – Orleans, California
Carson Valley Arabian Horse Association – Gardnerville, Nevada
Center For Biological Diversity
    San Francisco Bay Area Office – San Francisco, California
    Tucson, Arizona
Dia Art Foundation – New York, New York
Eastern Nevada Landscape Coalition
    Ely, Nevada
    Reno, Nevada
    Verdi, Nevada
Fraternity of the Desert Bighorn – Las Vegas, Nevada
Friends of Nevada Wilderness
    Las Vegas, Nevada
    Reno, Nevada
Great Basin Bird Observatory – Carson City, Nevada
Mt. Wilson Community Fire Safe Chapter – Pioche, Nevada
National Mustang Association, Inc. – Cedar City, Utah
National Pony Express Association – Silver Springs, Nevada
National Wild Turkey Federation – Arcata, California
Natural Resource Defense Council – San Francisco, California
NE Nevada Stewardship Group – Elko, Nevada
Nevada Archaeological Association – Las Vegas, Nevada
Nevada Miners and Prospectors – Reno, Nevada
Nevada Wildlife Federation
    Loyalton, California
    Reno, Nevada
NRF – Reno, Nevada
NUFWashington – Logandale, Nevada
Nevada Important Bird Areas Program – Carson City, Nevada
Partners in Conservation – Moapa, Nevada
Partnership for the West – Austin, Nevada
Public Lands Foundation – Arlington, Virginia
Red Rocks Audubon Society – Las Vegas, Nevada
Rocky Mountain Elk Foundation
    Ely, Nevada
    Mt. Shasta, California
Sierra Club – Reno, Nevada
Southern Nevada Baptist Association – Las Vegas, Nevada
Southern Nevada Group of the Sierra Club – Las Vegas, Nevada
The Long Now Foundation – San Francisco, California

The Nature Conservancy
- Ely, Nevada
- Reno, Nevada

The Toiyabe Chapter of the Sierra Club
- GBG Conservation Committee – Reno, Nevada
- Public Lands Committee – Reno, Nevada

The Wilderness Society, BLM Action Center – Denver, Colorado
- BLM Action Center – Denver, Colorado
- Intermountain West BLM Campaign – Denver, Colorado

Vegas Valley 4 Wheelers – Las Vegas, Nevada
Western Lands Project – Seattle, Washington
Western Watersheds Project
- Boise, Idaho
- Hailey, Idaho

Wild Horse Spirit – Carson City, Nevada
Wild Utah Project – Salt Lake City, Utah
Wildlife Management Institute
- Fort Collins, Colorado
- Washington, D.C.

WP 4-Wheelers – Ely, Nevada

Industries/Businesses

7H Ranch LLC – Ruby Valley, Nevada
ABC Registry – Ely, Nevada
Ageiss Environmental – Denver, Colorado
Alpine, Inc. – Edmond, Oklahoma
American Discovery Trail – Carson City, Nevada
Art Images – Sparks, Nevada
Basin Research Associates – San Leandro, California
Best in the Desert Racing – Las Vegas, Nevada
Bighorn Archaeological Consultants – Santa Clara, Utah
Biowest Inc. – Logan, Utah
Bjork Lindley Little PC – Denver, Colorado
Blue Diamond Oil Corp. – Ely, Nevada
Board of Sheep Commissioners – Spring Creek, Nevada
Butler Holdings LLC – Park City, Utah
California Federal Mineralogical Society – Reno, Nevada
Carlson And Associates – Las Vegas, Nevada
Carter Cattle Company Carter Agri Systems – Lund, Nevada
Castle Area Real Estate – Kaysville, Utah
Centerra (U.S.) Inc. – Reno, Nevada
Cfms and Nevada Rock Homes – Reno, Nevada
Cg Squared – Reno, Nevada
CH2MHill – Sacramento, California
Chemetall Foote Corp. – Silver Peak, Nevada
CL Cattle Company LLC – Ely, Nevada
Clipper Wind Power – Carpinteria, California
Colorado Getchell Mine – Golconda, Nevada
Coeur Dalene Mines Corp. – Lovelock, Nevada
Consulting Geologist – St. George, Utah
Cottonwood Ranch – Wells, Nevada

Couple's MC/ Mlan – Ely, Nevada
Cove Meadows Ranch – McGill, Nevada
D4 Ranch – Alamo, Nevada
DM Ranch – Wells, Nevada
Donald Hibbard – Sherman Oaks, California
Double U Livestock LLC – Ely, Nevada
Dunes and Trails – Las Vegas, Nevada
Eagle Exploration Inc. – Reno, Nevada
El Tejon Cattle Co. – Bakersfield, California
Ely Airport Yelland Field – Ely, Nevada
EMPS Environmental Management – San Francisco, California
ENSR – Fort Collins, Colorado
Entrix – Sacramento, California
Far Western Anthropological Research Group, Inc. – Las Vegas, Nevada
Farnsworth Farms – Enterprise, Utah
Filippini Ranching Co. – Battle Mountain, Nevada
Firstmiss Gold Incorporated – Golconda, Nevada
Fish Creek Ranch LLC – Eureka, Nevada
Florida Canyon Mining Incorporated – Imlay, Nevada
Frontier Exploration Co. – Salt Lake City, Utah
Garrison Investment Fund, Inc. – Las Vegas, Nevada
GBHAP – East Ely, Nevada
Getchell Gold Corp. – Golconda, Nevada
Gnomon Inc. – Carson City, Nevada
Goods for the Woods – Licking, Missouri
Heklet Association – Carson City, Nevada
HHH Hunting – Levan, Utah
HTT Resource Advisors – Elko, Nevada
Idaho Power – Boise, Idaho
IFC International – San Francisco, California
Indian Creek Ranch – Winnemucca, Nevada
Industrial Mineral Developments, Inc. – Las Vegas, Nevada
Interstate Dist. Inc. – Eureka, Nevada
Intertech Services Corp. – Carson City, Nevada
JBR Environmental Consultants, Inc. – Reno, Nevada
JDL Construction – McGill, Nevada
John Uhalde and Company – Ely, Nevada
KDJ and Associates – North Las Vegas, Nevada
KOA of Ely – Ely, Nevada
Larralde Sheep – Bakersfield, California
Las Vegas Riders – Pahrump, Nevada
Lincoln County Power District – Pioche, Nevada
Lincoln County Realty – Caliente, Nevada
LS Power Development LLC – St. Louis, Missouri
Minad Inc. – Winnemucca, Nevada
MJ Bright Minerals Development Inc. – Lakewood, Colorado
Motorcycle Racing Association of Nevada – Las Vegas, Nevada
Mt. Wheeler Power Co – Ely, Nevada
Munger Oil Information Service Inc. – Los Angeles, California
Nevada Bell – Reno, Nevada
Nevada Cement Company – Fernley, Nevada

Nevada Farm Bureau – Lund, Nevada
Nevada Land and Resource Co. LLC – Carson City, Nevada
Nevada Mining Association – Reno, Nevada
Nevada Petroleum Society – Sherman Oaks, California
Nevada Power/Sierra Pacific Power – Las Vegas, Nevada
Nevada United 4 Wheel Drive Association – Las Vegas, Nevada
Nevada Woolgrowers Association – Eureka, Nevada
Newmont Mining Corp. – Reno, Nevada
Newmont-Twin Creeks – Golconda, Nevada
Off Road Com – Aztec, New Mexico
Off-Road Business Association – Pocatello, Idaho
Osceola Placer Mine – Ely, Nevada
Otis Bay Ecological Consultants – Reno, Nevada
Oxidor Corporation – Plano, Texas
Pacific Primative Rendezvous – Silver City, Nevada
Pescio Brothers AR Pescio And Sons – McGill, Nevada
P-III Associates, Inc. – Salt Lake City, Utah
Placer Dome and Bald Mt. Mine – Elko, Nevada
Placerdome America/Bald Mountain Mine – Crescent Valley, Nevada
Pleasant Valley Enterprises – Trout Creek, Utah
Public Resource Associates – Reno, Nevada
Public Works Journal – Addison, Illinois
Purple Sage O and G Service – Pioche, Nevada
Range Consultant – Fallon, Nevada
Resource Concepts Inc. – Carson City, Nevada
Robinson Nevada Mining Company – Ruth, Nevada
Round Mountain Gold Corp. – Round Mountain, Nevada
Sand Springs Ranch – Alamo, Nevada
Science Applications – Boise, Idaho
Sierra Pacific Power Company – Reno, Nevada
Sleeplate Ranch – Hiko, Nevada
SNOregonE – Las Vegas, Nevada
Southern Nevada Off-Road Enterprises – Henderson, Nevada
Southern Nevada Water Authority – Las Vegas, Nevada
SPPC – Reno, Nevada
SPPColorado – Reno, Nevada
Stage Stop Ranch – Gabbs, Nevada
Steptoe Ranch – McGill, Nevada
Stonegate Resources, LLC – Park City, Utah
T Bench Ranch – Ely, Nevada
TC Mine – Golconda, Nevada
Tetra Tech, Inc. – Boulder, Colorado
The Exafs Company – Pioche, Nevada
Tillie's/Wright Country Cabins/TKO Outfitters – Pioche, Nevada
Timberline Outfitters Guide Service – McGill, Nevada
Trac-On – Las Vegas, Nevada
Turner and Irlbeck Ranch – Ely, Nevada
URS Corporation – Las Vegas, Nevada
URS Group – Boise, Idaho
Vanderbilt Minerals Corporation – Pahrump, Nevada
Viceroy Gold Corp. – Searchlight, Nevada

Virgin Valley Water District – Mesquite, Nevada
Whipple Cattle Company – Hiko, Nevada
White River Ranch LLC – North Las Vegas, Nevada
Wingfield Nevada Group – Sparks, Nevada
Winn Exploration Co, Inc – Corpus Christi, Texas
Wyman Engineering Consultants – Boulder City, Nevada
Yelland Ranch – Ely, Nevada

Individuals
A. E. – La Mesa, California
Cory Abdo – North Hollywood, California
Sally Abrams – San Francisco, California
Theresa Acerro – Chula Vista, California
Beverly Ackerman – Santa Rosa, California
Richard L. Acton – Reno, Nevada
David Adams – Burlingame, California
Laurie Adams – Boise, Idaho
Marco Aguilera – Mammoth Lakes, California
Ray Alcorn – Mesquite, Nevada
George and Frances Alderson – Baltimore, Maryland
Arthur and Brenda Alexander – Ely, Nevada
Holly Allen – Stateline, Nevada
Tammy Allen – San Bruno, California
Eric Althoff – Altadena, California
Rachael Alvarez-Jett – Torrance, California
Dale Anania – Berkeley, California
Kenny A. Anderson – Las Vegas, Nevada
KAI Anderson – Washington, D.C.
Corina Anderson – Bakersfield, California
Darla Anelli – San Jose, California
Sandra Angelos – San Francisco, California
S. Anpu – Salt Lake City, Utah
Rianna Ardelean – Reno, Nevada
Julie Arfsten – Petaluma, California
Amin Arikat – Hercules, California
C. Jayne Armstrong – San Jose, California
Robert and Sally Arroyo – Covina, California
Susan Ashton – San Jose, California
Chris Ashton – La Mesa, California
Christina Babst – West Hollywood, California
John Bader – Wilton, California
Anna Bainter – Jamul, California
David Baker – Baker, Nevada
Betty Baker – Ely, Nevada
Craig and Gretchen Baker – Baker, Nevada
Nikolai Balah – Glendale, California
Anne Balderston – Corona Del Mar, California
Jeff Ball – Sacramento, California
Jennifer Banoczy – Los Angeles, California
Lynne Banta – Los Angeles, California
Lynn Barker – Los Angeles, California

Terry Anne Barman – Laguna Beach, California
Tim Barrington – Sunnyvale, California
Margorie L. Barton – North Las Vegas, Nevada
Kim Bauer – Lancaster, California
Wendy C. Bauer – San Francisco, California
S. Baughman – Ely, Nevada
Dennis Beall – Cazadero, California
Kate Bean – El Cerrito, California
Kathleen Beaulieu – Soquel, California
Karen Becker – Ventura, California
Gary Beckman – Las Vegas, Nevada
Russell Beebe – Sunnyvale, California
Ray Bell – Bakersfield, California
Danielle Belliveau – Alpine, California
Elisha Belmont – Westminster, California
Michael Benedetti – Rohnert Park, California
Melissa Benham – San Jose, California
Walter Benoit – Reno, Nevada
Sheila Benson – Raymond, California
Gary Benthin – Pasadena, California
Larry Berg – Reno, Nevada
George Berges – New York, New York
Judy Bergman – San Diego, California
Vicki Bergstrom – Julian, California
Shelley Berkley – Las Vegas, Nevada
Diane Berliner – Los Angeles, California
Lila and Irv Berman – Santa Monica, California
Nancy Berman – Berkeley, California
Sheryl Bernstein – Van Nuys, California
Joanna Bettmann – Torrey, Utah
Theodore Beutel – Eureka, Nevada
Russell Bezette – La Verkin, Utah
Larry Bibayoff – Sacramento, California
Bonnie Biddison – Oak Park, California
James Biser – Provo, Utah
Sandra Bitton – Elko, Nevada
Stephen Black – Bakersfield, California
Doyle Blades – Ruth, Nevada
Jill Blaisdell – La Canada, California
Russell Blalack – Cupertino, California
Keith Blunt – Roseville, California
Sarah Bly – Ashland, Oregon
Karen Boeger – Reno, Nevada
Terry Bolander – Las Vegas, Nevada
Pam Bolas – McGill, Nevada
Charlotte Bolinger – Nevada City, California
Diane Bolman – Novato, California
Hyla Bolsta – Fort Bragg, California
Howard Booth – Boulder City, Nevada
Michael Bordenave – Fresno, California
Annette Bork – Irvine, California

Tasha Boucher – Los Angeles, California
Fred Boutin – Tuolumne, California
Ashley Brack – Escondido, California
Sarah Brady – Los Angeles, California
Lee Brainerd – Altadena, California
Lynn Braun – Encinitas, California
Christine Brazis – San Francisco, California
Joan Breiding – San Francisco, California
John Breitrick – Ely, Nevada
Claire Brenner – San Diego, California
Aslan Brooke – Los Angeles, California
Elaine Brooks – Reno, Nevada
Robin Brooks – Oakland, California
Bob Brown – Ely, Nevada
Joel Brown – San Diego, California
Irene Brown – Los Altos, California
Kathy Brown – Pahrump, Nevada
Phillip Buck – Caliente, Nevada
Debbie Buckheim – Atascadero, California
Robert Buckner – Sierra Madre, California
George Buettner – Pioche, Nevada
Linda Bullen – Las Vegas, Nevada
Eleanor Burian-Mohr – Los Angeles, California
Steven Burr – Providence, Utah
Aimon Bustardo – Topanga, California
Richard Bustos – Ely, Nevada
Patrick Caldwell – Genoa, Nevada
Stanley Califf – Orange, California
Tom Camara – Mill Valley, California
Norma Campbell – Campbell, California
Jim Campe – Pilot Hill, California
Frank Cannon – South Lake Tahoe, California
M. Canter – Tiburon, California
Karen Cappa – Rohnert Park, California
Sylvia Cardell – Hydesville, California
Aglaia Cardona – Capitola, California
Angel Cardoza – Mission Viejo, California
Ron Carey – Battle Mountain, Nevada
Thomas Carlino – San Jose, California
Cathleen Carlson – Torrance, California
John Carpenter – Elko, Nevada
Gaile and Bob Carr – Mount Shasta, California
Colleen Carr – Big Oak Flat, California
Laurie Carr – Los Angeles, California
Margo Carrera – Carlsbad, California
Dean Carter – Minersville, Utah
Brenda Carter – San Diego, California
Joni Carter – Sacramento, California
Frances Carter – Sacramento, California
Emmett Cartier – West Sacramento, California
Mary Cascio – Palmdale, California

James Castaldi – Palmdale, California
Lexie Cataldo – Napa, California
Barbara Caton – Avila Beach, California
Steve Caton – Avila Beach, California
John Chachas – Ely, Nevada
Felicia Chavez – San Rafael, California
Ted Cheeseman – Saratoga, California
Karen Chepeka – Huntington Beach, California
Sunny Chien – Los Angeles, California
Nat Childs – Miranda, California
Jason Chinn – Cloverdale, California
Jonathan Chu – Santa Clara, California
Jon Chu – Fremont, California
Howard Clark – Clovis, California
Don Clay – Mesquite, Nevada
Thomas Clayton – Ely, Nevada
Bob and Jerilyn Clayton – Ely, Nevada
Jack L. Clifton – Panaca, Nevada
Penny Clifton – San Francisco, California
Gene Clough – San Jose, California
Jim Cogan – Bradenton, Florida
Benita Cohen – Los Angeles, California
Deborah Cohen – Dixon, California
Hugh S. Collett – Elko, Nevada
Vira Confectioner – Sunol, California
Pamela Conley – Cazadero, California
William and Genell Conner – Pioche, Nevada
Thomas Conroy – Manhattan Beach, California
Amy Conway – Redway, California
Carol Corbett – Las Vegas, Nevada
Francisco Costa – Cathedral City, California
Mori Costantino – Berkeley, California
Mike Couch – Ruth, Nevada
Hilton Covington – Brookside, Utah
Bruce Cox – Las Vegas, Nevada
Richard Crawford – Los Angeles, California
David Crawford – San Diego, California
Katherine Crocker – Salt Lake City, Utah
Lorna Crosby – Santa Monica, California
Elmo Crozat – Ridgeville, South Carolina
Connie Curnow – Bountiful, Utah
Kevin L. Curtis – Fullerton, California
Ena Da Silva – Sacramento, California
Diane Daleylson – Idaho Falls, Idaho
Peggy And Wayne Daniel – Genoa, Nevada
Robert Davis – San Diego, California
Ken Dawdy – San Ramon, California
Stanley Dawson – Davis, California
James R. Dawson – Torrance, California
Julianne Day-Evers – Hendersonville, North Carolina
Donald Decker – Spring Creek, Nevada

John Delevoryas – San Jose, California
Jennifer Delker – Salt Lake City, Utah
Lou Anna Denison – Long Beach, California
Jack and Margarita Denman – Fullerton, California
Larry Dennis – Union City, California
Rick Dertinger – Capistrano Beach, California
Stacy Desbrow – Newport Beach, California
Paul Desfor – Berkeley, California
Kirsten DeVere – Pasadena, California
Connie Devine – San Jose, California
William Devlin – Pioche, Nevada
Nancy Dewees – San Francisco, California
Terry and Tilda Dewolfe – Round Mountain, Nevada
Fred Dexter – Boulder City, Nevada
Sara Dinges – Camarillo, California
Bryan Dixon – Logan, Utah
James Doles – Newberry Springs, California
Ramona Doles – Newberry Springs, California
Bonnie Doran – Placerville, California
Carolyn Doswell – Studio City, California
Lenore N. Dowling – Los Angeles, California
Craig Downer – Minden, Nevada
Kevin Doyle – Santa Fe, New Mexico
Tim Aaron Doyle – Berkeley, California
Pat DuBiel – Norco, California
Stanley Dudek – Santa Cruz, California
Mike Duncan – Buena Park, California
C. J. Dupont – La Mesa, California
Gail Durham – Minden, Nevada
Mike Dwyer – Las Vegas, Nevada
Jim Dwyer – Chico, California
Claire Dye – Los Angeles, California
Susan Dzienius – San Diego, California
Scott Edmonson – San Jose, California
Ray Ehly – Reno, Nevada
Louise Eiler – Whittier, California
Judith Eisele – Verdi, Nevada
David Elliott – Fresno, California
Barry Ellis – Los Angeles, California
Michael Emery – Felton, California
Marian Emrich – Rough and Ready, California
Leslie Endicott – Oakland, California
Sharon Engel – Ojai, California
Aaron Epstein – Sherman Oaks, California
Joe Esquibel – Salt Lake City, Nevada
Douglas Estes – San Francisco, California
Karin Evans – Arnold, California
Michael W. Evans – Los Angeles, California
Nancy Evans – Los Osos, California
Jennifer Everett – San Francisco, California
Elaine Ezra – Las Vegas, Nevada

John Fairfield – San Francisco, California
Sylvia Fascio – Gerlach, Nevada
Vince Favilla – Sunnyvale, California
Mary Ferraro – Aurora, Colorado
C. Ferris – Pollock Pines, California
Warren Fieldhouse – San Jacinto, California
Anita Fieldman – Mill Valley, California
David Fitch – Reno, Nevada
Richard Fite – Fair Oaks, California
Patty Flack – Whittier, California
Claire Flewitt – Alameda, California
Patsy Floyd – Clear Lake, California
Susan Folsom – Lawndale, California
Donna Foote – Grass Valley, California
Gordon V. Foppiano – Ely, Nevada
Ken and Julie Ford Maloney – Huntington Beach, California
Nancy Forrest – Redlands, California
Nancee Fox – Santa Rosa, California
Gail Francis – Brea, California
Faith, Monte, and Julia Freewoman/Freeman and Family – Trinidad, California
John Fremont – Los Angeles, California
Erik Fremstad – Chatsworth, California
Peter French – Sparks, Nevada
Mitchell Friedman – Walnut Creek, California
Sherry Frumkin – Santa Monica, California
Sherrill Futrell – Davis, California
Bevin G. – Santa Ana, California
Marnie Gaede – La Canada, California
Stanley Gaffin – Panaca, Nevada
D. Carol Galante – San Diego, California
Alicia Galdamez – Van Nuys, California
Sheila Ganz – San Francisco, California
Shayna Gardiner – Grass Valley, California
David Gardner – Santa Monica, California
Kyle Gardner – Carmichael, California
Bill Garrett – Henderson, Nevada
Catherine Gauthier-Campbell – San Diego, California
John Geddie – Albuquerque, New Mexico
Dan Genetti – Santa Monica, California
Tom Gesick – Carson City, Nevada
Christy Gheno – Fernley, Nevada
Frank Gianopulos – Reno, Nevada
Bill Gillingham – West Valley City, Utah
Mark Giordani – Van Nuys, California
Tullio Giudici – Glendale, California
Vernon Glade – San Francisco, California
Warren Gold – Mill Valley, California
Eleanor Gomez – San Francisco, California
C. Gonzales – Provo, Utah
Alan Goodson – Los Angeles, California
Ellen Gordon – Cotati, California

Jill Gordon – Mountain View, California
Jason Gracia – Grass Valley, California
Seana Graham – Santa Cruz, California
Kimberly Graham – Coronado, California
Ronne Grasberger – Venice, California
Dale Green – Salt Lake City, Utah
Jack Greene – Smithfield, Utah
Branwen Gregory – Los Angeles, California
Probyn Gregory – Los Angeles, California
Mary Lou Griffin – Ely, Nevada
KC Grigsby – Middletown, California
Melissa Grimm-Alred – Grand Prairie, Texas
Malcolm Groome – Topanga, California
Eileen Gross – San Francisco, California
Adriana Guastavino – Rohnert Park, California
Rick Guidotti – Hollywood, California
Jared Gunnerson – Las Vegas, Nevada
Lisa Gunter – San Francisco, California
Bradley Guymon – Cedar City, Utah
Eugene Haberman – Marina Del Rey, California
Virginia Hahn – Fremont, California
Nancy Hall – Mesquite, Nevada
Janna Hall – Santa Ana, California
Linda Hall – Fontana, California
Tessa Hall – Salt Lake City, Utah
Tom and Barbara Hamilton – Oceanside, California
Charles E. Hancock – Reno, Nevada
Richard Hankins – McGill, Nevada
Judy Hanna – Carson City, Nevada
Jody Hansell – Emeryville, California
Robert Harbecke – Ely, Nevada
Daniel and Mary Agnes Hardie – Concord, California
Jenny Hardison – Tustin, California
Peter Harrell – Yreka, California
Julie Harrer – Solana Beach, California
James Harris – Stanford, California
Dallas Harrison – Las Vegas, Nevada
Jack L. Hartman – Lakeside, California
Shelley Hartmann – Hawthorne, Nevada
Jon Scott Hase – Ely, Nevada
Susan Hastings – Reno, Nevada
Roger Hatch – Alamo, Nevada
Alisha Hattaway – Mount Shasta, California
Judy Hausman – San Jose, California
Sara Hayes – Long Beach, California
Vickie Haymart – Rancho Cordova, California
Ken Hedges – Lemon Grove, California
Naomi Heiman – Los Angeles, California
Ken Heinbaugh – Ely, Nevada
Christian Heinold – Oakland, California
John Heishman – Las Vegas, Nevada

Kelly Heitman – San Diego, California
M. L. Heller – Costa Mesa, California
Miko Heller – Encinitas, California
Barb Henderson – Las Vegas, Nevada
Sharron Henderson – Milpitas, California
John Hengen – Azalea, Oregon
Bill Henninger – Corralitos, California
Paul Henninger – Garberville, California
Mel Henshaw – San Diego, California
Janet Herbruck – San Diego, California
Laura Herndon – Burbank, California
Rachel M. Hervey – Santa Margarita, California
Robert C. Hervey – Santa Margarita, California
Laura Hessel – San Lorenzo, California
Charlie and Vera Hester – Moapa, Nevada
Lisa Hewes – El Cajon, California
Hermi and John Hiatt – Las Vegas, Nevada
Joe V. Higbee – Alamo, Nevada
Richard Hildebrand – Fair Oaks, California
James Hirt – Pleasanton, California
Carol Hirth – Berkeley, California
Kathie Hittinger – Monrovia, California
Rebecca Ho – San Francisco, California
Jennie Hoagland – North Hollywood, California
Matthew Hodgin – Cypress, California
John Hodgson – Escondido, California
Wendy Hoffman – Redwood City, California
Barbara Hogan – San Francisco, California
Hazel Holby – Redwood City, California
Gary Hollis – Pahrump, Nevada
B.C. Hollis – Oakland, California
Dee Holm – Salt Lake City, Utah
Jack and Elaine Holmes – Las Vegas, Nevada
John Holtzclaw – San Francisco, California
Craig Hoover – Ely, Nevada
Bruce Horn – Mammoth Lakes, California
Patrick and Liz Howe – Ely, Nevada
Brent Howerton – Reno, Nevada
Susan Howle – Rochester, Vermont
Diana Huerta – Salinas, California
William Huggins – Las Vegas, Nevada
Melvin and Ione Hughes – Mesquite, Nevada
Arlin S. and Denice Hughes – Veyo, Utah
Joe Hughes – Willits, California
Kiturah Humphrey – Los Gatos, California
Paul Hunrichs – Santee, California
Leslie Hunt – Santa Monica, California
Otto J. Hunt – Oceanside, California
James Hunt – Chula Vista, California
John Hutchings – Las Vegas, Nevada
Terrence A. Hutchinson – California City, California

Michael S. Hutton – Mountain View, California
Sonia Ihara – Long Island, New York
Ivan Infante – Los Angeles, California
Carolee Jackson – Payson, Arizona
Keaka Jackson – San Francisco, California
Karen Jackson, LCSW – Reno, Nevada
Holly Jacobson – Sacramento, California
Paul Jacobson – Idyllwild, California
Anne Jacobson – Richmond, California
Pinky Jain Pan – Santa Rosa, California
Shunko Jamvold – San Rafael, California
Darynne Jessler – Valley Village, California
Thomas John – Reno, Nevada
Abigail Johnson – Carson City, Nevada
Buck Johnson – Lincoln, California
Fred Johnson – Virgin, Utah
Matt Johnson – Santa Monica, California
Paul Johnson – Modesto, California
Robert Johnston – Henderson, Utah
Penelope Johnstone – Oakhurst, California
Wayne Jones – Coalville, Utah
Jeffrey Jones – Henderson, Nevada
Karen Jones – Las Vegas, Nevada
Lynn Jorgensen – Springville, Utah
Lil Judd – Sylmar, California
Periel Kaczmarek – North Hollywood, California
Darci Kahan – Tujunga, California
Cindi Kane – San Juan Capistrano, California
Matt Kapko – Burlingame, California
Morris Kaplan – Willits, California
Phil and Susie Kaplan – Soquel, California
Mike Kappus – San Francisco, California
Adene Katzenmeyer – Weed, California
Dr. and Mrs. George B. Kauffman – Fresno, California
Harriet Kaufman – Las Vegas, Nevada
Joni Kay – Fulton, California
Sharon Keeney – La Quinta, California
Marcie Keever – San Francisco, California
Philip Kelin – Beverly Hills, California
Shirley Kellerman – Goleta, California
Alice Kelly – Felton, California
Bill Kennedy – Kearns, Utah
Charlene Kerchevall – Oceanside, California
Saanen Kerson – Napa, California
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E Klein – Park City, Utah
Jacob Knecht – Honolulu, Hawaii

Michael Kobert – San Diego, California
Gary Kohnke – Las Vegas, Nevada
Ellen Koivisto – San Francisco, California
Hkenn Kollerer – Clearlake, California
Mary Kowit – Potrero, California
Terry Kozlowski – McGill, Nevada
Lila Kraai – San Jose, California
Kathrin Kraft – Van Nuys, California
Susan Krebs – Sherman Oaks, California
Susan Krohn – Los Altos, California
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Mahoney La Pierre – Los Angeles, California
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Dayer Labaron – El Paso, Texas
Randall Lake – South Pasadena, California
Ralph Lake – Boulder City, Nevada
Zena and Walter Lamp – Reno, Nevada
Marsha Langaard – Studio City, California
Eileen Langan – Penn Valley, California
Audrey Lareau – Redwood City, California
Don Larrick – Las Vegas, Nevada
Donald Larson – Pine Valley, California
Nathan Lassig – Salt Lake City, Utah
Kitt Lear – Ely, Nevada
Kristi Leatham – Logan, Utah
Catherine LeBaigue – Tujunga, California
David Lechel – Albuquerque, New Mexico
Dennis Ledden – Rancho Murieta, California
Nancy Leech – Palo Alto, California
Curt Leet – Ely, Nevada
Gerry Lent – Reno, Nevada
Seth Levy – Silver Springs, Maryland
Cheryl Levy – Los Gatos, California
Frank W. Lewis – Reno, Nevada
Gail Lewis – Irvine, California
O. Lewis – Los Angeles, California
Mary Lieb – Las Vegas, Nevada
Chadmax Limb – Beaver, Utah
Sherril Listor – Orem, Utah
Richard and Helen Livingston – Atascadero, California
Amy Lloyd – Los Angeles, California
Carol Loar – Seaside, California
Colleen Lobel – San Diego, California
Alison Locke – Burbank, California
Lance Lomprey – Henderson, Nevada
Donna S. London – Las Vegas, Nevada

Rosalind Lord – San Francisco, California
Roberto Lovato – Redwood Valley, California
Jean Lown – Logan, Utah
Alison Luedecke – Woodside, California
Roger Lundgren – Santa Clara, California
Cory Lytle – Caliente, Nevada
Francis Lytle – Caliente, Nevada
B.C. Macdonald – Albion, California
Ian MacKenzie – Fremont, California
RaLeene Makley – Ely, Nevada
Sonja Malmuth – Santa Ynez, California
Colleen Malone-Engel – Los Angeles, California
Kristie Maloney – Antioch, California
Scott Malsom – San Jose, California
Jarene Manning – Fallon, Nevada
Anthony Manzo – Taos, New Mexico
John Marchese – Henderson, Nevada
Steven Marich – Ely, Nevada
Duke Marine – Encino, California
Andrew Marjie – Sandy Valley, Nevada
Linda Marks – Sunland, California
Sherry Marsh – Oceanside, California
Laurel Marshall – Eureka, Nevada
Barrie Ann Mason – Santa Rosa, California
Barbara Mason – Campbell, California
Bob and Bernardine Mateer – Monrovia, California
John and Debbie Mathieu – San Pedro, California
K.L. Matlock – San Jose, California
Tom McCarter – San Jose, California
Robert Mcclymonds – Carmichael, California
Sudi McCollum – Glendale, California
Brian McCredie – Thousand Oaks, California
Jusdi McDonald – Missoula, Montana
Cindy McDonald – N. Las Vegas, Nevada
Mike McGinty – Ely, Nevada
Joe Mcgloin – Sheridan, Colorado
Mike Mcgrew – Las Vegas, Nevada
Julian McIntyre – Laguna Beach, California
Melvin McKinney – Eureka, California
Shoshanah McKnight – Santa Cruz, California
Alvin McLane R. – Reno, Nevada
Janine McMurdie – Newbury Park, California
Richard McNaught – Georgetown, Indiana
Michael McPherson – Vista, California
Sharon McTigue – Glendale, California
Kaye Allisen Medlin – Alamo, Nevada
Martin Meisner – Lake Forest, California
Greg Meyer – Santa Cruz, California
M. S. Meyers – Upland, California
Bess Miles-Duncan – Aberystwyth, United Kingdom
Lee Miller – Stockton, California

Nancy Miller – Santa Maria, California
Judith Miller – Pasadena, California
Cameron Minaberry – Reno, Nevada
C. Mitchell – Cambria, California
Terry Miya – Salt Lake City, Utah
Donna Mo – Pasadena, California
Jean Mock – Richmond, California
Pamela Mohle – Santa Cruz, California
John Molony – Reno, Nevada
David and Roberta Moore – Baker, Nevada
Mike Moore – Las Vegas, Nevada
Mark Moore – Las Vegas, Nevada
Ann-Marie Morefield – Culver City, California
John Morgan – Escondido, California
Mike Morris – Las Vegas, Nevada
Al and Trudy Morse – Elsinore, Utah
Lindsay Mugglestone – Berkeley, California
Jim Mulcahy – Las Vegas, Nevada
Sharon Mullane – Los Angeles, California
Karen Mullen – Reno, Nevada
Adele Myers – Meadow Valley, California
Alan Myerson – Culver City, California
Sarah Myles – Chico, California
Yuko Nakajima – Berkeley, California
Orren Nash – Hiko, Nevada
Kathleen Navalifter – Las Vegas, Nevada
Framces Navarrette – Fresno, California
Alice Neuhauser – Manhattan, California
Roberta E. Newman – Mill Valley, California
Bao Nguyen – Las Vegas, Nevada
Bill and Maggie Nicholes – Mesquite, Nevada
Kay Nicholes – Tempe, Arizona
Linda Nicoletto – Corte Madera, California
Diana Nielsen – Albany, California
Jill North – Jackson, California
William Norvell – San Diego, California
Mark Oberle – Needham, Massachusetts
Anthony Ocone – Ojai, California
Kirk and Annaliese Odencrantz – Reno, Nevada
Kelly O'Donnell – Pasadena, California
Nancy Oliver – Los Angeles, California
Polly O'Malley – Los Angeles, California
Gerald Orcholski – Pasadena, California
Julie Ostoich – Sacramento, California
Robert Otero – Ely, Nevada
Ronald Otrin – Mount Shasta, California
Jim Owens – Mesquite, Nevada
Jim Palmer – Las Vegas, Nevada
Susan Pantell – Austin, Texas
Richard Pao – Walnut, California
Ronald Parratt – Reno, Nevada

Sara E. Parrish – Mariposa, California
Mike Pasek – Ely, Nevada
James Passos – Henderson, Nevada
Scott Pasternack – Hoboken, New Jersey
Amanda Patterson – San Bernardino, California
Debra Pena – San Diego, California
Patricia Perry – San Anselmo, California
Gene and Mary Perry – Poway, California
Dorothy Peterson – Tinton Falls, New Jersey
Lee Pettenger – Seiad Valley, California
Sheri Pigo – Lakeside, California
Tara Pike – Las Vegas, Nevada
Marci L. Pinkard – Lafayette, California
Peter Pitkin – San Mateo, California
Jeri Pollock – Tujunga, California
D. Poppe – Northridge, California
Susan Potts – Borrego Springs, California
Shelly Powell – Ojai, California
Susan Powell – Bishop, California
Laura Powers – Mocksville, North Carolina
Thomas Powers – Mocksville, North Carolina
Emily Prince – Salt Lake City, Utah
Marilou Quini – Huntington Beach, California
Lauren Quinn – San Rafael, California
Elizabeth Quist – Las Vegas, Nevada
Art Raab – Lodi, California
Jamie Radenbaugh – Garberville, California
Aghaghia Rahimzadeh – San Rafael, California
Amit Raikar – Sunnyvale, California
Sidney Ramsden Scott – Carmel, California
Julie Ramstead – Hermosa Beach, California
David Rasmussen – Los Angeles, California
Kurt Rautenstrauch – Las Vegas, Nevada
Robert Rawlings – Brisbane, California
Maryellen Redish – Cathedral City, California
Walter Reece – Monterey, California
Tyler Reed – San Francisco, California
Joneille Rehfeldt – Middleville, Michigan
Andrew Reich – Los Angeles, California
Fred Retzlaff – Henderson, Nevada
Jonelle Reynolds – St. George, Utah
Bill Rice – Salt Lake City, Utah
Vivien Richards – Eureka, California
Susan Richards – Del Mar, California
Scott Richey – Winnemucca, Nevada
Heather Richman – Santa Cruz, California
Shelly Rickel – San Diego, California
Robert Rickun – West Hollywood, California
Lynette Ridder – Concord, California
Vikki Riddle – Las Vegas, Nevada
Michael Rifkind – Santa Cruz, California

Susan Roberts – League City, Texas
Ed Roberts – Fremont, California
James Roberts – Boulder City, Nevada
Kent Robertson – Ely, Nevada
Steve Robey – Berkeley, California
Anne Robison – Sherman Oaks, California
Lenore Rodah – So. Pasadena, California
Marc Roddin – Mountain View, California
April Rohman – Santa Cruz, California
David Root – San Diego, California
Robert Rose – Gardnerville, Nevada
I.K. Rosen – North Muskegon, Michigan
Mark Rosenzweig – Las Vegas, Nevada
Thomas Rosevear – Ely, Nevada
Aimee Ross – Salt Lake City, Utah
Arnold Roth – Sacramento, California
Rusti Roylance – Springville, Utah
Linda Rubin – San Diego, California
Michael Rubin – San Rafael, California
Selma Rubin – Santa Barbara, California
W. Russel – Ely, Nevada
Monique Rutherford – Vallejo, California
B. Sachau – Florham Park, New Jersey
Jasmin Saidi-Kuehnert – Los Angeles, California
Nick Saines – Las Vegas, Nevada
Barry Saltzman – Los Angeles, California
James Sams – San Diego, California
Jerry Samson – Caliente, Nevada
Virginia Sanchez – Duckwater, Nevada
Curtis Sanders – Zephyr Cove, Nevada
David Sanders – Glendora, California
Jessica Sasaoka – Las Vegas, Nevada
Joe Saxe – San Jose, California
Heidi Schiller – Santa Rosa, California
Mark Schindler – Los Angeles, California
Kati Schmidt – San Francisco, California
Ed Schmookler – Albany, California
Joe Schmutzler – Walnut Creek, California
Ursula Schnicke – Los Angeles, California
Alan Schroeder – Boise, Idaho
Dawn Schulte – Fort Bragg, California
Maia Schwartzman – Springville, Utah
Herbert Schwarz – Santa Ana, California
Margaret Scott – Alameda, California
Dave Seeley – Duchesne, Utah
Don and Leslie Seki – Los Angeles, California
Miyuki Seko – Fountain Valley, California
Rob Seltzer – Malibu, California
Steve Sendlein – Caliente, Nevada
Percy Severn – Newbury Park, California
Nancy Shannon – Cathedral City, California

Stephen Sharp – Los Angeles, California
Doug A. Shearer – Las Vegas, Nevada
John Shell – Granada Hills, California
Laurie Sherman – Santa Barbara, California
Stu Sherman – Santa Barbara, California
Kimberly Sickel – Cypress, California
Marjorie Sill – Reno, Nevada
Dan Silver – Los Angeles, California
Josh Silverstein – West Hills, California
Philip Simon – San Rafael, California
Jennifer Sims – Vacaville, California
Carl Slagowski – Carlin, Nevada
Lori Slater – Cambria, California
Rita Sloan – Reno, Nevada
Jeanne Sloane – Petaluma, California
A. Smith – Salt Lake City, Utah
Barry T. Smith – West Valley City, Utah
Russell Smith – Salt Lake City, Utah
Richard Smucker – Austin, Nevada
Naomi Sobo – San Diego, California
Jeanette Soderland – Poway, California
Ellen Soderquist – Logandale, Nevada
Michael Souza – San Diego, California
Karen Spoentgen – Ventura, California
Richard Spotts – Saint George, Utah
Shannon Staiger – Susanville, California
Carolyn Stallard – Soquel, California
Martha Stampfer – Oakland, California
Paul Statman – Los Angeles, California
Lori Stayton – Sherman Oaks, California
Wesley Stephens – Henderson, Nevada
Stephens et al. – Henderson, Nevada
Craig Stevenson – Las Vegas, Nevada
Richard Stewart – Westminster, California
Sheila Stirling – Las Vegas, Nevada
Amanda Stogner – Pioneer, California
Joe and Susan Strolin – Minden, Nevada
Wendy Stucky – Reno, Nevada
Santhosh Sukumar – Long Beach, California
Amber Sumrall – Soquel, California
Katrina Berg Sussmeier – San Jose, California
Jean Sutherland – Irvine, California
Madelaine Sutphin – Studio City, California
Greg Sweel – Santa Monica, California
Clarence Swinney – Las Vegas, Nevada
Michael Tabib – Sebastopol, California
Pauline Takahashi – Los Angeles, California
Mark Takaro – Berkeley, California
Ethel Tankenson – Los Angeles, California
Kazuko Tao – Healdsburg, California
Diane Tarver – San Leandro, California

Jack Tasoff – San Pedro, California
Jackson Taylor – Ely, Nevada
Shirley Taylor – Mesquite, Nevada
Marilyn Taylor – Clewiston, Florida
Marilyn Terry – Kenwood, California
Marcia Terry – Los Angeles, California
Toni Thomas – Warrens, Wisconsin
Tracy Thomas – Los Osos, California
Lom Thompson – Caliente, Nevada
Susan Thompson – Seattle, Washington
Karen Thompson – Richmond, California
Bob Thompson – Truckee, California
Grace Thornton Potorti – Reno, Nevada
Shelly Thure – Las Vegas, Nevada
Carol Todd – Creston, California
Lori Torkelson – Carlsbad, California
Meghan Tracy – Costa Mesa, California
Gene R. Trapp – Davis, California
Tia Triplett – Los Angeles, California
Daniel Trousdale – Las Vegas, Nevada
Richard and Brigitte Troxel – Las Vegas, Nevada
Curtis Tucker – Ely, Nevada
Chris Tucker – Mountain View, California
Paul Tueller – Reno, Nevada
Gabriella Turek – La Verne, California
Laraine Turk – Joshua Tree, California
Randall Tyers – Berkeley, California
Kenneth W. Ubsdell – Oakland, California
Albert Valencia – Huntington Beach, California
Jan van der Hoeven – Corte Madera, California
Benjamin van der Veen – Venice, California
Todd Van Etten – Lake Forest, California
Roy Vanderleelie – Joshua Tree, California
Jeff Vanee – Las Vegas, Nevada
Carolyn Veek – Carson, California
Sak Vesely – Oakland, California
Gary Vesperman – Henderson, Nevada
Van Vibber – Malibu, California
Lynn Villarta – National City, California
Mary Vincent – Newark, California
Tim Vogt – Las Vegas, Nevada
Darrell and Terri Wade – Mesquite, Nevada
Paul R. Wade – Thousand Palms, California
Jule Wadsworth – Panaca, Nevada
Bret Walburg – Sandy, Utah
Debbi Waldear – Markleeville, California
Sam Waldman – Mendocino, California
Jeanne Walker – Oxnard, California
Kim R. Wallin – Carson City, Nevada
Don Wallis – Ely, Nevada
Michael Walter – Yerington, Nevada

Gary Walter – Battle Mountain, Nevada
Dee Warenycia – Roseville, California
Dawn Waring – Martinez, California
Michelle Waters – Redwood Estates, California
Stephen Wathen – Davis, California
Charles Watson – Carson City, Nevada
Linda Waud – Las Vegas, Nevada
Marianne Ross Waugh – Windsor, California
Donna Waugh Campbell – San Rafael, California
Penni Webb – San Rafael, California
D. Eugene Wedge – Oak Park, California
Frank Wegscheider – Placentia, California
Margie Weimer – San Mateo, California
Steve Weiss – Auburn, California
George Weisser – Pahrump, Nevada
Bruce Welch – McAllen, Texas
Joanna Welch – Crescent City, California
Paul Wellin – San Diego, California
Harry Wells – Eureka, California
Diana Wendt – Oakland, California
Edwin West – Martinez, California
Jeff Westwood – Reno, Nevada
Sarah Wheeler – Petaluma, California
Dee White – Ramona, California
Joan White – Red Jacket, West Virginia
Donald G. and Connie Whitney – Logandale, Nevada
David Wikander – Soquel, California
James E. Wilkin – Caliente, Nevada
Lori Wilkins – McKinleyville, California
Erin Wilkins – Oceanside, California
Earl Willey – Bend, Oregon
George and Orasa Williams – Las Vegas, Nevada
Stephen Williams – Henderson, Nevada
Rick Williams – Orem, Utah
Charles F. Williams – San Diego, California
Nicholas Williams – Lancaster, California
Peter Williamson – Truckee, California
Jennifer Willis – San Francisco, California
Carl Wilson – Pioche, Nevada
Ken Wilson – Petaluma, California
Mary Ann Wilson – Los Angeles, California
Sterling Wines – Ely, Nevada
Marilyn J. Wise – Bakersfield, California
Jim Witoszynski – Los Angeles, California
Dr. Richard W. Woerpel – Simi Valley, California
Marc Wohlwill – Las Vegas, Nevada
Andrea Wolf – Saint Helena, California
Rachel Wolf – Santa Cruz, California
Jeffrey Womble – Lodi, California
Nina Wouk – Menlo Park, California
Edward E. Wright – Pioche, Nevada

Jay Wright – Buhl, Idaho
Penelope Wright – Gardnerville, Nevada
Jason Wrobel – Dearborn Heights, Michigan
Dorothy Wulf – Klamath, California
Victoria Wyatt – Crestline, California
Seth Yanow – San Anselmo, California
Ed and Meriam Ylst – Tonopah, Nevada
Billie Young – Las Vegas, Nevada
Stephen Yundt – Hopland, California
Valerie Zachary – Los Osos, California
Guy Zahller – Aptos, California
Franchezska Zamora – Los Angeles, California
Rebecca Zavada – Salinas, California
Ianthe Zevos – Los Angeles, California
Deborah Zorach – Brunswick, Maine
James Zurschmiede – Las Vegas, Nevada

6.0 PREPARERS AND REVIEWERS

6.1 List of Preparers

Responsibility	Name	Degree(s) and Experience
BLM – Ely Field Office (Core Team)		
Project Manager	Gene Drais (retired)	BS Zoology 32 years experience
	Jeff Weeks	BS Range Ecology 28 years experience
	Bruce Flinn	32 years experience
Associate Field Manager	Stephanie Connolly	BS Forestry Management 16 years experience
Assistant Field Manager – Renewable Resources	Bill Dunn	Associates Degree Park and Recreation Management. 30 years experience
Assistant Field Manager – Nonrenewable Resources	Jeff Weeks	BS Range Ecology 28 years experience
Assistant Field Manager – Caliente Field Station	Ron Clementsen	BS Environmental Resources 15 years experience
Planning and NEPA Oversight	Jake Rajala	MS Forest and Range Management MA Anthropology BA Anthropology 32 years experience
Manager, Eastern Nevada Landscape Restoration Project	Jim Perkins (retired)	BS Rangeland Science 31 years experience
Project Manager – Watershed Analysis	Gary Medlyn	PhD Soil Science MS Agronomy BS Agronomy and Horticulture 25 years experience
Assistant Field Manager – Fire	Tye Peterson	BS Range Management 17 years experience
BLM – Ely Field Office (Interdisciplinary Team)		
Water; Hydrology	Gary Medlyn	BS Watershed Science/Hydrology 7 years experience
Wild Horses	Jared Bybee	BS Environmental and Natural Resource Sciences; Range 9 years experience
Vegetation; Livestock Grazing; Forestry; Wetlands	Chris Mayer	BS Agriculture 29 years experience
	Cody Coombs	BS Rangeland Resources 8 years experience
Weeds	Karen Prentice	MS Rangeland Ecosystem Science, Restoration Ecology BA Environmental Studies 12 years experience
	Jim Perkins (retired)	BS Rangeland Science 31 years experience
Lands; Realty	Doris Metcalf	AAS Office Administration 18 years experience
	Ann Perkins	BA Anthropology 12 years experience

6.0 PREPARERS AND REVIEWERS

Responsibility	Name	Degree(s) and Experience
Hazardous Materials	Dan Netcher	BS Geology 28 years experience
Fish and Wildlife; Threatened and Endangered Species	Bill Smith	BS Zoology/Wildlife Management 9 years experience
	Mike Perkins (retired)	BS Wildlife Science/Fisheries Science AA Forestry 26 years experience
	Paul Podborny	MS Range Management BS Wildlife Ecology 30 years experience
Archaeological Resources and Historic Preservation and Paleontological Resources	Carolyn Sherve-Bybee	MA Anthropology BA German 15 years experience
American Indian Liaison	Elvis Wall	BA History
Fire Management; Fire Ecology; Threatened and Endangered Species	Kyle Teel	BS Agriculture (Wildlife) 18 years experience
Fire Management; Fire Ecology	Tye Peterson	BS Range Management 17 years experience
Recreation; Visual Resources; Wilderness; Transportation; Off-Highway Vehicles; Special Designations	Steve Leslie	BS Park Management 8 years experience
GIS	Steven Moore	
Minerals	Lynn Bjorklund	MS Biology BS Biology and Agronomy 17 years experience
	Bill Wilson	BA Geology 36 years experience
Socioeconomics	Tom Crawford (retired)	MS Environmental and Natural Resource Economics BS Environmental and Natural Resource Economics 26 years experience
Air Quality	Scott Archer	BS Chemistry, Environmental Science, and Police Administration 25 years experience
Public Affairs	Chris Hanefeld	Associates Degree Applied Arts 20 years experience
ENSR EIS Team (Contractor to the Bureau of Land Management)		
Project Management	Drew Ludwig	MS Resource Planning and Conservation MS Zoology BS Zoology 34 years experience
	Russ Moore	PhD Ecology BS Range Management 33 years experience

Responsibility	Name	Degree(s) and Experience
Vegetation, Noxious Weeds; Watershed; Fire	Renee Galeano-Popp	BS Botany 23 years experience
	Russ Moore	PhD Ecology BS Range Management 33 years experience
Forest/Woodland and Other Plant Products; Special Status Plants	Jon Alstad	MS Range Science BS Animal Science 22 years experience
Watershed	Heidi Tillquist	MS Environmental Toxicology BS Fisheries and Wildlife 18 years experience
	Jim Burrell	MS Civil Engineering BS Forest Management 22 years experience
Fisheries; Special Status Species	Rollin Daggett	MS Freshwater and Marine Biology BS Zoology 30 years experience
Cultural Resources and Paleontological Resources	Kim Munson	MA Anthropology BA Anthropology 12 years experience
Ethnography	Clyde Woods	PhD Anthropology MA Anthropology MS Sociology BA Social Science 36 years experience
Socioeconomics	Ron Dutton	MS Economics BS Economics 31 years experience
Public Involvement	Mike Baughman	PhD Environmental Policy MS Agricultural and Resource Economics BS Agricultural and Resource Economics 30 years experience
Fluid Mineral Resources; Hazardous Materials	Bill Berg	MS Geology BS Geology 26 years experience
Mineral Resources; Hydrology	Bob Berry	PhD Geology/Geochemistry Prof. Degree Hydrogeology BS Geology 30 years experience
Wildlife; Special Status Species	Charles Johnson	MA Ecology BS Biology 16 years experience
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GLOSSARY

GENERAL

Adaptive Management. A process for continually improving management policies and practices by learning from outcomes of operation programs and new scientific information.

Assumptions (for analysis). The supposition that something is true (Webster's). Assumptions are identified at the beginning of the environmental consequences section, and, as needed, at the beginning of the program-specific environmental consequences analysis.

Best Management Practices. A set of practices which, when applied during implementation of management actions, ensures that negative impacts to natural resources are minimized. BMPs are applied based on site-specific evaluation and represent the most effective and practical means to achieve management goals for a given site.

BLM Sensitive Species. Plant or animal species that could become endangered or extirpated from a state, or within a significant portion of its range in the foreseeable future; is undergoing status review by the U.S. Fish and Wildlife Service; is undergoing significant current or predicted downward trend in habitat capability that would reduce a species' existing distribution, and/or downward trend in population or density such that federally listed, proposed, or candidate status may become necessary; typically consists of small and widely dispersed populations; inhabits ecological refugia, or specialized or unique habitats; or is state-listed, but which may be better conserved through application of BLM sensitive species status. Listing is approved by the BLM State Director, Director of the Nevada Department of Wildlife, and Director of the Department of Conservation and Natural Resources.

Biodiversity. The variety of organisms considered at all levels, from genetic variants of a single species, through arrays of species, genera, families, and still higher taxonomic levels.

Biological Diversity. The variety of all forms of life, used herein primarily in a general sense to refer to variety of both species and communities.

Biomass. Vegetative material left over from stand treatments. This term usually refers to such material that can be gathered and transported to cogeneration plants, and there utilized for production of electricity.

Candidate Species. Those plants and animals included in Federal Register "Notices of Review" that are being considered by the Fish and Wildlife Service for listing as threatened or endangered.

Cave Resource. Any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge, including any cave resource therein, that is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Also included is any natural pit or sinkhole.

Climate. The average or prevailing weather conditions of a place over a period of years. (BLM Technical Reference 4400-7)

Cumulative Effect. The impact that results from identified actions when they are added to other past, present, and reasonably foreseeable future actions regardless of who undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Desired Range of Conditions. The expected outcome to be produced by implementation of the identified management actions over the period of time on which this plan is based. Synonymous with Desired Outcomes and Desired Future Conditions.

Diversity. 1) The absolute number of species in a community; species richness; 2) A measure of the number of species and their relative abundance in a community; low diversity refers to few species or unequal abundances, high diversity to many species or equal abundances.

Earnings. Wages and salaries, other labor income, and proprietor's income (including inventory valuation and capital consumption adjustments).

Ecological Analysis. A study and evaluation of the ecological system components and processes present on a given site or geographic area (e.g., watershed) with the intent of identifying 1) the degree to which the components and processes approximate what is considered to be natural and healthy conditions for this type of ecological system, and 2) the causative factors for any observed variations from healthy conditions.

Ecological Balance (also see Ecological Health). The conceptual relationship among ecological system components and processes in which the overall ecological system exists in what is considered to be a healthy condition without evidence of ongoing deterioration or changes toward some less healthy state.

Ecological Functions. Any of a wide variety of natural processes that fit within the general definition of ecological processes.

Ecological Gradients. The gradual transition in individual ecological factors, especially physical factors, from one location to another.

Ecological Health. The degree to which the integrity of the soil, vegetation, water, and air, as well as the ecological processes of an ecological system, are balanced and sustained.

Ecological Processes. The flow and cycling of energy, nutrients, and organisms in an ecological system. (See also 43 Code of Federal Regulations 4180.1(b).)

Ecological System. All the organisms in a particular region and the environment in which they live. The elements interact with each other in some way, and so are depend on each other either directly or indirectly.

Ecological Zones. Ecological systems or groups of systems that occupy particular topographic settings that are repeated at other locations of similar topographic settings throughout the region.

Ecologically Equivalent. An organism which functions in an ecological system in the same manner and with similar results to another organism even though the two may not be related or possess similar physical characteristics.

Ecology. The science of the interrelationships between organisms and their environment; from the Greek "Oikos" meaning "house" or "place to live."

Economically Viable. Possessing the promise of reasonable economic returns following consideration of investment costs and probable economic risks.

Ecosystem Approach. The ecosystem approach is the evaluation of the ecological system of both living organisms and non-living components in a defined area. This approach considers the structure, composition, function, and interrelationships of those components, as well as the societal considerations. The term ecosystem approach employs the perspective of different spatial scales with longer or shorter time frames. While the size and temporal consideration of ecological systems may vary, the watershed level is the primary scale of analysis within this RMP/EIS.

Ecosystem. The complex of a community of organisms and its environment.

Ecosystem-based Management. 1) management driven by explicit goals, executed by policies, protocols, and practices, and made adaptable by monitoring and research based on our best understanding of the ecological interactions and processes necessary to sustain ecosystem composition, structure, and function; 2) any land management system that seeks to protect viable populations of all native species, perpetuate natural-disturbance regimes on the regional scale, adopt a planning timeline of centuries, and allow human use at levels that do not result in long-term ecological degradation.

Ely Decision Area. The geographic area managed by the Ely Field Office. The area the BLM manages is approximately 11.4 million acres. The area within the boundaries of the decision area is approximately 13.9 million acres and includes National Forest, National Park, Department of Defense, Fish and Wildlife Service, state, private, etc.

Ely Field Office. The administrative unit of the BLM that manages the Ely decision area.

Endangered Species. Any species defined through the Endangered Species Act as being in danger of extinction throughout all or a significant portion of its range and published in the Federal Register.

Endemic Species. Native to, and restricted to, a particular geographical region, community type, or specific habitat.

Environmental Assessment. A systematic analysis of site-specific BLM activities used to determine whether such activities have a significant effect on the quality of the human environment and whether a formal environmental impact statement is required and also to aid an agency's compliance with the National Environmental Policy Act when no EIS is necessary.

Environmental Impact Statement (EIS). A formal document to be filed with the Environmental Protection Agency and that considers significant environmental impacts expected from implementation of a major federal action.

Exotic Species. An organism or species that is not native to the region in which it is found. Synonym nonnative: Not native; alien; a species that has been introduced into an area.

Extirpation. The localized disappearance of a species from an area.

Fragile Ecosystems. Uncommon ecosystems of limited distribution and size that support unique sensitive/endemic species or communities; ecosystems that have low resilience to environmental stress or to disturbance.

Geographic Information System (GIS). A computer system capable of storing, analyzing, and displaying data and describing places on the earth's surface.

Goal. Broad statements about desired outcomes (e.g., maintain ecosystem health and productivity). They are not quantifiable.

Habitat. The natural abode of a plant or animal, including all biotic, climatic, and edaphic factors affecting life.

Habitat management scales:

Large scale = RMP planning area
Mid scale = Watershed
Fine scale = Allotment, project, portion of a watershed

Hazardous Materials. Anything that poses a substantive present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Incomplete or Unavailable Information. When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an EIS and there is incomplete or unavailable information, the agency shall always make it clear that such information is lacking (Council on Environmental Quality 1502.22). These are identified at the beginning of the environmental consequences section.

Indicators. Indicators are observations or measurements of physical, chemical, or biological factors used to evaluate site conditions or trends, appropriate to the potential of the site. Indicators will be used to determine whether or not standards are being met.

Indigenous. Living naturally within a given area and was part of the area's flora or fauna prior to human settlement of the region.

Introduction. Intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity.

Management Framework Plan (MFP). Planning decision document prepared before the effective date of the regulations implementing the land use planning provisions of the FLPMA, which establishes, for a given area of land, land-use allocations, coordination guidelines for multiple-use, and objectives to be achieved for each class of land use or protection.

Management Guidelines Common to All Alternatives. Management guidance that applies to any and all of the alternatives, including the No Action and the agency-preferred alternative. These are identified at the beginning of the description of the alternatives.

Management Objective. The objectives for which rangeland and rangeland resources are managed which includes specified uses accompanied by a description of the desired vegetation and the expected products and/or values.

Management Plan. A program of action designed to reach a given set of objectives.

Management. Any actions or activities that are undertaken by the staff of the Ely Field Office that deal with the physical or biological resources found on Public lands within the Ely planning area or with the use of those resources.

Monitoring. Monitoring means the periodic observation and orderly collection of data to evaluate: 1) Effects of management actions; and 2) Effectiveness of actions in meeting management objectives. (43 Code of Federal Regulations 4100.0.5.) The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives. (BLM Technical Reference 4400-7)

Morphology. The form and structure of an organism, with special emphasis on external features.

Multiple Use. "The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals watershed, wildlife and fish, natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the

resources and not necessarily to the combination of uses that will give the greatest economic return of the greatest unit output" (Federal Land Policy and Management Act).

Multiplier. A change in an economic measure resulting from a specified change in some other economic measure.

National Ambient Air Quality Standards. The allowable concentrations of air pollutants in the ambient (public outdoor) air. National ambient air quality standards are based on the air quality criteria and divided into primary standards (allowing an adequate margin of safety to protect the public health) and secondary standards (allowing an adequate margin of safety to protect the public welfare). Welfare is defined as including (but not limited to) effects on soils, water, crops, vegetation, human-made materials, animals, wildlife, weather, visibility, climate, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being.

National Environmental Policy Act of 1969 (NEPA). NEPA is the basic national charter for protection of the environment. It establishes policy, sets goals, and provides means for carrying out the policy. It also contains action-forcing provisions to ensure that federal agencies follow the letter and spirit of the Act.

National Natural Landmarks. This is an area designated by the Secretary of the Interior as being of national significance to the U.S. because it is an outstanding example(s) of major biological or geological features found within the boundaries of the U.S. or its Territories or on the Outer Continental Shelf.

National significance describes an area that is one of the best examples of a biological community or geological feature within a natural region of the U.S., including terrestrial communities, landforms, geological features and processes, habitats of native plant and animal species or fossil evidence of the development of life.

This program aims to encourage and support voluntary preservation of sites that illustrate the geological and ecological history of the U.S., and to strengthen the public's appreciation of America's natural heritage. To be considered for National Natural Landmark status, a site must be one of the best examples of a natural region's characteristic biotic or geologic features.

Native Species. With respect to a particular ecological system, a species that, other than as a result of an introduction, historically occurred or currently occurs in that ecological system.

Natural Resources. These include topography (consider slope and drainage patterns), soil, water courses and/or waterbodies, geological formations, vegetation (consider rare, threatened, or endangered species), and fish and wildlife (consider rare, threatened, or endangered species).

Natural System. This refers to a biological, soil, and physical environment largely, but not necessarily entirely, controlled by natural processes rather than by intensive human activity, e.g., the comparison between rangelands and tilled agricultural croplands.

Naturalized Species. An exotic or introduced species that has become established and exhibits successful reproduction in an ecosystem.

Net Value Change. The sum of the changes resulting from increases (benefits) and decreases (damages) in the value of outputs from the land area affected as the consequences of fire. An average dollar value per acre is assigned based on the change to all resources including range, watershed, wildlife, soils, and recreation.

Objective. Objectives identify specific desired conditions for resources. They can be quantified and measured and may have established timeframes for achievement (e.g., manage vegetative communities on the upland portion of the Clear Creek watershed to achieve by 2020 an average 30 to 40 percent canopy cover of sagebrush).

Permit. Authorization in writing by the authorized officer or other person authorized by the U.S. Government, and is a contract between the permittee and the U.S.

Personal Income. Employee compensation plus property income.

Physiographic Province. A geographic region with similar climatic, land form, and geologic features, and which is significantly different from adjacent regions.

Planning Criteria. Guidelines for the planning effort that serve as the sideboards.

Productivity. The potential rate of incorporation or generation of energy or organic matter (biomass) by an organism, population or trophic unit per unit time per unit area; plant productivity is termed primary production, and animal productivity is termed secondary production.

Rangeland Health. The degree to which the integrity of the soil and the ecological processes of rangeland ecosystems are sustained.

Resistance. The ability to resist; especially, the inherent capacity of a living organism (or assemblage of organisms) to resist external forces and adverse circumstances such as disease, drought, lack of nourishment, or toxic agents.

Resource. Any component of the environment that can be utilized by an organism.

Resource Advisory Council. A citizen-based group of 10 to 15 members chartered under the Federal Advisory Committee Act and appointed by the Secretary of the Interior to forward advice on public land planning and management issues to the BLM. Council membership reflects a balance of various interests concerned with the management of the public lands and users of the public lands.

Resource Management Plan (RMP). A BLM multiple-use planning document, prepared in accordance with Section 202 of the Federal Land Policy and Management Act, that:

- Establishes resource conditions goals and objectives to be attained;
- Allocates resources and identifies allowable uses;
- Identifies land area for limited, restrictive, or exclusive uses; and
- Provides guidance for implementation of the decisions made in the plan.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. For example, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Special Status Species. Plant or animal species that are federally listed, proposed, or candidate species; state protected species; or BLM sensitive species.

Species. A taxon of the rank species; which is the basic unit, and lowest principal category, of biological classification; in the hierarchy of biological classification, the category below genus; a group of organisms formally recognized as distinct from other groups.

Stakeholders. Stakeholders means, but is not limited to, state, Tribal, and local government agencies, academic institutions, the scientific community, nongovernmental entities including environmental, agricultural, and conservation organizations, trade groups, commercial interests, and private landowners.

Standard Operating Procedures. Synonymous with "mitigating measures"; a standard operating procedure would mitigate a potential impact. These are actions that the Ely Field Office automatically takes as part of a management action or project (e.g., flagging a new fence for visibility by wildlife and horses). These may be common to all alternatives.

Standards. The goal to be strived for.

Sustainability. The ability to maintain diversity, productivity, resilience to stress, health, renewability, and yields of desired values, resource uses, products, or services over time in an ecosystem while maintaining its integrity.

Threatened Species. Any plant or animal species defined under the Endangered Species Act as likely to become endangered within the foreseeable future throughout all or a significant portion of its range; listings are published in the Federal Register.

Trend. The direction of change over time, either toward or away from desired management objectives.

Upland. Terrestrial ecosystems located away from riparian zones, wetlands, springs, seeps and dry washes; ecosystems made up of vegetation not in contact with groundwater or other permanent water sources.

Urban Interface. An area where urban encroachment into adjacent wildland areas is increasing the complexity and magnitude of problems related to all aspects of natural resource management and protection, including increased fire risks, unauthorized use, and littering.

CULTURAL RESOURCES

Archaeological Resource. Any material remains of past human life or activities which are of archaeological interest. These include, but are not limited to: pottery, basketry, bottles, weapons, projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal materials, or any portion or piece of any of the foregoing items. Nonfossilized and fossilized paleontological specimens, or any portion or piece thereof, shall not be considered archaeological resources unless found in an archaeological context. No item shall be treated as an archaeological resource unless such item is at least 100 years of age. (Archaeological Resources Protection Act of 1979: Definitions 16 USC 470bb).

Archaeological Site. A geographic locale that contains the material remains of prehistoric and/or historic human activity.

Archaeology. The reconstruction of past cultures through their material remains and the study of how cultures change over time.

Conservation for Future Use. This category is reserved for any unusual cultural property which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance, cultural importance, architectural interest, or comparable reasons, is not currently available for consideration as the subject of scientific or historical study that would result in its physical alteration. A cultural property included in this category is deemed worthy of segregation from all other land or resource uses, including cultural resources uses that would threaten the maintenance of its present condition or setting, as pertinent, and will remain in this use category until specified provisions are met in the future.

- Where the primary allocation is to Conservation for Future Use:
  - Data recovery would not be permitted
  - Scientific Use would only occur when non-destructive
  - Experimental Use would be incompatible with Conservation for Future Use
  - No new actions would be approved that would require data recovery or diminish the scientific value of the resource

Cultural Property. A definite location of past human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence (BLM Manual 8100).

Cultural Resource Inventory Classes.

Kinds of Inventory: the BLM cultural resource inventory system is composed of three kinds of inventory: Class I – existing information inventory; Class II – probabilistic field survey; and Class III – intensive field

survey. Each is designed to provide specific cultural resource information for various planning and resource needs.

Class I – existing information inventory: a study of published and unpublished documents, records, files, registers, and other sources resulting in an analysis and synthesis of all reasonably available data. Class I inventories encompass prehistoric, historic, and ethnological/sociological elements, and are in large part chronicles of past land uses. They may have major relevance to current land use decisions.

Class II – probabilistic field survey: a statistically based sample survey designed to help characterize the probable density, diversity, and distribution of archaeological properties in a large area by interpreting the results of surveying limited and discontinuous portions of the target area (reconnaissance survey). For example, Class II level inventories are appropriate for Caves and Rockshelters, which normally can be detected with this type of sample design inventory.

Class III – intensive field survey: a continuous, intensive survey of an entire target area, aimed at locating and recording all archaeological properties that have surface indications, by walking close-interval parallel transects until the area has been thoroughly examined.

Cultural Resources. A broad general term meaning any cultural property and any traditional lifeway value (BLM Manual 8100). It includes prehistoric, historic, ethnographic, tribal heritage, ethnohistoric, engineering, architectural, and technological resources.

Discharged from Management. This category is assigned to cultural properties that have no remaining identifiable use. Most often these are prehistoric and historic archaeological properties, such as small surface scatters of artifacts or debris, whose limited research potential is effectively exhausted as soon as they have been documented. Also, more complex archaeological properties that have had their salient information collected and preserved through mitigation or research may be discharged from management, as should cultural properties destroyed by any natural event or human activity. Properties discharged from management remain in the inventory, but they are removed from further management attention and do not constrain other land uses. Particular classes of unrecorded cultural properties may be named and described in advance as dischargeable upon documentation, but specific cultural properties must be inspected in the field and recorded before they may be discharged from management.

Experimental Use. This category may be applied to a cultural property judged well-suited for controlled experimental study, to be conducted by BLM or others concerned with the techniques of managing cultural properties, which would result in the property's alteration, possibly including loss of integrity and destruction of physical elements. Committing cultural properties or the data they contain to loss must be justified in terms of specific information that would be gained and how it would aid in the management of other cultural properties. Experimental study should aim toward understanding the kinds and rates of natural or human-caused deterioration, testing the effectiveness of protection measures, or developing new research or interpretation methods and similar kinds of practical management information. It should not be applied to cultural properties with strong research potential, traditional cultural importance, or good public use potential, if it would substantially diminish those uses.

Historic. Period wherein nonnative cultural activities took place, based primarily upon European roots, having no origin in the traditional Native American culture(s).

Historic Property. "...any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. The term includes, for purposes of these regulations, artifacts, records, and remains that are related to and located within such properties. The term 'eligible for inclusion in the National Register' includes both properties formally determined as such by the Secretary of the Interior and all other proper-ties that meet National Register listing criteria..." {quoted from 36 CFR 900.2(e)}.

National Register of Historic Places. A register of districts, sites, buildings, structures, and objects, significant in American history, architecture, archaeology and culture, established by the "Historic Preservation Act" of 1966 and maintained by the Secretary of the Interior.

Paleontology. The study of fossils; what fossils tell us about the ecologies of the past, about evolution, and about out place, as humans, in the world. Informs us about interrelationship between the biological and geological components of ecosystems over time.

Public Use. This category may be applied to any cultural property found to be appropriate for use as an interpretative exhibit in place, or for related educational and recreational uses by members of the general public. The category may also be applied to buildings suitable for continued use or adaptive use, for example, as staff housing or administrative facilities at a visitor contact or interpretative site, or as shelter along a cross-country ski trail. Criteria to recognize Public Use at an archaeological/historic site:

- Physical evidence of public use at an archaeological site
  - evidence of display piles
  - trash
  - fire rings/campfires
  - tire tracks leading to site
  - visitor trails through site
- Monitoring of site by volunteers
- Location identified on public maps and websites, in guidebooks and newsletters

Rock Art. Petroglyphs or pictographs.

Sacred Site. Any specific, discrete, narrowly delineated location of federal land that is identified by an Indian tribe, or individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site (quoted from Executive Order 13007, Section 7 1(b)(iii)).

Scientific Use. This category applies to any cultural property determined to be available for scientific or historical study using currently available research techniques, including methods that would result in the

property's physical alternation or destruction. The category applies almost entirely to prehistoric and historic archaeological properties, where the method of use is generally archaeological excavation, controlled surface collection, and/or controlled recordation (data recovery). Recommendations to allocate individual properties to this use must be based on documentation of the kinds of data the property is thought to contain and the data's importance for pursuing specified research topics. Properties in this category need not be conserved in the face of a research or data recovery (mitigation) proposal that would make adequate and appropriate use of the property's research importance.

Traditional Cultural Property. A cultural property that derives significance from traditional lifeway values associated with it. A traditional cultural property may qualify for the National Register if it meets the criteria and criteria exceptions at 36 Code of Federal Regulations 60.4 (BLM Manual 8100 – The Foundations for Managing Cultural Resources, page 34).

Traditional Lifeway Values. The quality of being useful in or important to the maintenance of a specified social and/or cultural group's traditional systems of (a) religious belief, (b) cultural practice, or (c) social interaction, not closely identified with definite locations. Another group's shared values are abstract, nonmaterial, ascribed ideas that one cannot know about without being told (BLM Manual 8100).

Traditional Use. This category is to be applied to any cultural resource known to be perceived by a specified social and/or cultural group as important in maintaining the cultural identity, heritage, or well-being of the group. Cultural properties assigned to this category are to be maintained in ways that recognize the importance ascribed to them and seek to accommodate their continuing traditional use.

FIRE

Appropriate Management Response. Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

Emergency Stabilization. Actions taken immediately following a fire event to 1) stabilize soils against erosion, 2) protect threatened and endangered species habitats against further degradation, 3) prevent further damage to known fire-damaged historic properties, and 4) prevent invasive plant establishment.

Escaped Fire. A fire that has exceeded initial attack capabilities.

Fire Effects. The physical, biological, and ecological impact of fire on the environment.

Fire Intensity. The product of the available heat of combustion per unit area of ground and the rate of spread of the fire.

Fire Management Area. One or more parcels of land having a common set of fire management objectives.

Fire Regime. Periodicity and pattern of naturally occurring fire in a particular area or vegetative type, described in terms of frequency, biological severity, and area extent (Society of American Foresters 1996).

Fire Return Interval. The number of years between two successive fires documented in a designated area (such as the interval between two successive fire occurrences).

Fire Strategy. An overall plan of action for fighting a fire that gives regard to the most cost-efficient use of personnel and equipment in consideration of values threatened, fire behavior, legal constraints, and objectives established for resource management. Leaves decisions on the tactical use of personnel and equipment to line commanders in the suppression function.

Fire Suppression. All the work activities connected with fire-extinguishing operations, beginning with the discovery and continuing until the fire is completely extinguished.

Fuel Type. An identification association of fuel elements of distinctive species, form, size, arrangement or other characteristics that will cause a predictable rate of spread or resistance to control under specific weather conditions.

Fuels. Includes living and dead plant materials that are capable of burning.

Greenstripping. The practice of establishing or using patterns of fire-resilient vegetation and/or material to reduce wildfire occurrence and size. Examples are establishing fire-resilient vegetation adjacent to roads or railways, around or interspersed in valuable shrub stands, or within large blocks of flash fuels.

Phase 1 Fire Planning. The first phase of a two-stage fire management planning process that identifies desired resource conditions and fire management direction, including fire management strategies, which will promote achievement of resource objectives.

Prescribed Fire. Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and National Environmental Policy Act requirements must be met, prior to ignition.

Rehabilitation. The activities necessary to repair damage or disturbance caused by wildfire or the fire suppression activity.

Risk Assessment. Assessing the chance of fire starting, natural or human-caused, and its potential risk to life, resources, and property.

Values-at-risk. Any or all natural resources, improvements, or other values that may be jeopardized if a fire occurs (value-at-risk, risk of resource values).

Wildland Fire. Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

Wildland Fire Implementation Plan. A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economical, political, and resource management objectives as selected criteria for the management of wildland fire use.

Wildland Fire Situation Analysis. A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economical, political, and resource management objectives as selection criteria for suppression of a fire.

Wildland Fire Use. Any fire ignited by natural means, such as lightning, which is managed for resource benefits.

Wildland Urban Interface. The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetation fuels.

GEOLOGY AND MINERALS

Alluvium. Material deposited on the land by water, such as gravel, sand, silt, or clay.

Badlands. Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels, most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

Clay (Geology). A rock or mineral fragment of any composition finer than 0.00016 inches in diameter. Mineral: A hydrous aluminum-silicate that occurs as microscopic plates, and commonly has the ability to absorb substantial quantities of water on the surface of the plates.

Erosion (Geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains; synonymous with *natural erosion.*

Fluvial (Fluviatile) Deposit. A sedimentary deposit laid down, transported by, or suspended in, a stream.

Graben. A fault-bounded down-dropped portion of the Earth's crust.

Gravel (Geology). Fragments of rock worn by the action of air and water, larger and coarser than sand.

Hot-springs Deposit. A type of hydrothermal deposit formed in a hot-springs environment.

Hydrothermal Deposit. A mineral deposit formed by hot, mineral-laden fluids.

Igneous Rock. Rock that solidified from a molten or semimolten state. The major varieties include intrusive (solidified beneath the surface of the Earth) and volcanic (solidified on or very near the surface of the Earth).

Known Geothermal Resource Area. "An area in which the geology, nearby discoveries, competitive interest, or other indicia would, in the opinion of the Secretary, engender the belief in men who are experienced in the subject matter that the prospect for extraction of geothermal stream or associated geothermal resources are good enough to warrant expenditures or money for that purpose" [43 Code of Federal Regulations 3200.0-5(k)].

Lacustrine Deposit (Geology). Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Leasable Minerals. Those minerals that are leased to individuals for their exploration and development. The leasable minerals have been subdivided into two classes, fluid and solid. Fluid minerals include oil and gas; geothermal resources and associated by-products; and oil shale, native asphalt, oil impregnated sands and any other material in which oil is recoverable only by special treatment after the deposit is mined or quarried. Solid leasable minerals are specific minerals such as coal and phosphates. All minerals on acquired lands are considered to be leasable minerals. Leasable minerals are associated with the following laws: Mineral Leasing Act of 1920, as amended and supplemented, Mineral Leasing Act for Acquired Lands of 1947, as amended, and the Geothermal Steam Act of 1970, as amended.

Limestone. A sedimentary rock consisting chiefly of calcium carbonate.

Locatable Minerals. Those that have been described as "valuable mineral deposits." These include precious and base metal ores such as gold, silver, copper, or lead, and certain industrial minerals such as gypsum, chemical grade limestone, and chemical grade silica sand. Uncommon varieties of mineral materials such as pozzolan, pumice, decorative rock, and cinders also are regulated as locatable minerals. These minerals are regulated under the General Mining Law of 1872, as amended, and Surface Use and Occupancy Act of July 23, 1955.

Magma. Molten rock from within the Earth capable of flowing like liquid.

Metamorphosed. Rock that has been altered in composition, texture, or structure by heat and/or pressure.

Mineral Materials. Common geologic materials that include sand, gravel, and common clay. Mineral materials are sold through contract and are regulated under the Mineral Material Act of July 23, 1947, as amended, and the Surface Use and Occupancy Act of July 23, 1955.

No Surface Occupancy. A fluid mineral leasing stipulation that prohibits occupancy or disturbance on all or part of the lease surface to protect special values of uses. Lessees may explore for or exploit the fluid minerals under leases restricted by this stipulation by using directional drilling from sites outside the no surface occupancy area.

Porphyry Deposit. A large, low-grade metallic mineral deposit containing disseminated sulfide minerals (examples: copper, gold, molybdenum, or tin).

Rhyolite. A fine-grained light-colored silica-rich igneous rock composed largely of potash feldspars and quartz.

Salable Minerals. See Mineral Materials.

Sand. (geology) A rock fragment or detrital particle between 0.0025 and 0.08 inches in diameter.

Schist. A metamorphic rock characterized by coarse-grained minerals oriented approximately parallel.

Silt (Geology). A rock fragment or detrital particle smaller than very fine sand and larger then coarse clay, ranging from 0.0024 to 0.00016 inches in diameter and commonly having a high content of clay minerals.

Slate. A compact, fine-grained, platy metamorphic rock formed from shale or claystone.

Special Stipulation. A specific operating condition or limitation added to a mineral lease to protect sensitive resources. It modifies the original terms and conditions of that lease.

Surface Occupancy. See definition for No Surface Occupancy.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valid Existing Rights. Locatable mineral development rights that existed when the Federal Land Policy and Management Act was enacted on October 21, 1976. Some areas are segregated from entry and location under the Mining Law to protect certain values or allow certain uses. Mining claims that existed as of the effective date of the segregation may still be valid if they can meet the test of discovery of a valuable mineral required under the Mining Law. Determining the validity of mining claims located in segregated lands requires BLM to conduct a validity examination and is called a "valid existing rights" determination.

GRAZING

Active Use. The current authorized use, including livestock grazing and conservation use. Active use may constitute a portion, or all, of permitted use. Active use does not include temporary nonuse or suspended use of forage within all or a portion of an allotment.

Actual Use Data. The number of livestock, kind or class of those livestock, and time period those livestock actually grazed a specific allotment or pasture.

Animal Unit. One cow, one cow/calf pair, one horse, or five sheep.

Animal Unit Month. The forage needed to support one cow, one cow/calf pair, one horse, or five sheep for one month. Approximately 800 pounds of forage.

Authorized Use. This is the amount of use a permittee is billed for (the bill is the authorization to graze). It may or may not be the total active use. Example: If a permittee has 500 animal unit months of active use, he may only be authorized 300 animal unit months for a certain year, but cannot be authorized above 500 animal unit months. This changes from year to year, based on fluctuation of the permittees livestock herd, vegetation production, drought, etc.

Deferred Grazing. Discontinuance of grazing by livestock on an area for a specified period of time during the growing season to promote plant growth, reproduction, establishment of new plants, or restoration of vigor by old plants.

Deferred Rotation Grazing. Discontinuance of grazing on various parts of a range in succeeding years, allowing each part to rest successively during the growing season to permit seed production, establishment of seedlings, or restoration of plant vigor. Two, but usually three or more, separate units are required. Control is usually insured by unit fencing, but may be obtained by camp unit herding.

Distribution (Grazing). Dispersion of grazing animals within a management unit or area.

Ecological Site Inventory. The basic inventory of present and potential vegetation on BLM rangelands. Ecological sites are differentiated on the basis of the kind, proportion, or amount of plant species.

Forage. The plant material actually consumed by (or available to) grazing animals.

Grazing Distribution. Dispersion of livestock grazing within a management unit or area.

Guidelines. Guidelines are livestock management practices (e.g., tools, methods, strategies, and techniques) designed to achieve healthy public lands as defined by Standards and portrayed by Indicators. Guidelines are designed to provide direction, yet offer flexibility for local implementation through activity plans and grazing permits. Activity plans may add specificity to the Guidelines based on local goals and objectives as provided for in adopted manuals, handbooks, and policy. Not all Guidelines fit all circumstances. Monitoring or site specific evaluation will determine if significant progress is being made towards achieving the Standards, and if the appropriate Guidelines are being applied.

Intensity (Grazing). A reference to grazing density per unit of time.

Performance-based Grazing Management (Conservation Partnerships). A voluntary arrangement in which a grazing permit holder enters into a performance-based agreement with the agency aimed at promoting ecological health of an allotment. Performance-based actions would include those that help restore stream banks and wetlands, enhance water quality and quantity, improve wildlife habitat, and promote recovery of special status species. In return the permittee receives greater management flexibility and the potential for increased livestock grazing made possible by success in the conservation efforts.

Permitted Use. The forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease and is expressed in animal unit months.

Range Improvement. Range improvement means an authorized physical modification or treatment that is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; restore, protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses, and fish and wildlife. The term includes but is not limited to, structures, treatment projects, and use of mechanical devices or modifications achieved through mechanical means.

Residual Vegetation. Amount, cover, and species composition of the vegetation on a site after it has been grazed for a period of time.

Rest-rotation Grazing. An intensive system of management whereby grazing is deferred on various parts of the range during succeeding years, allowing the deferred part complete rest for one year. Two or more units are required. Control by fencing is usually necessary on cattle range, but may be obtained by herding on sheep ranges.

Surface Characteristics. The amount of bare ground, litter, rock, and basal cover of live vegetation, which may include cryptograms (Nevada Rangeland Monitoring Handbook).

Sustained Yield. "The achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use" (Federal Land Policy and Management Act of 1976).

LANDS, RECREATION, AND SPECIAL DESIGNATIONS

Access. The physical ability to have legal ingress to and egress from public lands via public roads or on routes having public easements.

Acquired Lands. Lands acquired for BLM administration in various ways, such as but not limited to: 1) any lands purchased by congressionally appropriated funds, 2) land donations, 3) land exchanges, 4) Land and Water Conservation Fund acquisitions, 5) land withdrawals returned to public land status through withdrawal revocations and/or relinquishments, etc., 6) split-estate acquisitions, 7) federal agency jurisdictional transfers, 8) easement acquisitions, and/or 9) lands acquired by any other means.

Area Of Critical Environmental Concern (ACEC). Area where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect humans from natural hazards.

Avoidance Areas. Areas with sensitive resource values where rights-of-way would be strongly discouraged. Authorizations made in avoidance areas would have to be compatible with the purpose for which the area was designated and not be otherwise feasible on lands outside the avoidance area.

Back-country Byway. Vehicle routes that traverse scenic corridors utilizing secondary or back-country road systems. National back-country byways are designated by the type of road and vehicle needed to travel the byway.

Closed. Generally denotes that an area is not available for a particular use or uses; refer to specific definitions found in law, regulations, or policy guidance for application to individual programs.

Corridor. A wide strip of land within which a proposed linear facility could be located.

Designated Corridor. A parcel of land identified by law, Secretarial order, through a land use plan or by other management decision as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way that are similar, identical or compatible.

Designation. The approval of a resource management plan, plan revision, or plan amendment constitutes formal designation of off-highway vehicle use areas.

Exclusion Areas. Areas with sensitive resource values where rights-of-way would be prohibited.

Extensive Recreation Management Area. Area where recreation management is less structured (than within a special recreation management area) and recreation use more dispersed with minimal regulatory constraints and where minimal recreation-related investments are required.

High Resource Values. Lands with high resource values are considered to be public lands that have the caliber of resources to qualify them for inclusion in special management areas such as ACECs, National Wild and Scenic Rivers, Wilderness Study Areas, and high resource areas such as critical wildlife habitat areas, wild horse herd areas, critical fish habitat areas, cultural site areas, threatened and endangered species habitats, etc. Long-term retention of Public lands in these special management areas is either required by law through Congressional action or identified through the land use planning process.

Integrated Use. To merge the use of each type of public land use through a series of land management practices.

Interim Management Policy. Policy for managing public lands under wilderness review. Section 603 (c) of the Federal Land Policy and Management Act of 1976 states: "During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of

approval of this Act: Provided, that, in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection."

Land Use Allocations. Allocations that define allowable uses/activities, restricted uses/activities, and prohibited uses/activities. They may be expressed in terms of area such as acres or miles. Each allocation is associated with a specific management objective.

Land Use Plan. Land use plan means a resource management plan, developed under the provisions of 43 Code of Federal Regulations part 1600, or management framework plan. These plans are developed through public participation in accordance with the provisions of the Federal Land Policy and Management Act of 1976 and establish management direction for resource uses of public lands. (43 Code of Federal Regulations 4100)

Limits of Acceptable Change. For recreation management, a nine-step process used to define the desired resource conditions for an area and to determine acceptable levels of resource change due to recreation use. The process helps to develop management actions to avoid exceeding standards.

Mechanized Vehicle. Any non-motorized vehicle capable of or designed for travel on land. An example of a mechanized vehicle is a mountain bike.

Military Operations Area. A type of low-altitude military airspace that is controlled, when active, to separate military activities from civilian air traffic. Depending on the specific military operations area, military aircraft may maneuver to altitudes as high as 18,000 feet above mean sea level, and supersonic flight may be authorized. Training activities typically include basic fighter maneuvers, air combat tactics, low-altitude tactical navigation, and simulated air-to-surface missions.

Naturalness (a primary wilderness value). An area that generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable.

Off-highway Vehicle. A vehicle that can be operated off of improved and regularly maintained roads with hardened or gravel surfaces.

Off-highway Vehicle Designation:

- Open: Designated areas and trails where off-highway vehicles may be operated subject to operating regulations and vehicle standards set forth in BLM Manuals 8341 and 8343.

- Limited: Designated areas and trails where off-highway vehicles are subject to restrictions limiting the number or types of vehicles, date, and time of use; limited to existing or designated roads and trails.

- Closed: Areas and trails where the use of off-highway vehicles is permanently or temporarily prohibited. Emergency use is allowed.

Off-Highway Vehicle Emphasis Area. A special recreation management area that emphasizes motorized recreation over other recreational opportunities. These are not designated off-highway vehicle open areas. Within the special recreation management area, trails and routes would be designated for motorized recreational opportunities. Off-road motorized travel would not be permitted for recreational purposes.

Patent. The instrument by which the Federal Government conveys title to the public lands.

Primary Wilderness Values. The primary or key wilderness values described in the "Wilderness Act" by which Wilderness Study Areas and designated wilderness are managed to protect and enhance the wilderness resource. Values include roadlessness, naturalness, solitude, primitive and unconfined recreation, and size.

Primitive and Unconfined Recreation (a primary wilderness value). Nonmotorized and undeveloped types of outdoor recreation activities. Refers to wilderness recreation opportunities, such as nature study, hiking, photography, backpacking, fishing, hunting, and other related activities. Does not include the use of motorized vehicles, bicycles, or other mechanized means of travel.

Public Land. Any land or interest in land owned by the U.S. and administered by the Secretary of the Interior through the BLM.

Recreation Opportunity Spectrum. A means of characterizing recreation opportunities in terms of setting, activity, and experience opportunities.

Recreation Site. An area where management actions are required to provide a specific recreation setting and activity opportunities, to protect resource values, provide public visitor safety and health, and/or to meet public recreational use demands and recreation partnership commitments. A site may or may not have permanent facilities.

Research Natural Area. An area where natural processes predominate and which is preserved for research and education. Under current BLM policy, these areas must meet the relevance and importance criteria of ACECs and are designated as ACECs.

Right-of-way. A permit or an easement authorizing the use of public land for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, etc. Also, the reference to the land covered by such an easement or permit.

Road. Travel route that has been improved and maintained by mechanical means to ensure relatively regular and continuous use.

Rural Interface Areas. Areas where BLM-administered lands are adjacent to or intermingled with privately owned lands zoned for 1- to 20-acre lots, or areas that already have residential development.

Solitude (a primary wilderness value). The state of being alone or remote from habitations; a lonely, unfrequented, or secluded place. The intent is to evaluate the opportunity for solitude in comparison to habitations of people.

Special Recreation Management Area. An area where recreation is one of the principal management objectives, where intensive recreation management is needed, and where more than minimal recreation-related investments are required.

Special Recreation Permit. Authorizations, which allow for recreational uses of the public lands and related waters. They are issued as a means to control visitor use, protect recreational and natural resources, provide for the health and safety of visitors, and as a mechanism to accommodate commercial recreational use of public lands.

Trail. A pathway usually created and maintained by human foot traffic, beasts-of-burden, livestock, or wildlife.

Visit. A unit of measure for evaluating the amount of recreational activity on public land; equivalent to one person spending any part of a day recreating on Public land.

Visual Resource Management Classes. A classification of landscapes according to the kinds of structures and changes that are acceptable to meet established visual goals (BLM).

Visual Resources. The visible physical features of a landscape (topography, water, vegetation, animals, structures, and other features) that constitute the scenery of an area.

Way. A trace maintained solely by the passage of vehicles which has not been improved and/or maintained by mechanical means to ensure relatively regular and continuous use.

Wilderness Inventory. A written description of resource information and data, and a map of those public lands that meet the wilderness criteria as established under Section 603 (a) of the Federal Land Policy and Management Act of 1976 and Section 2 (c) of "The Wilderness Act."

Wilderness Study Area. A roadless area or island that has been inventoried and found to have wilderness characteristics as described in section 603 of the Federal Land Policy and Management Act of 1976 and section 2 (c) of "The Wilderness Act." Wilderness Study Areas were administratively designated by BLM following evaluation of wilderness inventories.

Withdrawal. A withdrawal is a formal action that transfers total or partial jurisdiction of federal land between federal agencies, segregates (closes) federal land to some or all of the public land laws and/or mineral laws, or dedicates land for a specific public purpose. There are three major categories: Congressional, administrative, and Federal Energy Regulatory Commission withdrawals.

SOIL

Association, Soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single soil map unit.

Biological (Cryptogamic) Soil or Crust. Community of non-vascular primary producers that occur as a "crust" on the surface of soils; made up of a mixture of algae, lichens, mosses, and cyanobacteria (bluegreen algae).

Calcareous Soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Classification, Soil. The systematic arrangement of soils into groups or categories on the basis of their characteristics.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clayey Soil. Silty clay, sandy clay, or clay.

Coarse Textured Soil. Sand or loamy sand.

Colluvium. Soil material, rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Compaction, Soil. An increase in soil bulk density of 15 percent or more from the undisturbed level.

Complex, Soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Cryptogamic Crust. See microbiotic crust.

Erosion. (v.) Detachment and movement of soil or rock fragments by water, wind, ice, or gravity. (n.) The land surface worn away by running water, wind, ice, or other geologic agents, including such processes as gravitational creep.

Erosion (Accelerated). Erosion much more rapid than geologic erosion, occurring mainly as a result of human or animal activities or of a catastrophe in nature, such as with fire, that exposes the surface.

Fertility, Soil. The quality that enables a soil to provide plant nutrients in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fine Textured Soil. Sandy clay, silty clay, or clay.

Functionality, Soil. The maintaining of soil structure and texture characteristics, such as aeration, temperature, moisture, nutrition and the organisms that live in the soil.

Gravel. (Geology) Unconsolidated, rounded rock fragments greater than 0.08 inch in diameter. Sizes range from pebbles (0.008 to 2.5 inches) to cobbles (2.5 to 10 inches) to boulders (greater than 10 inches).

Horizon, Soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Map Unit. The basic system of description in a soil survey and delineation on a soil map. Can vary in level of detail.

Medium Textured Soil. Very fine sandy loam, loam, silt loam, or silt.

Microbiotic Crust. Lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing on or just below the surface of soils.

Order 3 Soil Survey. A reconnaissance survey with extensive ground truthing. Minimum delineation sizes are typically on the order of 40 to 80 acres.

Organic Matter. Plant and animal residue in the soil in various stages of decomposition.

Permeability. The quality of the soil that enables water to move downward through the profile, measured as the number of inches per hour that water moves downward through the saturated soil.

pH Value. A numerical designation of acidity and alkalinity in soil (see "reaction, soil").

Productivity, Soil. The organic fertility or capacity of a given area or habitat.

Profile, Soil. A vertical section of the soil extending through all its horizons and into the parent material.

Quality, Soil. Soil quality is the capacity of a specific kind of soil to function, within natural or managed ecological system boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation. Changes in the capacity of soil to function are reflected in soil properties that change in response to management or climate.

Saline Soil. A soil containing soluble salts in an amount that impairs the growth of plants. A saline soil does not contain excess exchangeable sodium.

Sediment. Soil, rock particles, and organic or other debris carried from one place to another by wind, water or gravity.

Series, Soil. A nationally defined soil type set apart on distinct soil properties that affect use and management. In a soil survey, this includes a group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Silt (Soil). Individual mineral particles ranging in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class: Soil that is 80 percent or more silt and less than 12 percent clay.

Sodic (alkali) Soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Soil. 1) The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants; 2) the unconsolidated mineral matter on the surface of the earth that has been subjected to and influenced by genetic and environmental factors of parent material, climate (including moisture and temperature effects), macro- and micro-organisms, and topography, all acting over a period of time and producing a product -soil- that differs from the material it was derived in many physical, chemical, biological, and morphological properties and characteristics.

Structure, Soil. The arrangement of primary soil particles into compound particles or aggregates.

Survey, Soil. A field investigation resulting in a soil map showing the geographic distribution of various kinds of soil and an accompanying report that describes the soil types and interprets the findings.

Texture, Soil. The relative proportions of sand, silt, and clay particles in a mass of soil.

VEGETATION AND WOODLANDS

Annual Growth. The amount of production of new above-ground plant biomass for a given site during a given year.

Attribute. A discreet feature or characteristic of biotic or physical resources that can be measured (example: plant density, which is the number of individuals or stems per unit area).

Canopy Cover. The percentage of ground covered by a vertical projection of the outermost perimeter of the natural spread of foliage of plants. Small openings within the canopy are included. (BLM Technical Reference 4400-7)

Community Structure. Refers to the presence of multiple plant life forms (trees, shrubs, grasses, and forbs) and their relative abundance within a given vegetation community.

Conifer. A tree of the order Coniferae with cones and needle-shaped or scale-like leaves.

Control. Control means, as appropriate, eradicating, suppressing, reducing, or managing invasive species populations, preventing spread of invasive species from areas where they are present, and taking steps such as restoration of native species and habitats to reduce the effects of invasive species and to prevent further invasions.

Desired Natural Plant Community. The type of plant community which is desired for a particular ecological site. This could include native and non-native species depending on the desired land use, but as a natural plant community it must have native species adapted to the climate and soil type as dominants or co-dominants in the community.

Desired Plant Community. Of the several plant communities that may occupy a site, the one that has been identified through a management plan to best meet the plan's objectives for the site. It must protect the site as a minimum.

Deterioration or Decline (of vegetation communities). A pattern of changes in vegetation communities leading to loss of perennial understory species, reduction in overall species diversity, increase in shrub or tree dominance in communities that are not naturally shrublands or woodlands. These changes indicate that the vegetation community is approaching or undergoing a transition to another vegetation state from which conditions are not easily reversible.

Diameter at Breast Height (DBH). The diameter of a tree measured 4.5 feet above the ground.

Ecological Site. A distinctive kind of land with specific physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation.

Ecological Status. The present state of vegetation of a range site in relation to the potential natural community for that site. Four classes are used to express the degree to which the production or composition of the present plant community reflects that of the potential natural community (climax):

Ecological Status (Seral stage)	Percent of Community in Climax Condition
Potential natural community	76–100
Late seral	51–75
Mid-seral	26–50
Early seral	0–25

As stated in Section 2.5.5, this concept has been superseded by state-and-transition models, which serve as the basis for vegetation management in this RMP.

Forb. Any herbaceous plant not a grass or a grasslike species.

Forest Health. The condition in which forest ecosystems sustain their complexity, diversity, resiliency, and productivity while providing for human needs and values.

Fragmentation. Process of reducing the size and connectivity of vegetated stands and/or habitat that comprise a rangeland or forest; a measure of connectivity in vegetative and/or habitat conditions across a landscape.

Ground Cover. The percentage of material, other than bare ground, covering the land surface. It may include live and standing dead vegetation, litter, cobble, gravel, stones and bedrock. Ground cover plus bare ground would total 100 percent (BLM Technical Reference 4400-4).

Invasive. Describes a species which takes over a new habitat where it was not previously found, often to the detriment of species which were there before.

Invasive Species. A nonnative plant species that is capable of dominating over native or other nonnative plant species in such a way that it interferes with natural ecological processes of plant community functionality. If introduced into a plant community it does, or is likely to, cause economic harm, environmental harm, or harm to human health.

LANDFIRE Biophysical Setting Models. Predictive models developed under the LANDFIRE collaborative partnership of the USDA Forest Service, the Department of Interior, and the Nature Conservancy to describe how ecosystems function in relation to their environmental setting and various disturbances such as fire. Biophysical settings represent natural plant communities that would become established in later stages of successional development given natural ecological processes such as fire. Biophysical settings are matched one-to-one with vegetation succession models used to simulate historical reference conditions. The biophysical settings represent the vegetation that can potentially exist at a given site based on both the biophysical environment and an approximation of the historical fire regime (www.reo.gov/ecoshare/publications/documents/LANDFIRE_outputs.pdf).

Litter. The uppermost layer of organic debris on the soil surface; essentially the freshly fallen or slightly decomposed vegetal material (BLM Technical Reference 4400-4).

Maintenance of Desired Range of Conditions (Vegetation). Management of watersheds, allotments, or local sites that possess the desired plant communities in a manner to ensure continued survival and health of these desired communities. As used in the context of this RMP, maintenance activities typically focus on grazing management and other "passive" management tools as opposed to fire, chemical applications, seeding, or other "active treatment" management tools. It is important to emphasize that in dynamic natural

systems, some type and degree of disturbance is generally necessary to maintain current conditions, whatever they may be.

Marsh. Flat, wet, treeless areas usually covered by standing water and supporting a native growth of grasses and grasslike plants.

Mechanical Treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Natural System. This refers to a biological, soil, and physical environment largely, but not necessarily entirely, controlled by natural processes rather than by intensive human activity, e.g., the comparison between rangelands and tilled agricultural croplands.

Noxious Weed. Any plant designated by a federal, state, or county government as injurious to public health, agriculture, recreation, wildlife, or property.

Nutrient, Plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil, and carbon, hydrogen, and oxygen obtained from the air and water.

Old-growth. A stage that constitutes the potential plant community, characterized by large, old trees, and capable of existing on a site given the frequency of natural disturbance events. Identification of old-growth species is dependant on the forest/woodland type. In most forest/woodland stands, old-growth tree species have large diameters relative to average, and are resilient and able to withstand natural disturbance events (i.e., fire).

Overmature Woodland. A vegetation state whereby the woodland community has crossed a threshold into a state where the canopy cover exceeds optimum percentages and the herbaceous perennial understory has been reduced to rare or absent. In this state, tree density and fuel accumulation have reached the point of promoting large hot fires.

Overstory. The upper canopy or canopies of plants. Usually refers to trees, tall shrubs, and vines.

Phase. A descriptor used to describe multiple identifiable plant communities within a particular state of the state-and-transition model. Communities may shift over time in a reversible manner among phases in a state in response to climate, grazing, and numerous other disturbance factors. As vegetation communities shift among phases, the vegetation and soil maintain resilience to return with similar characteristics.

Plant Cover. 1) The plants or plant parts, living or dead, on the surface of the ground. Vegetative cover or herbage cover is composed of living plants and litter cover of dead parts of plants; 2) the area of ground cover by plants of one or more species.

Proper Functioning Condition. Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filer sediment, capture bedload, and aid floodplain development; improve flood-water retention and groundwater recharge; develop root masses that stabilized streambank against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity (BLM Technical Reference 1737-9).

Range of Healthy Conditions (vegetation). The set of primary vegetation community characteristics that determine whether a given vegetation community is considered to be "healthy" with respect to the agency goals of ecological health and resilience. Ranges of healthy conditions are based primarily on composition of perennial species present in the overstory vegetation and the presence or absence of native perennial species in the herbaceous understory.

Resilience. The ability of a natural vegetation community to recover following a disturbance such as fire with recruitment of native plants in a manner that eventually leads back to the pre-disturbance condition. Resilient communities typically exhibit perennial herbaceous understory; non-resilient communities commonly exhibit no understory or understories dominated by invasive exotic species.

Resistance. The capability to stay near equilibrium conditions with less variation in ecological processes. Resistant plant communities accommodate more outside influences. Resilience and resistance determine the stability of a state or of the various phases within a state (Swanson 2005).

Riparian. Referring to or relating to areas adjacent to water or influenced by free water associated with streams or rivers on geologic surfaces occupying the lowest position of a watershed. Pertaining to, living or situated on, the banks of rivers and streams. 'Xeroriparian' refers to being situated on dry washes (ephemeral streams).

Seral Stage. The developmental phase of a forest stand or rangeland with characteristic structure and plant species composition.

Scrub. Refers to a stand of vegetation characterized by thick growth of dwarf or stunted trees and shrubs and a poor soil.

Shrub. A low woody plant.

Site Preparation. Any action taken in conjunction with a reforest effort (natural or artificial) to create an environment that is favorable for survival of suitable vegetation during the first growing season. This environment can be created by altering ground cover, soil, or microsite conditions through using biological, mechanical, or manual clearing, prescribed burns, herbicides, or a combination of methods.

Slash. The branches, bark, treetops, reject logs, and broken or uprooted trees left on the ground after logging.

State. A descriptor used to describe a recognizable, resistant, and resilient complex of soil and vegetation for an ecological site. The plant communities within a state are different from those of other states in the state-and-transition model. When a vegetation community loses resilience and characteristic ecological processes, it crosses a threshold into another state. Such transitions are not readily reversible like the shift among phases within a state.

State and Transition Models. Models that diagram the variety of stable states for a given ecological site. Such models identify the potential array of disturbance factors affecting vegetation communities for the ecological site and are used to explain and predict vegetation changes in response to these factors. Such responses may involve a transition from one state to a different state on the ecological site.

Threshold. A point of irreversible transition to a new state. After the transition, significant management effort (e.g., seeding, herbicide control, fire control, etc.) is needed to restore the ecological processes of the other state (Swanson 2005).

Transition. The trajectory of system change between states that lead to the establishment of a new state. The transition may be reversible for a time and may become irreversible after the new state has been reached. A transition involves the loss or significant change of ecological processes such as soil capture of water, reproduction of key species or species groups, resilience after fire, etc. Lost or changed processes do not recover without intervention (Swanson 2005).

Vegetation Manipulation. Alteration of present vegetation by using fire, plowing, or other means to manipulate natural succession trends.

Weed. A plant considered undesirable, unattractive, or troublesome, usually introduced and growing without intentional cultivation.

Wetlands. Areas characterized by soils that are usually saturated or ponded, i.e., hydric soils, that support mostly water-loving plants (hydrophytic plants).

Wilding. A plant growing uncultivated in the wild either as a native or an escape.

Woodland. A forest community occupied primarily by noncommercial species such as juniper, mountain mahogany, or aspen.

WATER

Aquifer. A body of rock that is sufficiently permeable to conduct groundwater and to yield economically significant quantities of water to wells and springs.

Beneficial Use. Any of various uses of water in an area. Water may be for agricultural, domestic, or industrial use, fish spawning, recreation, wildlife habitat, or other uses.

Channeled. Refers to a drainage area in which natural meandering or repeated branching and convergence of a streambed have created deeply incised cuts, either active or abandoned, in alluvial material.

Drainage, Surface. Runoff, or surface flow of water, from an area.

Drawdown. The lowering of the water level in a well as a result of withdrawal; the reduction in head at a point caused by the withdrawal of water from an aquifer.

Ephemeral Stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no continuous supply from melting snow or other source, and its channel is above the water table at all times.

Flood Plain. A nearly level alluvial plain that borders a stream and is subject to inundation under flood-stage conditions unless protected artificially. It is usually a constructional landform built of sediment deposited during overflow and lateral migration of the stream.

Groundwater. Subsurface water that is in the zone of saturation. The top surface of the groundwater is the "water table." Source of water for wells, seepage, springs.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Infiltration. The flow of a fluid into a substance through pores or small openings. It connotes flow into a substance in contradistinction to the word percolation. The process by which water seeps into a soil, as influenced by soil texture, aspect, and vegetation cover.

Infiltration Rate. Maximum rate at which soil under specified conditions can absorb rain or shallow impounded water, expressed in quantity of water absorbed by the soil per unit of time, e.g., inches/hour.

Interior Drainage. Streams with no outlet to the sea.

Intermittent Stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives groundwater discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Microsiemens Per Centimeter. A unit of measure for specific or electrical conductivity of water. Higher values reflect greater levels of dissolved conductors (e.g., sodium, calcium, or magnesium salts).

Percolation. The flow of a liquid through a porous substance.

Perennial Stream. A stream in which water is present during all seasons of the year.

Perennial Yield. Water that is available in a shallow alluvial aquifer that can be withdrawn without creating substantial drawdown in the aquifer's water table.

Pluvial Lake. A lake formed during a period of exceptionally high rainfall (such as during a time of glacial advance during the Pleistocene epoch) and now either extinct or existing as a remnant, such as Lake Bonneville.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called groundwater runoff or seepage flow from groundwater.

Seep. Wet areas, normally not flowing, arising from an underground water source.

Specific Conductance. A measurement that indicates the capacity of a sample of water to transmit an electrical current, which is associated with the concentration of ionized substances in the water.

Spring. Flowing water originating from an underground source.

Stream Channel. The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Total Dissolved Solids. Total amount of dissolved material, organic or inorganic, contained in a sample of water.

Wellhead Protection Area. The land surface area in which activities and land uses must be managed to protect the underlying ground water. A wellhead protection area is designated to protect the groundwater flowing to a well or group of wells and is represented on the land surface generally as a circular or elliptical shape around the well. In some cases, it also may be necessary to manage the activities in a recharge zone located some distance from the well.

WATERSHED

Ecological Site Description – Ecological Site Inventory is the BLM's approved and accepted rangeland vegetation/soil survey method based on current year's vegetation growth, and an Order 3 soil survey. The BLM follows the survey processes and techniques defined in the Natural Resources Conservation Service (NRCS) "National Range and Pasture Handbook", with some slight adaptations to BLM's needs.

In order to properly inventory, assess, and manage the conditions of rangelands they must be divided into basic units of study. On rangelands and some forest lands this is called an ecological site. An ecological site, according to the National Range and Pasture Handbook, is

...a distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation....An ecological site is the product of all the environmental factors responsible for its development, and it has a set of key characteristics that are included in the ecological site description. Ecological sites have characteristic soils that have developed over time throughout the soil development process. The factors of soil development are parent material, climate, living organisms, topography or landscape position, and time. An ecological site has a characteristic hydrology, particularly infiltration and runoff that has developed over time. The development of the hydrology is influenced by development of the soil and plant community. An ecological site has evolved a characteristic plant community kind (cool season, warm season, grassland, shrub-grass, sedge meadow) and amount of vegetation. The development of the vegetation, the soil, and the hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species, or in total production.

Hydrologic Balance. The balance between hydrological inputs (infiltration of incident precipitation, run-on) and hydrological outputs (run-off, deep drainage) for an ecological site.

Hydrologic Subbasins. See watershed.

Hydrologic Unit. A geographic area representing part or all of a surface drainage basin or distinct hydrologic feature.

REGAP. Re-mapping under the Gap Analysis Program. The purpose of the National Gap Analysis Program (GAP) is to provide broad geographic information on the status of ordinary species (those not threatened with extinction or naturally rare) and their habitats in order to provide land managers, planners, scientists, and policy makers with the information they need to make better-informed decisions. Existing natural vegetation is mapped from satellite imagery and other records using the National Vegetation Classification System to the level of dominant or co-dominant plant species.

Restoration. Holistic actions taken to modify an ecological system to achieve desired, healthy, and functioning conditions and processes. Generally refers to the process of enabling the system to resume its resiliency to disturbances.

Site Potential. A measure of resource availability based on interactions among soils, climate, hydrology, and vegetation.

Watershed. 1) A total area of land above a given point on a waterway that contributes runoff water to the flow at that point; 2) A major subdivision of a drainage basin.

WILD HORSES

Appropriate Management Level. The optimum number of wild horses that provides a thriving natural ecological balance on the public range.

Band. A group of wild horses running together or a lone wild horse.

Herd. One or more wild horse bands using the same general area.

Herd Area. Herd Areas are limited to areas of the public lands identified as being habitat used by wild horses and burros at the time of the passage of the Wild Horse and Burro Act, as amended (16 U.S.C. 1331-1340). Herd Area boundaries may only be changed when it is determined that: 1) areas once listed as Herd Areas are later found to be used only by privately owned horses or burros, or 2) the Herd Area Boundary does not correctly portray where wild horses and burros were found in 1971.

Herd Management Area. Areas within Herd Areas that are designated for management of wild horses as one of the multiple uses, where the long term maintenance and management of wild horses can occur due to adequate resources.

Herd Management Area Plan. A plan that prescribes measures for the protection, management, and control of wild horses and their habitat on one or more herd management areas, in conformance with decisions made in approved management framework or resource management plans.

Wild Horses. Unbranded and unclaimed horses that use Public land as all or part of their habitat, or that have been removed from such land by an Authorized Officer but have not lost their status under Section 3 of the "Wild Free-Roaming Horse and Burro Act."

WILDERNESS

Designated Wilderness. An area designated by Congress and defined in Section 2(c) of the Wilderness Act of 1964 as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined as an area of undeveloped Federal land retaining it primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which 1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; 2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; 3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and 4) also may contain ecological, geological, or other features of scientific, educational, scenic, or historical values.

Wilderness Study Area. A roadless area of 5,000 acres or more or a roadless island that has been inventoried and found to possess wilderness characteristics as described in Section 2(c) of the Wilderness Act of 1964.

WILDLIFE

Connectivity. A network of habitat patches linked by areas or corridors of like habitat; it affects how organisms can move through the landscape.

Cover. Any form of environmental protection that helps an animal stay alive (mainly shelter from weather and concealment from predators); any vegetation material that overlies the soil surface and protects it against erosion.

Critical Habitat. Specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation.

Crucial Habitat. Wildlife habitat vital to the existence of a particular wildlife species during a certain season of the year or period of its life.

Habitat Degradation. The pattern of changes in vegetation and other habitat components that result in loss of food supplies, water sources, cover quality, or space for a wildlife species.

Habitat Fragmentation. The division of large contiguous blocks of wildlife habitat into isolated smaller parcels separated by distances great enough to discourage wildlife movement between parcels.

Lek. An assembly area where birds, especially sage grouse, carry on display and courtship behavior.

Lek, Active. A lek that had two or more birds present during at least one of three or more visitations in a given breeding season. For a strutting ground to attain this status it must also have had two or more birds present during at least 2 years in a 5-year period (Connelly et al. 2003).

Occupied Isolated Habitat. Isolated segments of discontinuous wildlife habitat occupied by an individual wildlife species in circumstances where the habitat discontinuities prevent migration of excess population members into additional habitat segments.

Occupied Source Habitat. Wildlife habitat occupied by an individual wildlife species at population levels and under circumstances where members of the population may migrate into adjoining unoccupied habitats to expand the overall species population.

Priority Habitat. A priority habitat may be described by a unique vegetation type or by a dominant plant species that is of primary importance to priority fish and wildlife. A priority habitat may also be described by a successional stage (such as, old growth and mature forests). Alternatively, a priority habitat may consist of a specific habitat element (such as a spring, stream, or cave) of key value to priority fish and wildlife. A priority habitat may contain priority and non-priority fish and wildlife.

Priority Species. A species requiring protective measures and/or management guidelines to ensure their persistence at genetically viable population levels and recognized by the BLM as significant for at least one factor such as density, diversity, size, public interest, remnant character, or age.

Thermal Cover. Cover used by animals to protect them against weather.

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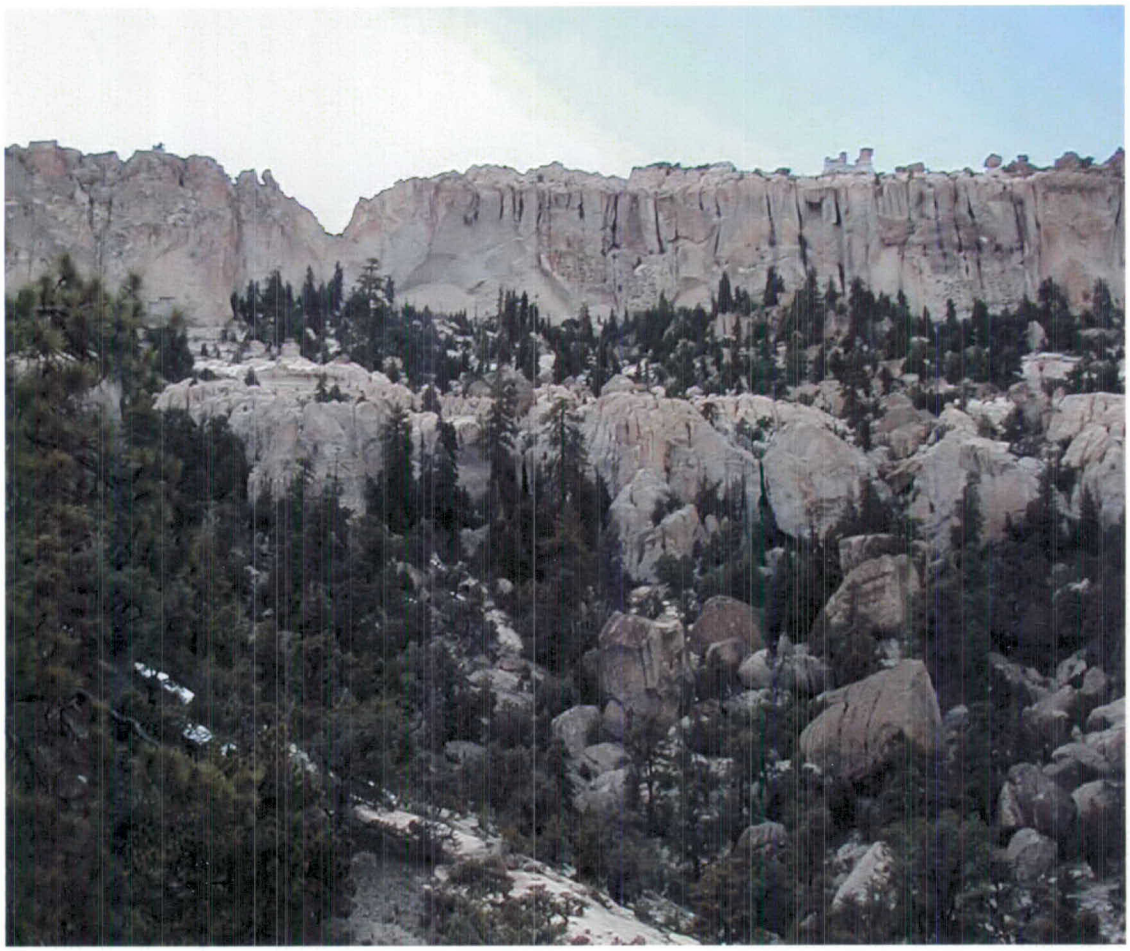

Appendices **November 2007**

BLM

Ely Field Office / Nevada

COOPERATING AGENCIES:

Great Basin National Park
Humboldt-Toiyabe National Forest
Nellis Air Force Base
Nevada Department of Wildlife
Nevada Division of Minerals
Nevada Division of Transportation
Nevada State Historic Preservation Office

Lincoln County
Nye County
White Pine County
Duckwater Shoshone Tribe
Ely Shoshone Tribe
Moapa Band of Paiutes
Yomba Shoshone Tribe

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BLM Mission Statement

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

BLM/EL/PL-07/09+1793

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Cover Photo: Cottonwood Canyon – Fortification Range Wilderness, Lincoln County, Nevada. Ely BLM photo. May, 2002.

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APPENDIX A
PHASES OF THE WATERSHED ANALYSIS PROCESS AND THE GRAZING ALLOTMENT EVALUATION PROCESS

APPENDIX A
PHASES OF THE WATERSHED ANALYSIS PROCESSES AND THE GRAZING ALLOTMENT EVALUATION PROCESS

The watershed analysis process described in the BLM Handbook, *H-4180-1 Rangeland Health Standards* is being used to analyze 61 watersheds and associated grazing allotments in the planning area. This watershed approach allows the BLM to focus on the flexible management techniques necessary to accommodate the functionality of the watershed. It allows for a shift from species and individual use-driven management to the natural systems that support watersheds in properly functioning conditions (see the Glossary).

Assessment Phase

The assessment of the watershed is the first step in the analysis process. It involves the collection of indicator data pertinent to the Resource Advisory Council Standards and Guidelines for Rangeland Health (Appendix B). An interdisciplinary team coordinates the collection of indicator data such as ground cover, ecological site inventory data, fire regime condition classes (see Appendix C), riparian proper function and condition ratings, vegetation structure and composition, or other indicator data such as road density, current cultural resource inventory data, and noxious and invasive weed data. The data is collected at an appropriate intensity and scale. In this phase of the analysis, the status of resource conditions is assessed and summarized. Information pertinent to livestock grazing management such as utilization, and trend and use pattern mapping, also is gathered and summarized. These data and information are then compiled and organized for the development of an overview of the physical and biological conditions of the watershed.

Evaluation Phase

To evaluate a watershed, assessment data is compared against the Resource Advisory Council Standards for rangeland health using methods outlined in H-4180-1 Rangeland Health Standards. The evaluation phase is done in accordance with Title 43 Code of Federal Regulation, subpart 4180; BLM Handbook H-4180-1 Rangeland Health Standards; and Resource Advisory Council Standards and Guidelines.

The purpose of the standards and guidelines at Title 43 Code of Federal Regulations § 4180 is to provide measures (standards) to determine land health, and methods (guidelines) to improve the health of the public rangelands. The standards are intended to help the BLM, public land users, and others focus on a common understanding of acceptable resource conditions. The guidelines provide a basis for working together to achieve that vision. The standards are used to communicate current and desired resource conditions among the various groups.

Four fundamentals of rangeland health are listed in Title 43 Code of Federal Regulation § 4180.1. They combine the basic precepts of physical function and biological health with elements of law relating to water quality and plant and animal populations and communities. The fundamentals provide the basis for the development and implementation of the standards for land health. The standards were developed by regional Resource Advisory Councils.

Standards are statements of physical and biological condition or degree of function required for healthy sustainable rangelands. Achieving or making "significant" progress towards these functions and conditions is required of all uses of public rangelands as stated in Title 43 Code of Federal Regulation 4180.1. Guidelines are practices, methods, or techniques. They are also tools such as grazing systems, and vegetation treatments that help achieve standards. Guidelines are used to describe or communicate techniques for managing activities to achieve desired healthy watershed conditions.

Standards often make reference to site potential. This potential can be described in ecological site descriptions at a site-specific level or when applied generally at a landscape scale. LANDFIRE biophysical setting models (Appendix C) also describe reference conditions at the landscape scale. These descriptions and models may be applied as reference conditions for the evaluation process. The evaluation is done at the landscape scale and not the site-specific scale.

During the evaluation process, interdisciplinary team members, cooperating agency, landowners and public land user groups meet during the evaluation process in both a formal setting and in the field to evaluate the assessment data against these reference conditions. When one or more standard(s) is not achieved or making substantial progress toward achievement, or when there is a lack of conformance with guidelines, causal factors would be identified by resource. The interdisciplinary team then makes recommendations of actions necessary to meet the standard. These recommendations form the foundation of the implementation strategy.

If the standards are met, then monitoring would continue to occur as necessary to ensure that standards would continue to be met. If current livestock management or levels of livestock use are determined to be significant factors in failing to achieve the standards and conform with the guidelines, then appropriate action as soon as practicable but not later than the start of the next grazing year is to occur through current BLM regulation. The evaluation process is documented in a report.

Determination Phase

Once the evaluation is complete, and if standards are not being met, the determination that existing activity management is a significant causal factor for not achieving standards must be documented. Because the standards are developed to ensure the conditions described in 43 Code of Federal Regulation § 4180.1 exist, achievement of standards would mean that the four fundamentals of rangeland health are "in or making significant progress toward" being met.

The determination includes at a minimum:

1. Statement of achievement or non-achievement for each standard;
2. List of causal factors for not achieving standards;
3. Statement of conformance or non-conformance with guidelines; and
4. Date determination is made and signature of the authorized officer.

Documentation of causal factors should clearly identify the evidence used to reach conclusions regarding whether a standard is or is not being met, and which activities are causal factors for not achieving the standard.

The grazing-related questions that must be answered "Yes" or "No" as part of the determination process are listed below:

1. Is it more likely than not that existing grazing management practices or levels of grazing use are significant factors in failing to either achieve the standards or conform to the guidelines?

2. Is it more likely than not that existing grazing management should be modified to ensure that the fundamentals of rangeland health are met, or are making significant progress toward being met?

The authorized officer is responsible for making the determination based on the evaluation provided by the interdisciplinary team, and information gathered from other sources. The determination document is completed as soon as the evaluation is complete and any additional information is reviewed, normally no more than four months from completion of the evaluation. Following the determination, grazing permits will be fully processed using information from the land health standards evaluation to complete the environmental analysis.

Implementation Phase

In this final phase, the watershed interdisciplinary team would develop an implementation strategy, which would address all of the standards not achieved, or condition where fundamentals of land health are not met or are not making substantial progress toward being met. The strategy would promote an interdisciplinary process to address all programs, and would use applicable BLM technical manuals, handbooks, etc. The interdisciplinary team would use the recommendations for modifications to existing land uses and decisions.

Objectives for each recommendation would be clearly stated. Recommendations would have an overall goal in mind, such as protecting (e.g. threatened and endangered species habitat), maintaining, or restoring ecological system processes that are not meeting standards or conforming to guidelines. Management actions would be consistent with state and transition models at a project level and with LANDFIRE biophysical setting models at the watershed level as well as other guidelines for meeting objective from the published Resource Advisory Councils standards. Site specific NEPA analysis would be completed on any proposed actions designed to achieve goals, except those specifically covered in the RMP/EIS. These actions would be monitored over the long-term to determine success.

Monitoring Plan

Each watershed implementation strategy would have a monitoring plan developed. Monitoring is integral for implementation of adaptive management, and the relative importance of monitoring increases with uncertainty about the outcomes of management actions (Hellawell 1991).

Treatment level effectiveness monitoring would verify that the restoration treatments achieved the goals identified. Such monitoring can answer key questions about the effect of a particular type or suite of treatment types in a particular ecological site and reduce uncertainty about management outcomes, effectively guiding future management.

Watershed-level Monitoring

The goal of the watershed monitoring program will be to determine the condition of the Ely Field Office's 61 watershed management units and to compare their condition to a reference condition both before and after implementation of restoration plans. This level of monitoring will not determine the effectiveness of particular restoration techniques or offer direct information about causes of change in ecological condition. Rather, it will evaluate the data against rangeland health standards.

Baseline watershed-level monitoring will initially take place through the watershed analysis process. Data will be collected using BLM-approved quantitative methods, in a statistically valid fashion (Scheiner and Gurevich 2001), using random sampling stratified by Natural Resource Conservation Service ecological site, and/or other resource uses. Power analyses will be performed using methods described in Elzinga et al. (1998). Data will be either collected electronically or entered into a database, and will be housed in a central location, and overseen by a data manager. Data will be analyzed using a variety of valid procedures and metadata and reports will be available through the Ely Field Office. At the time of baseline assessment, data will be compared to a reference condition (such as in Natural Resource Conservation Service Ecological Site Descriptions as interpreted for state and transition models) on a landscape basis in LANDFIRE, biophysical setting models, and post-implementation monitoring data will be compared both with the reference condition and with the baseline condition.

Treatment-level Effectiveness Monitoring

Some level of monitoring will be carried out for every restoration project; however, the method and level of monitoring will vary with the objectives and type of project. This project-level monitoring will address the attributes listed above, and methods will follow BLM-approved manuals but could employ future methods that address the selected indicators and offer statistical vigor. Data may be collected using statistically valid research designs when possible, and power analysis.

References

Elzinga, C. L., D. W. Salzer, and J. W. Willoughby. 1998. Measuring and monitoring plant populations. Bureau of Land Management Technical Reference 1730-1.

Hellawell, J. M. 1991. Development of a rationale for monitoring, Pages 1-14 in Goldsmith, F. B. (ed.), Monitoring for conservation and ecology, Chapman and Hall, New York.

Scheiner, S. and Gurevich, J., 2001. The Design and Analysis of Ecological Experiments. New York: Oxford.

APPENDIX B
RESOURCE ADVISORY COUNCIL STANDARDS AND GUIDELINES

NORTHEASTERN GREAT BASIN RESOURCE ADVISORY COUNCIL STANDARDS AND GUIDELINES

The Nevada Northeastern Great Basin Resource Advisory Council, as chartered by the Department of the Interior to promote healthy rangelands, has developed standards and guidelines for grazing administration on about 16.2 million acres of public lands administered by the Bureau of Land Management (BLM) within the designated geographic area of the Northeastern Great Basin. The Resource Advisory Council in developing these standards and guidelines, understands and agrees that grazing is only one of the multiple uses recognized under the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1739, 1740). These recommended standards and guidelines reflect the stated goals of improving rangeland health while providing for the viability of the livestock industry in the Northeastern Great Basin.

1. Upland Sites

- Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.

As indicated by:

- Indicators are canopy and ground cover, including litter, live vegetation and rock, appropriate to the potential of the site.

Guidelines

1.1 Livestock grazing management and wild horse and burro population levels are appropriate when in combination with other multiple uses they maintain or promote upland vegetation and other organisms and provide for infiltration and permeability rates, soil moisture storage, and soil stability appropriate to the ecological site within management units.

1.2 When livestock grazing management and wild horse and burro herd management alone are not likely to restore areas of low infiltration or permeability, land management treatments should be designed and implemented where appropriate.

1.3 Livestock grazing management and wild horse and burro herd management are adequate when significant progress is being made toward this standard.

2. Riparian and Wetland Sites

- Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

As indicated by:

- Streamside riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows. Elements indicating proper functioning condition such as avoiding accelerating erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics.

- Width/Depth ration, Channel roughness, Sinuosity of stream channel, Bank stability, Vegetative cover (amount, spacing, life form), and Other cover (large woody debris, rock).

- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.

- Chemical, physical and biological water constituents are not exceeding the state water quality standards.

Guidelines

2.1 Livestock grazing management and wild horse and burro population levels will maintain or promote sufficient vegetation cover, large woody debris, or rock to achieve proper functioning condition in riparian and wetland areas. Supporting the processes of energy dissipation, sediment capture, groundwater recharge, and stream bank stability will thus promote stream channel morphology (e.g., width/depth ration, channel roughness, and sinuosity) appropriate to climate, landform, gradient, and erosion history.

2.2 Where livestock grazing management and wild horse and burro herd management are not likely to restore riparian and wetland sites, land management treatments should be designed and implemented where appropriate to the site.

2.3 Livestock grazing management and wild horse and burro herd management will maintain, restore or enhance water quality and ensure the attainment of water quality that meets or exceeds state standards.

2.4 Livestock grazing management and wild horse and burro herd management are adequate when significant progress is being made toward this standard.

3. Habitat

- Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

As indicated by:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, heights, or age classes);
- Vegetation distribution (patchiness, corridors); and
- Vegetation productivity, and Vegetation nutritional value.

Guidelines

3.1 Livestock grazing management and wild horse and burro population levels will promote the conservation, restoration and maintenance of habitat for threatened and endangered species, and other special status species as may be appropriate.

3.2 Livestock grazing intensity, frequency, season of use and distribution and wild horse and burro population levels should provide for growth and reproduction of those plant species needed to reach long-term land use plan objectives. Measurements of ecological condition and trend/utilization will be in accordance with techniques identified in the Nevada Rangeland Monitoring Handbook.

3.3 Livestock grazing management and wild horse and burro management should be planned and implemented to allow for integrated use by domestic livestock, wildlife, and wild horses and burros consistent with land use plan objectives.

3.4 Where livestock grazing management and wild horse and burro herd management alone are not likely to achieve habitat objectives, land treatments may be designed and implemented as appropriate.

3.5 When native plant species adapted to the site are available in sufficient quantities, and it is economically and biologically feasible to establish or increase them to meet management objectives, they will be emphasized over non-native species.

3.6 Livestock grazing management and wild horse and burro herd management are adequate when significant progress is being made toward this Standard.

4. Cultural Resources

- Land use plans will recognize cultural resources within the context of multiple uses.

Guidelines

4.1 Rangeland management plans will consider listings of known sites that are National Historic Register eligible or considered to be of cultural significance and new eligible sites, as they become known.

4.2 Wild horses and burro herd management will be designed to avoid or mitigate damage to significant cultural resources.

5. Healthy Wild Horse and Burro Populations

- Wild horses and burros exhibit characteristics of a healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long-term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.

As indicated by:

- Healthy rangelands that provide sufficient quantities and quality of forage and water to sustain the appropriate management level on a year long basis within a herd management area.

- Wild horses and/or burros managed on a yearlong basis for a condition class greater than or equal to five to allow them normal chances for survival in the winter (see glossary for equine body conditioning definitions).

- Highly adoptable wild horses and burros that are readily available from herd management areas.

- Wild horse and burro herds that exhibit appropriate age structure and sex ratio for short-term and long-term genetic and reproductive health.

Guidelines

5.1 Implement the objectives outlined in the Wild Free-Roaming Horse and Burros Tactical Plan for Nevada (May 1999).

5.2 Manage for wild horses and/or burros in herd management areas based on the capability of the HMA to provide suitable feed, water, cover and living space for all multiple use.

5.3 Set appropriate Management Levels based on the most limiting habitat factor (e.g., available water, suitable forage, living space and cover) in the context of multiple uses.

5.4 Manage herd management area populations to preserve and enhance physical and biological characteristics that are of historical significance to the herd.

5.5 Manage wild horse and burro herds for short-term and long-term increases and to enhance adoptability by ensuring that wild horses and burros displaying desirable traits are preserved in the herd, thus providing a reproductive base to increase highly adoptable horses and burros for future demands.

5.6 Identify and preserve historic traits and characteristics within the herd which have proven to be highly desirable by the adoption public to increase the long-term availability of animals bearing these features.

5.7 Wild horse and burro selective removal criteria are modified on a per herd basis to correct deficiencies in population age and sex ratios, which threaten short-term and long-term genetic diversity and reproductive health.

MOJAVE/SOUTHERN GREAT BASIN RESOURCE ADVISORY COUNCIL STANDARDS AND GUIDELINES

The standards and guidelines for grazing administration on BLM lands in southern Nevada apply to livestock grazing. The Mojave/Southern Great Basin Resource Advisory Council intends that the standards and guidelines will result in a balance of sustainable development and multiple use along with progress, over time, toward attaining desired rangeland conditions. Standards are expressions of physical and biological conditions required for sustaining rangelands for multiple uses. Guidelines point to management actions related to livestock grazing for achieving the standards. Guidelines are options that move rangeland conditions toward the multiple use standards. Guidelines are based on science, best rangeland management practices, and public input. Guidelines indicate the types of grazing methods and practices for achieving the standards for multiple use, are developed for functional watersheds and implemented at the allotment level.

The Mojave-Southern Great Basin Resource Advisory Council recognizes that it will sometimes be a long-term process to restore rangelands to proper functioning condition. In some areas, it may take many years to achieve healthy rangelands.

The Resource Advisory Council may be requested by any party to assist reaching agreement in resolving disputes.

1. Soils

- Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

Soil indicators:

- Ground cover (vegetation, litter, rock, bare ground);
- Surfaces (e.g., biological crusts, pavement); and
- Compaction/infiltration.

Riparian soil indicators:

- Stream bank stability.

All of the above indicators are appropriate to the potential of the ecological site.

Guidelines

1.1 Upland management practices should maintain or promote adequate vegetative ground cover to achieve the Standards.

1.2 Riparian-wetland management practices should maintain or promote sufficient residual vegetation to maintain, improve, or restore functions such as stream flow energy dissipation, sediment capture, groundwater recharge, and streambank stability.

1.3 When proper grazing practices alone are not likely to restore areas, land management practices may be designed and implemented where appropriate.

1.4 Rangeland management practices should address improvement beyond this Standard, significant progress toward achieving Standards, time necessary for recovery, and time necessary for predicting trends.

2. Ecosystem Components

- Watersheds should possess necessary ecological components to achieve state water criteria, maintain ecosystems and sustain uses.

- Riparian and watershed vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to the potential of the ecological site.

- Ecological processes are adequate for the vegetative communities.

Riparian indicators:

- Streamside riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows.

- Elements indicating proper functioning condition such as avoiding accelerating erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:

  - Width/Depth ratio;
  - Channel roughness;
  - Sinuosity of stream channel;
  - Bank stability;
  - Vegetative cover (amount, spacing, life form); and
  - Other cover (large woody debris, rock).

- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.

Water quality indicators:

- Chemical, physical and biological constituents do not exceed the state water quality standards.

The above indicators shall be applied to the potential of the ecological site.

Guidelines

2.1 Management practices should maintain or promote appropriate stream channel morphology and structure consistent with the watershed.

2.2 Watershed management practices should maintain, restore or enhance water quality and flow rate to support desired ecological conditions.

2.3 Management practices should maintain or promote the physical and biological conditions necessary for achieving surface characteristics and desired natural plant community.

2.4 Grazing management practices will consider both the economic and physical environment, and will address all multiple uses including, but not limited to, (i) recreation, (ii) minerals, (iii) cultural resources and values, and (iv) designated wilderness and wilderness study areas.

2.5 New livestock facilities will be located away from riparian and wetland areas if they conflict with achieving or maintaining riparian and wetland functions. Existing facilities will be used in a way that does not conflict with achieving or maintaining riparian and wetland functions, or they will be relocated or modified when necessary to mitigate adverse impacts on riparian and wetland functions. The location, relocation, design and use of livestock facilities will consider economic feasibility and benefits to be gained for management of lands outside the riparian area along with the effects on riparian functions.

2.6 Subject to all valid existing rights, the design of spring and seep developments shall include provisions to protect ecological functions and processes.

2.7 When proper grazing practices alone are not likely to restore areas of low infiltration or permeability, land management practices may be designed and implemented where appropriate. Grazing on designated ephemeral rangeland watersheds should be allowed only if (i) reliable estimates of production have been made, (ii) an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and (iii) adverse effects on perennial species and ecosystem processes are avoided.

2.8 Rangeland management practices should address improvement beyond these Standards, significant progress toward achieving Standards, time necessary for recovery, and time necessary for predicting trends.

3. Habitat and Biota

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conductive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Habitat indicators:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, and age classes);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Wildlife indicators:

- Escape terrain;
- Relative abundance;
- Composition;
- Distribution;
- Nutritional value; and
- Edge-patch snags.

The above Indicators shall be applied to the potential of the ecological site.

Guidelines

3.1 Mosaics of plant and animal communities that foster diverse and productive ecosystems should be maintained or achieved.

3.2 Management practices should emphasize native species except when others would serve better for attaining desired communities.

3.3 Intensity, frequency, season of use and distribution of grazing use should provide for growth, reproduction, and, when environmental conditions permit, seedling establishment of those plant species needed to reach long-term land use plan objectives. Measurements of ecological condition, trend, and utilization will be in accordance with techniques identified in the Nevada Rangeland Handbook.

3.4 Grazing management practices should be planned and implemented to provide for integrated use by domestic livestock and wildlife, as well as wild horses and burros inside Herd Management Areas.

3.5 Management practices will promote the conservation, restoration, and maintenance of habitat for special status species.

3.6 Livestock grazing practices will be designed to protect fragile ecosystems of limited distribution and size that support unique sensitive/endemic species or communities. Where these practices are not successful, grazing will be excluded from these areas.

3.7 Where grazing practices alone are not likely to achieve habitat objectives, land management practices may be designed and implemented as appropriate.

3.8 Vegetation manipulation treatments may be implemented to improve native plant communities, consistent with appropriate land use plans, in areas where identified Standards cannot be achieved through proper grazing management practices alone. Fire is the preferred vegetation manipulation practice on areas historically adapted to fire; treatment of native vegetation with herbicides or through mechanical means will be used only when other management techniques are not effective.

3.9 Rangeland management practices should address improvement beyond these Standards, significant progress toward achieving Standards, time necessary for recovery, and time necessary for predicting trends.

MOJAVE/SOUTHERN GREAT BASIN RESOURCE ADVISORY COUNCIL STANDARDS AND GUIDELINES FOR WILD HORSES AND BURRO

Nevada is an arid state. The standards for rangeland health and guidelines for wild horse and burro management on BLM lands in southern Nevada apply to Herd Management Areas. The Mojave/Southern Great Basin Resource Advisory Council intends that the standards and guidelines will result in a balance of sustainable development and multiple use.

The standards for rangeland health will be reached and maintained by managing wild horse and burro numbers so as not to exceed appropriate management levels for each Herd Management Area. Controlling wild horse and burrow numbers through gathers and other control programs is essential.

Standards are expressions of physical and biological conditions required for sustaining rangelands for multiple uses. Guidelines point to management actions related to Horse Management Areas for achieving the standards. Guidelines are options that move rangeland conditions toward the multiple use standards. Guidelines are based on science, best rangeland management practices, and public input. Guidelines indicate the types of management methods and practices for achieving the standards for multiple use and are developed for functional watersheds and implemented within Horse Management Areas.

The Mojave/Southern Great Basin Resource Advisory Council recognizes that it may be a long-term process to achieve proper functioning condition(s) on degraded rangelands. Healthy rangelands contribute to healthy herds.

The Resource Advisory Council may be requested by any party to assist in addressing issues related to these standards and guidelines.

1. Soils

- Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

Soil indicators:

- Ground cover (vegetation, litter, rock, bare ground);
- Surfaces (e.g., biological crusts, pavement); and
- Compaction/infiltration.

Riparian soil indicators:

- Stream bank stability.

All of the above indicators are appropriate to the potential of the ecological site.

Guidelines

1.1 Upland management practices should maintain or promote adequate vegetative ground cover to achieve the standards.

1.2 Riparian-wetland management practices should maintain or promote sufficient residual vegetation to maintain, improve, or restore functions such as stream flow energy dissipation, sediment capture, groundwater recharge, and streambank stability.

1.3 When wild horse and burro herd management practices alone are not likely to restore areas, land management practices may be designed and implemented where appropriate.

1.4 Wild horse and burro herd management practices should address improvement beyond this standard, significant process toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

2. Ecosystem Components

- Watersheds should possess the necessary ecological components to achieve State water quality criteria, maintain ecological processes, and sustain appropriate uses.

- Riparian and wetland vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to the potential of the ecological site.

- Ecological processes are adequate for the vegetative communities.

Riparian indicators:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows.

- Elements indicating proper functioning condition such as avoiding accelerating erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:

  - Width/depth ratio;
  - Channel roughness;
  - Sinuosity of stream channel;
  - Bank stability;

- Vegetative cover (among, spacing, life form); and
- Other cover (large woody debris, rock).

- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.

Water quality indicators:

- Chemical, physical, and biological constituents do not exceed the State water quality Standards.

Guidelines

2.1 Management practices should maintain or promote appropriate stream channel morphology and structure consistent with the watershed.

2.2 Watershed management practices should maintain, restore, or enhance water quality and flow rate to support desired ecological conditions.

2.3 Management practices should maintain or promote the physical and biological conditions necessary for achieving surface characteristics and desired natural plant community.

2.4 Wild horse and burro herd management practices will consider both economic and physical environment and will address all multiple uses including, but not limited to, (i) recreation, (ii) minerals, (iii) cultural resources, (iv) wildlife, (v) domestic livestock, (vi) community economics, (vii) Areas of Critical Environmental Concern, and (viii) designated wilderness (iv) and wilderness study areas (WSAs).

2.5 New facilities should be located away from riparian and wetland areas if existing facilities conflict with achieving or maintaining riparian and wetland functions. Existing facilities will be used in a way that does not conflict with achieving or maintaining riparian and wetland functions or they will be relocated or modified when necessary to mitigate adverse impacts on riparian and wetland functions.

2.6 Subject to all valid existing rights, the design of spring and seep developments shall include provisions to maintain or promote ecological functions and processes.

2.7 When proper wild horse and burro herd management is not likely to restore areas of low infiltration or permeability, land management practices may be designed and implemented where appropriate. When setting herd management levels on ephemeral rangeland watersheds, reliable estimates of production for drought conditions should be used to avoid adverse effects on perennial species and ecosystem processes and retain a desired minimum level of annual growth or residue remaining.

2.8 Wild horse and burro herd management practices should address improvement beyond this standard, significant process toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

3. Habitat and Biota

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Habitat indicators:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, and age classes);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Wildlife indicators:

- Escape terrain;
- Relative abundance;
- Composition;
- Distribution;
- Nutritional value; and
- Edge-patch snags.

The above indicators shall be applied to the potential of the ecological site.

Guidelines:

3.1 Mosaics of plant and animal communities that foster diverse and productive ecosystems should be maintained or achieved.

3.2 Management practices should emphasize native species except when others would serve better for attaining desired communities.

3.3 Wild horse and burro herd management should provide for growth, reproduction, and seedling establishment of those plant species needed to reach long-term land use plan objectives. Measurements of ecological conditions, trend, and utilization will be in accordance with techniques identified in the Nevada Rangeland Handbook.

3.4 Wild horse and burro herd management practices should be planned and implemented to provide for integrated use by domestic livestock and wildlife.

3.5 Wild horse and burro herd management practices will promote the conservation, restoration, and maintenance of habitat for special status species.

3.6 Wild horse and burro herd management practices will be designed to protect fragile ecosystems of limited distribution and size that support unique sensitive/endemic species or communities. Where these practices are not successful, herd levels will be reduced or eliminated from these areas.

3.7 When wild horse and burro herd management practices alone are not likely to restore areas, land management practices may be designed and implemented where appropriate.

3.8 Vegetation manipulation treatments may be implemented to improve native plant communities, consistent with appropriate land use plans, in areas where identified standards cannot be achieved through wild horse and burro herd management practices alone. Fire is the preferred vegetation manipulation practice on areas historically adapted to fire; treatment of native vegetation with herbicides or through mechanical means will be used only when other management techniques are not effective.

3.9 Wild horse and burro herd management practices should address improvement beyond this standard, significant progress toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

4. Wild Horse and Burro Standard

- Wild horses and burros within Herd Management Areas should be managed for herd viability and sustainability. Herd Management Areas should be managed to maintain a healthy ecological balance among wild horse and/or burro populations, wildlife, livestock, and vegetation.

Herd health indicators:

- General horse and/or burro appearance: Problems are often apparent and can be easily identified by just looking at the herd.

- Crippled or injured horses and/or burros: Excessive injuries can indicate problems.

Herd demographics indicators:

- Size of bands: A band with one stud or jack, one mare or jenny, and one foal indicates a problem. An oversized band also indicates there is a problem. Band sizes of 5 to 10 animals with one dominant stud per band is a good indicator.

- Size of bachelor bands: Large bachelor bands in the immediate vicinity of other bands could indicate potential problems.

Herd viability indicators:

- Heavy trailing into water sources may indicate a significant problem with forage availability or water distribution. Animals may be travelling considerable distances to obtain water or forage.

- Waiting for water. When available water becomes so scarce that a waiting line develops, horses and burros are in trouble.

- Availability of water. Address legal and/or climatic considerations. Situations exist where wild horse and burros are present only because they currently have access to water, which they could legally be deprived of under Nevada water laws. Situations exist where existing wild horse and burro populations are dependent upon water hauling. If water hauling were to cease, these animals would die within a matter of days.

- Depleted forage near all available water sources. Adequate water, and forage adjacent to water sources, are essential.

Guidelines:

4.1 Wild horse and burro population levels in Horse Management Areas should not exceed appropriate management levels.

4.2 Appropriate management levels should be set to reflect the carrying capacity of the land in dry conditions based upon the most limiting factor: living space, water, or forage. Management levels will not conflict with achieving or maintaining standards for soils, ecological components, or diversity of habitat and biota.

4.3 Interaction with herds should be minimized. Intrusive gathers should remove sufficient numbers of animals to ensure a period between gathers that reflects national wild horse and burro management strategies. Non-intrusive gathers such as water trapping can be done on an '*as needed*' basis.

4.4 Herd Management Plans should be made with the best predictive information available. When emergency actions occur, the Herd Management Plan should be re-evaluated.

4.5 Viable sex and age distribution should be a long term goal of any wild horse and burro Herd Management Plan. Sex and age distribution of the herd should be addressed when (after) appropriate management level has been reached.

4.6 When wild horse and burro herd management alone is not likely to restore areas, land management practices may be designed and implemented where appropriate.

4.7 Wild horse and burro herd management practices should address improvement beyond this standard, significant progress toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

OFF-HIGHWAY VEHICLE ADMINISTRATION GUIDELINES FOR NEVADA PUBLIC LANDS

The Nevada Northeastern Great Basin Resource Advisory Council, the Sierra Front Northwestern Great Basin Resource Advisory Council and the Mojave/Southern Great Basin Resource Advisory Council, as chartered by the Department of the Interior, have developed Guidelines for the administration of off-highway vehicle use on public lands within the State of Nevada. These guidelines are intended to promote cooperation among user groups, to share resources, and to minimize conflicts in accordance with the Nevada Standards for Rangeland Health. While recognizing the legitimacy and necessity of off-highway vehicle use on public lands, it has become necessary to define guidelines for management of off-highway vehicles to insure the protection of land health and the availability of the public lands for all multiple users. These guidelines are to assist land managers in administrative and planning decisions. Administrators can use the guidelines for managing for land health and making decisions with regard to restricting, or not restricting off-highway vehicle activity. Additionally, administrators can use the educational guidelines as tools to provide training for land managers and to inform the public on off-highway vehicle use issues and ethics. Planners should use these guidelines in developing timely plans for resources and recreation use, while addressing the increasing demand for off-highway vehicle use.

On-the-ground Management Guidelines

- Encourage off-highway vehicle use on existing or designated roads and trails, except in closed areas, prior to land use plans being updated and road and trail inventories completed.

- Locate and manage off-highway vehicle use to conserve soil functionality, vegetative cover, and watershed health. Manage off-highway vehicle use to minimize the impact on the land, while maintaining off-highway vehicle access.

- Manage off-highway vehicle use by type, season, intensity, distribution, and/or duration to minimize the impact on plant and animal habitats. If seasonal closures become appropriate to minimize adverse off-highway vehicle impact(s) on public lands resources, managers will strive to preserve public access by designating alternative routes.

- Manage off-highway vehicle activities to conserve watershed and water quality.

- Monitor the impact(s) of off-highway vehicle activities on all public land, water, air and other resources and uses.

- Maintain an inventory of existing road and trail systems.

- Manage off-highway vehicle use to preserve cultural, historical, archeological, and paleontological resources.

- Engineer, locate, and relocate roads and trails to accommodate off-highway vehicle activities while minimizing resource impacts.

- Encourage cooperation in law enforcement among all agencies.

- Off-highway vehicle use pursuant to a permitted activity shall be governed by the terms of the permit.

Planning Guidelines

- In land use plans or plan amendments, designate areas as open, limited, or closed to off-highway vehicle use.

- Address off-highway vehicle management including land use and/or route designations, monitoring and adaptive management strategies, such as applying the Limits of Acceptable Change process, when developing new land use plans or amending existing land use plans. Work closely with local, state, tribal, and other affected parties and other resource users in off-highway vehicle planning.

- Establish and maintain an inventory of existing routes and trails as part of the land use planning process.

- Provide for other resources and uses in off-highway vehicle planning. This includes livestock grazing, other recreational uses, archeological sites, wildlife, horses and burros, and mineral extractions and coordinate with other users of public lands.

- Conduct an assessment of current and future off-highway vehicle demand, and plan for and balance the demand for this use with other multiple uses/users when developing all land use plans.

- Include in land use plans, social/economic effects of off-highway vehicle use, including special recreation events.

- Integrate concepts of habitat connectivity into off-highway vehicle planning to minimize habitat fragmentation.

- For addressing/resolving local site-specific off-highway vehicle issues/concerns, use collaborative planning groups consisting of local representative(s), affected/interested group(s) and agency(s).

- Clearly identify route and area designations.

- Where land health permits develop sustainable off-highway vehicle use areas to meet current and future demands, especially for urban interface.

Education Guidelines

- Cooperatively develop/improve public outreach programs to promote trail etiquette, environmental ethics, and responsible-use stewardship ethic.

- Promote/expand/disseminate materials from programs such as (but not limited to) "Tread Lightly!" and "Leave No Trace".

- Provide off-highway vehicle management education and training for managers, staff, partners and volunteers. Training should focus on state of the art practices and be tailored to meet local needs. Encourage communication between agencies, managers, staff, partners and volunteers to share expertise and effective techniques.

- Encourage the private sector, as well as the public sector, to conduct responsible marketing of activities on public lands while avoiding the promotion of products, behaviors and services that are inconsistent with existing regulations and land use plans.

- Develop communication and environmental education plan(s). Assess all situations where off-highway vehicle use may require public information and education. Develop materials and programs appropriate to each situation.

- Utilize high use areas and special events to maximize the dissemination of responsible use education materials and concepts to the public.

APPENDIX C
STATE AND TRANSITION MODELS
LANDFIRE AND FIRE REGIME CONDITION CLASS

APPENDIX C
STATE AND TRANSITION MODELS, LANDFIRE, AND FIRE REGIME CONDITION CLASS

A number of plant community models are referred to in this RMP including state and transition models, LANDFIRE biophysical models, and Fire Regime Condition Class. Each is used where appropriate, to provide information and context for vegetation management and interpretation of plant community succession. The ecological site inventory is designed to serve as the basic inventory of present and potential vegetation on BLM rangelands. This procedure is based on Natural Resource Conservation Service soil surveys and ecological site descriptions. The BLM has been using ecological site inventory and ecological site descriptions in its vegetation and range management programs for a longer period of time than the other models mentioned and so a state and transition model is provided as an example.

The following is a generalized explanation of some of the ecological principles involved in State and Transition Pathway Modeling. The presentation of this material is intended to be simplified for ease of communication. For a more in-depth explanation, please see Inventory and Monitoring, Technical Reference 1734-3, USDI-BLM, 2001, Chapter 3 – available at: http://www.blm.gov/nstc. Also refer to the National Range and Pasture Handbook of the National Resource Conservation Service.

Different Plants

Travel anywhere in the planning area and you will see areas that appear to have very different plants. Some plants are green trees, while others are medium sized shrubs (called sagebrush) and still other plant types are grass or forbs (flowers and weeds).

Different Ecological Sites Meet Different Needs

Different plant types have different needs. The soils of each site hold water and nutrients for plants, and rain and sunlight are also important. That's one reason why different plants are found in different places.

Ecological Sites

As knowledge and experience have increased, the information, detail, and concepts contained in ecological site descriptions also have changed. Many plant communities did not follow the linear succession models pioneered by Frederic Clements and developed through the first three quarters of the 20th century. The state and transition concept was developed to describe and explain observed non-equilibrium succession. In the state and transition concept, several separate and possibly long-duration plant communities may occur at a given ecological site. In between these separate communities are thresholds. As long as a threshold is not crossed, succession can move between plant communities. When a threshold is crossed, extraordinary effort, beyond routine management, must be expended to move the community back to the previous threshold. This new state also may have several plant communities that will occur due to routine management and ecologically normal weather variation and disturbances. An ecological site may have several states and the thresholds between the states are all difficult to reverse. As knowledge of where transitions lie, and values for thresholds and other state and transition relationships increase, the model also will evolve. The state and transition model for Wyoming Big sagebrush in Nevada is included in this appendix.

Disturbance and Renewal

Most often healthy sites have some kind of disturbance (like fire). Fire is a natural and historical disturbance in eastern Nevada. Fire will burn the plants, killing some and renewing others, often making it a younger image (a phase of the previous state) of the plant community before the fire. Then the movement begins all over again.

Threshold and Transition

Sometimes, if the disturbance does not happen to renew the plants on the ecological site, the site itself will cross (transition) a threshold and other plants (better suited to the conditions without disturbance) will become established. The site may look quite different but will have the same soil characteristics. After the threshold is crossed, it is very rare that the site will ever return to its original plant community or state even after disturbance. Keeping the site from crossing a threshold makes disturbance both beneficial and important.

All of This Happens in the Planning Area

All of these things happen in the planning area, different state on ecological sites, different phases in each state, disturbance, renewal, and sometimes without disturbance, thresholds are (have been) crossed and other plants established.

Ely Field Office Required to Manage

The Ely Field Office is required to manage the land in the planning area in a manner that provides for both uses today and good condition for the future. The Ely Field Office recognizes the need for prescribed vegetation management to renew plant communities, so the plants can resist transitions across thresholds.

Good Communication Tool

State and transition models provide a good way for managers and scientists to not only understand what is happening on the landscape, but to communicate that to each other and the owners of the land, the American people.

Summary

State and transition models help managers and scientists to look at an ecological site and tell what state it is in and what phase is within that state. This understanding of ecological sites and their condition gives managers a way to know whether they must act immediately to keep a vegetation state from crossing (transitioning across) a threshold. Or if a site has crossed a threshold, immediate action may not be the best action or the most cost effective alternative. Keep in mind, the Ely Field Office must balance uses today with the future of the resource. In any event, this type of information helps to understand and communicate what is happening on the landscape and to help set priorities for management choices.

A GENERALIZED WYOMING BIG SAGEBRUSH STATE AND TRANSITION MODEL AND MANAGEMENT KEY FIRST APPROXIMATION

INTRODUCTION

During the late twentieth century, Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) [Beetle & A. Young] went from a 'weed' to a valuable resource in danger of extirpation in some landscapes. Neither perceiving it to be of no value and only competitive with grasses, nor perceiving it to be so valuable and scarce that we must never control it, serves land managers or the wildlife that depend on this important habitat. During this period, a focus on range condition has shifted to a focus on ecological thresholds, and the information needed to allocate limited financial and other resources to those areas, times, and actions that are most important for maintaining rangeland health.

This publication focuses on land capable of supporting plant communities dominated by Wyoming big sagebrush. This shrub occurs at lower elevations on valley bottoms, alluvial slopes, foothills, and mountain side slopes. It typically inhabits areas too moist for salt desert shrub species and too dry for mountain big sagebrush. While this subspecies is somewhat palatable to sheep and mule deer, it is not as palatable to these animals as black sagebrush (*Artemisia nova* [Nelson]) and it is not palatable to cattle.

This state and transition model and management key generally describes vegetation change and management alternatives for the Natural Resources Conservation Service ecological sites listed in **Table C-1**. However, some areas where these sites occur are better understood by disregarding their potential for transitioning to a tree state because they are far from those sites that generally have juniper (*Juniperus* sp.) and/or pinyon pine (*Pinus monophylla* [Torr. & Frem.]) trees. In general, the potential for transitioning to the tree state is greater for *Wyomingensis* sites that are higher in precipitation or elevation, have deeper soils, or are closer to sites with these characteristics.

For the areas within these sites that this model and management key applies, we discuss two management situations: 1) areas where cheatgrass (*Bromus tectorum* L.) and other invasive weeds (annuals and perennials) are established and becoming, or are already, an important management factor; and 2) areas where natives are the only ecologically important species established in the area or at least they still dominate ecological processes and management concerns.

MANAGEMENT WITH CHEATGRASS AND OTHER INVASIVE WEEDS

On these landscapes, the presence of annual and/or perennial exotic (largely noxious) and invasive weeds threatens the natural resilience and utility of most if not all Wyoming sagebrush plant communities. These species compete very effectively with native plants. They can transition plant communities to new states (**Figure C-1**) or dominate after certain disturbances without appropriate and timely management action. Their presence is always a hazardous situation. When common, their presence typically results in a transition to a new state because the exotic weeds, not the desired species, determine ecological processes.

Table C-1
Wyoming Big Sagebrush Ecological Sites in Nevada
(Natural Resource Conservation Service Ecological Site Descriptions 2003)

Site Number	Ecological Site Name	Site Number	Ecological Site Name
023XY011NV	Dunes 8-10" P.Z.	026XY099NV	Coarse Loamy 8-10" P.Z.
023XY020NV	Loamy 10-12" P.Z.	026XY100NV	Stony Slope 10-12" P.Z.
023XY030NV	South Slope 8-12" P.Z.	026XY102NV	Gravelly Clay Loam 8-10" P.Z.
023XY033NV	Clayey 10-14" P.Z.	027XY007NV	Loamy Slope 8-10" P.Z.
023XY038NV	Droughty Loam 8-10" P.Z.	027XY008NV	Droughty Loam 8-10" P.Z.
023XY039NV	Loamy Slope 10-14" P.Z.	027XY029NV	Gravelly Fan 8-10" P.Z.
023XY040NV	Granitic Fan 8-10" P.Z.	027XY045NV	Sandy 8-10" P.Z.
023XY049NV	Granitic South Slope 8-12" P.Z.	027XY051NV	South Slope 8-10" P.Z.
023XY051NV	Sandy 8-12" P.Z.	027XY054NV	Loamy Slope 10-12" P.Z.
023XY057NV	Granitic Loam 10-12" P.Z.	027XY058NV	Loamy 10-12" P.Z.
023XY063NV	Shallow Granitic Hill 10-14" P.Z.	027XY065NV	Granitic Slope 8-10" P.Z.
023XY068NV	Granitic Loam 8-10" P.Z.	027XY067NV	Granitic Loam 8-10" P.Z.
023XY071NV	Ashy Loam 10-12" P.Z.	027XY072NV	Granitic Slope 10-12" P.Z.
023XY072NV	Ashy Slope 10-12" P.Z.	027XY088NV	Granitic Loam 10-12" P.Z.
023XY077NV	Shallow Loam 10-14" P.Z.	027XY091NV	Loamy Fan 10-12" P.Z.
023XY082NV	Loamy Fan 10-12" P.Z.	027XY092NV	Granitic Fan 10-12" P.Z.
023XY088NV	Chalky Knoll	028AY005NV	Sandy 8-10" P.Z.
023XY096NV	Ashy Sandy Loam 10-12" P.Z.	028AY010NV	Coarse Gravelly Loam 10-12" P.Z.
023XY097NV	Loamy Fan 8-10" P.Z.	028AY015NV	Loamy 8-10" P.Z.
023XY099NV	Channery Hill 8-10" P.Z.	028AY017NV	Shallow Loam 8-10" P.Z.
023XY101NV	Stony Slope 8-10" P.Z.	028AY022NV	Gravelly Clay 8-10" P.Z.
023XY102NV	Gravelly Clay Slope 10-12" P.Z.	028AY028NV	Droughty Loam 8-10" P.Z.
024XY001NV	Dunes 6-10" P.Z.	028AY031NV	Loamy Fan 8-10" P.Z.
024XY005NV	Loamy 8-10" P.Z.	028AY040NV	Gravelly Loam 10-12" P.Z.
024XY006NV	Dry Floodplain	028AY050NV	Gravelly Clay 10-12" P.Z.
024XY013NV	Loamy 10-12" P.Z.	028AY054NV	Coarse Loamy Fan 8-10" P.Z.
024XY017NV	Sandy 8-10" P.Z.	028AY086NV	Coarse Loamy Fan 10-12" P.Z.
024XY020NV	Droughty Loam 8-10" P.Z.	028AY091NV	Loamy Fan 10-14" P.Z.
024XY026NV	Stony Slope 6-10" P.Z.	028AY095NV	Loamy 10-12" P.Z.
024XY028NV	South Slope 8-12" P.Z.	028AY121NV	Deep Loamy 8-10" P.Z.
024XY033NV	Steep North Slope 10-12" P.Z.	028AY124NV	Loamy Plain
024XY035NV	Shallow Loam 10-14" P.Z.	028BY005NV	Sandy 8-10" P.Z.
024XY045NV	Eroded Slope 6-10" P.Z.	028BY007NV	Loamy 10-12" P.Z.
024XY046NV	Gravelly North Slope	028BY010NV	Loamy 8-10" P.Z.
024XY047NV	Shallow Loam 8-10" P.Z.	028BY014NV	Loamy Plain 8-10" P.Z.
024XY058NV	Sandy Loam 8-10" P.Z.	028BY045NV	Loamy Fan 8-12" P.Z.
025XY013NV	Churning Clay 8-12" P.Z.	028BY052NV	Droughty Loam 8-10" P.Z.
025XY014NV	Loamy 10-12" P.Z.	028BY054NV	Silty Plain 8-10" P.Z.
025XY015NV	South Slope 8-12" P.Z.	028BY056NV	Silt Flat
025XY019NV	Loamy 8-10" P.Z.	028BY068NV	Dune 8-10" P.Z.
025XY021NV	Shallow Loam 8-12" P.Z.	028BY080NV	Shallow Loam 8-10" P.Z.
025XY027NV	Loamy 12-14" P.Z.	028BY082NV	Loamy Fan 12+" P.Z.
025XY045NV	Ashy Loam 8-10" P.Z.	028BY086NV	Gravelly Clay 10-12" P.Z.
025XY066NV	Ashy Loam 10-12" P.Z.	028BY094NV	Calcareous Loam 10-14" P.Z.
025XY070NV	Loamy Fan 8-10" P.Z.	029XY006NV	Loamy 8-10" P.Z.
026XY010NV	Loamy 10-12" P.Z.	029XY010NV	Loamy Slope 8-10" P.Z.

Table C-1 (Continued)

Site Number	Ecological Site Name	Site Number	Ecological Site Name
026XY011NV	South Slope 8-10" P.Z.	029XY029NV	Loamy 10-12" P.Z.
026XY015NV	Shallow Loam 10-12" P.Z.	029XY049NV	Sandy Loam 8-12" P.Z.
026XY016NV	Loamy 8-10" P.Z.	029XY057NV	Loamy Slope 12-14" P.Z.
026XY019NV	Churning Clay 10-12" P.Z.	029XY073NV	Bouldery Loam 8-12" P.Z.
026XY020NV	Sandy 8-10" P.Z.	029XY075NV	Loamy Slope 10-12" P.Z.
026XY022NV	Stony Slope 8-10" P.Z.	029XY105NV	Gravelly Clay 10-12" P.Z.
026XY024NV	Droughty Loam 8-10" P.Z.	029XY106NV	Gravelly Clay Slope 10-12" P.Z.
026XY026NV	Granitic Slope 10-12" P.Z.	029XY114NV	Loamy Fan 8-10" P.Z.
026XY029NV	Eroded Slope 8-12" P.Z.	029XY116NV	Loamy Plain
026XY051NV	Dune 8-10" P.Z.	029XY117NV	Silty Plain
026XY096NV	Sandy Plain	029XY119NV	Silt Flat
026XY098NV	Gravelly Loam 8-10" P.Z.	029XY158NV	Coarse Loamy 8-10" P.Z.

PERENNIAL HERBACEOUS STATE

Description: The plant community is dominated by deep-rooted perennial bunchgrasses, with perennial forbs and varying amounts of Wyoming big sagebrush and other shrubs. Sagebrush can dominate the plant community and juniper and/or pinyon pine trees may be present as seedlings, saplings, or very sparse mature trees as long as the understory remains robust. If the perennial understory is dense and vigorous enough to recover quickly after being released from the competition of woody plants, the vegetation has not crossed a threshold to the shrub or tree state. Descriptions of the ecological sites listed in **Table C-1** provide relative species composition and production data for each ecological site in this perennial herbaceous state. Cheatgrass (or other nonnative annual plants) is a minor component of the understory vegetation.

Successional trajectories: The perennial herbaceous state plant community is resilient or cyclic because secondary succession processes and disturbance regimes are functional. Periodic release of the understory perennials from increasing competition from sagebrush is facilitated primarily by fire. However, other causes for widespread shrub die-offs have been noted. Normal fire frequency is approximately 50 to 100 years (Wright and Bailey 1982). Without woody plant removal, the plant community transitions to the shrub state or if trees are present, to the tree state. On drier sites, juniper may increase and on more mesic sites, pinyon may increase. As transition to shrubs or trees occurs, the proportion of cheatgrass in the herbaceous understory increases as perennial herbaceous species decline. Poor grazing management of large domestic and/or wild herbivores can diminish the vigor and expression of palatable perennial herbaceous plants. Removal of deep-rooted species may leave only or primarily sandberg's bluegrass (*Poa secunda* [J.S. Presl.]) or cheatgrass. This makes summer moisture and other resources more available to nonpalatable shrubs and/or trees and accelerates and increases the likelihood of the transition to the shrub, tree, or annual grass fire cycle state.

Management strategies to maintain the state: Manage for the vigor, density, and diversity of perennial herbaceous species. Include sagebrush and other woody species in management objectives as desired. However, manage for no more shrub and young tree canopy cover than is appropriate for the site in order to maintain a resilient understory. Management should not allow the plant community to transition across a

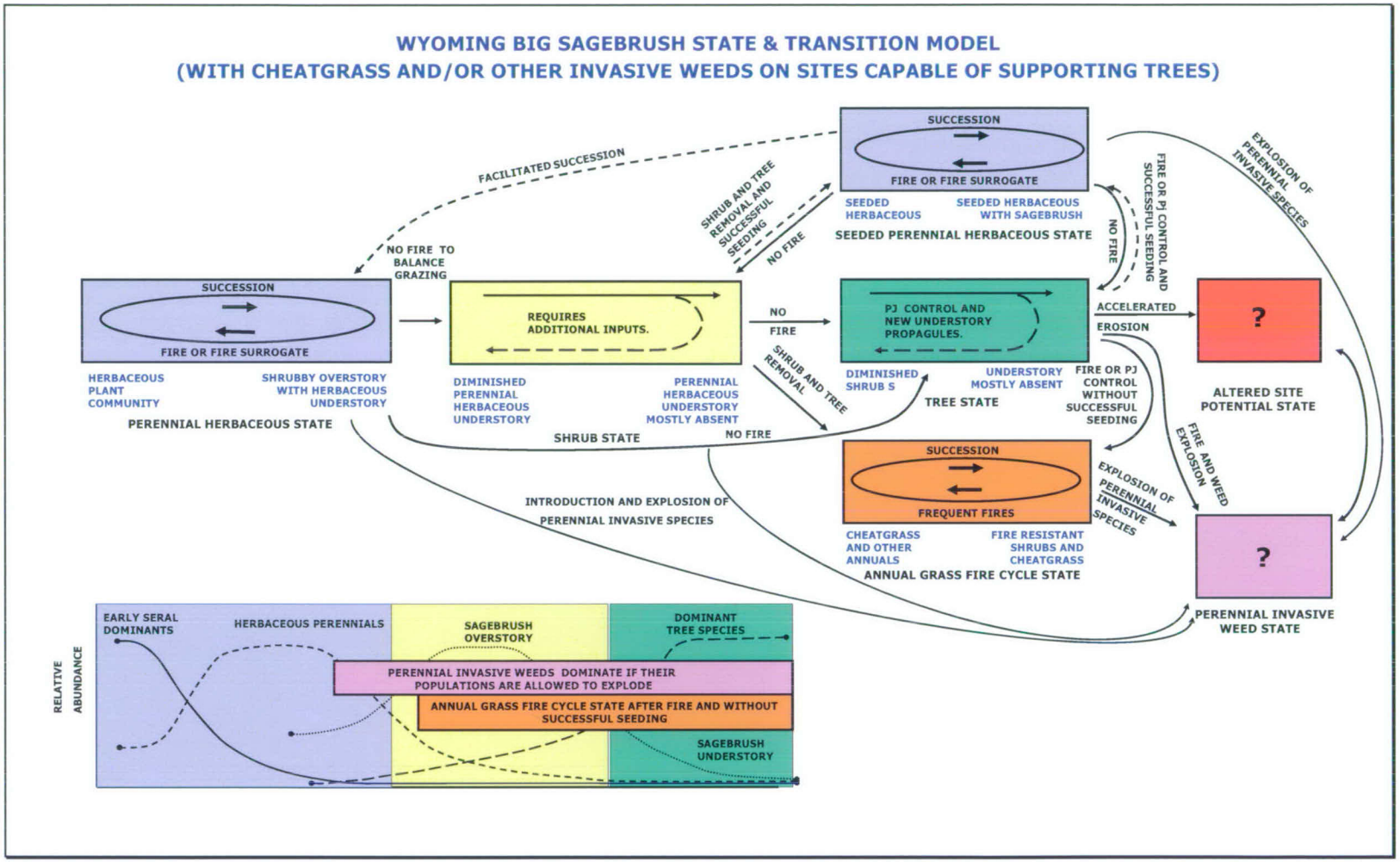

Figure C-1 Each box is shown as a different color to identify that it is a different state. The arrows between boxes are transitions across thresholds. Solid line arrows are irreversible transitions without active restoration of ecological processes, dashed arrows. Inset box shows relative abundance of plant groups and relative sequence of transitions through succession without proactive management.

threshold to the shrub or tree state. To increase the vigor and density of the native perennial herbaceous plants, intervene with mechanical control measures, prescription grazing, herbicides, or very judicious use of prescribed fire. Shrub and young tree control should be practiced as woody plant cover increases. However, caution is advised because cheatgrass can erupt from a seed bank soon after control of woody plants opens niches that a sparse understory cannot rapidly fill. The winter-annual, cheatgrass, outcompetes perennial seedlings in most years on all but the sandiest soils. To minimize bare patches, woody plant management may be needed more frequently than where only native perennial plants occur in the understory. Where soils are erodible, minimize soil surface disturbance. Wherever treatments disturb soil, ensure that adapted perennial plants or seeds are available to compete with cheatgrass given the specific treatment conditions, such as seedbed preparation, grazing regime, etc.

Grazing management should be designed to foster perennial herbaceous species in the community. Excessive or prolonged grazing, especially during the growing season by herb-consuming herbivores, can increase shrubs. Whereas, shrubs can be decreased by relatively intense winter grazing by shrub-consuming herbivores. Supplemental feeding, to concentrate cattle for mechanical damage, controls sagebrush in small patches, especially when the shrubs are dry and brittle. To limit bare ground after future disturbances, grazing and other land or vegetation management actions should not weaken the perennial herbaceous community. Bare ground is more susceptible to accelerated erosion, and invasive plants establish faster in open niches. Management to maintain the perennial herbaceous state (prescribed grazing and periodic control of woody plants) is much more cost effective than management to return to this state once a threshold has been crossed (control of woody plants, weed control, reseeding and temporary rest from grazing).

SHRUB STATE

Description: Shrub cover has increased and perennial herbaceous understory cover has decreased across a threshold level. Deep-rooted, perennial bunchgrasses are rare to absent in the understory. The cheatgrass component varies from present to dominant in the herbaceous understory. This state is very susceptible to invasion by annual weeds before and especially after fire or other large scale disturbance. Wyoming big sagebrush and other shrubs dominate the plant community. Juniper and/or pinyon pine trees may be established on the site but do not yet dominate ecological processes.

Successional trajectories: Native herbaceous understory is diminished from the perennial herbaceous state levels and may be absent or nearly so when sagebrush cover reaches its maximum for the site. The relative abundance of cheatgrass in the understory increases as perennial grasses decline. Eventually cheatgrass dominates the sparse understory but drives long-term community change for both shrubs and herbaceous species. Because a threshold has been crossed, removal of grazing pressure will not restore the native herbaceous component. This will coincidently require fire or other shrub control measures. However, burning or other woody plant control measures without reseeding will not return a mix of deep-rooted bunchgrasses and other plants characteristic of the perennial herbaceous state. Return to the perennial herbaceous state requires shrub control, cheatgrass control, reseeding and possibly additional management, depending on site-specific conditions. Thus return to the perennial herbaceous state requires facilitated succession starting with the seeded perennial herbaceous state.

Fire or other major disturbance will increase the abundance of cheatgrass and other annuals. A decline of big sagebrush in the overstory, coupled with an increase in cheatgrass density indicates a transitional pathway to the annual grass fire cycle state. With increasing cheatgrass fuel loads, the threat of wildfire increases due to better fuel continuity and the much higher flammability of this fine-stemmed, often evenly distributed, early growing and early drying, annual grass. This change in fuel characteristics indicates a transition to the annual grass fire cycle state that is completed by an inevitable fire. Or, if trees are present, fire is delayed, and tree invasion is not controlled, the plant community will transition to the tree state. At the landscape scale, the rate of transition largely depends on the size of the fires, which can be very large (100,000 acres).

Management strategies: To maintain the shrub state, or at least sagebrush, prevention of wildfire is critical. Strategies often include creation of green strips or other fuel breaks to keep wild fires small so that all sagebrush habitats are not lost at once. Prescribed grazing may be used to reduce fine and/or woody fuels.

To transition to the seeded perennial herbaceous state, apply shrub and weed control in conjunction with reseeding operations. Shrub control measures could include herbicide, mechanical, or shrub-consuming herbivore treatments or the judicious application of prescribed fire. After wildfire or other shrub removal, reseeding becomes urgent. Seeding is absolutely required before or within the first fall or early winter after shrub control. Thereafter, competition from a rapidly expanding cheatgrass population may prevent seeding success. Reseeding requires cheatgrass control unless a very hot fire removed all but 0 to 3 cheatgrass seeds per square foot. It also requires appropriate seedbed preparation, planting date and follow-up management. Reseeding treatments could include native perennials, grasses, forbs and shrubs and/or adapted nonnative perennial species. Where soil stabilization following wildfire is a priority objective, seeding nonnative perennial grasses having high seedling vigor may be the best option.

Where perennial herbaceous understory is weak and shrub cover is still well below maximum, consider using selective herbicides to manage cheatgrass and adjusting grazing management to restore vigor and density of desirable understory species several growing seasons prior to controlling shrubs. Investigate the feasibility of facilitated succession, seeding initially with adapted nonnative grasses and later inter-seeding with adapted native herbaceous and/or shrub species.

SEEDED PERENNIAL HERBACEOUS STATE

Description: The choice of species in the seed mix, species in the pre-existing seed bank, and the growing conditions in the first few years after the seeding largely determine the species composition of the seeding. On many Wyoming big sagebrush sites, not very many species will predictably do well. Even for crested wheatgrass (*Agropyron cristatum* L. Gaertner), the most commonly seeded and most dependable species, moisture following seedings is sometimes insufficient, especially in the driest sites with the greatest soil limitations. Because perennial bunchgrasses provide a clumped fuel composed of coarser stems that stay green longer than cheatgrass, they depress fire spread rates and the fire interval is generally long enough to allow sagebrush to become well established unless seeding design or management keeps it out. Although

functionally quite similar to the perennial herbaceous state, the seeded perennial herbaceous state is shown as a separate state because there is always a loss of genetic diversity once seeding is required.

Successional trajectories: Seedings often begin with expression of early seral species present in the seed bank such as annual forbs. As perennials and shrubs become better established, they typically exclude or severely diminish all but the most aggressive of these early seral species or limit them to small disturbed areas. If sagebrush was initially established by seeding or from seeds left in safe sites, it structurally dominates a seeding more quickly. If not, recruitment occurs from the edges or from unburned or untreated shrub islands. Other species move in depending on the mechanisms of their seed dispersal and their success in finding favorable microsites, or on treatments designed to facilitate succession.

Management strategies: Seeding size, shape or amount of edge and orientation with respect to prevailing winds, as well as fire management strategies to leave shrub islands or create a mosaic, can influence the process of sagebrush re-establishment. During and after seeding establishment, livestock grazing can be used to encourage niches for sagebrush and other species that may be present. Conversely, grazing can be discouraged or managed conservatively to favor only those species more palatable to livestock. Once the seeding has been used to avoid the transition to an annual grass fire cycle state, management and additional seeding can be used to facilitate succession toward various species compositions. Natives can be interseeded but often do not compete well with the initially seeded species unless steps like soil disturbance are used to open new niches. Often the focus for management is simply maintaining the seeding. This requires maintenance of ecological processes and therefore keeping the seeding from becoming so dominated by shrubs or weeds that the seeded understory becomes unable to survive a fire or otherwise thrive. Management strategies described for the perennial herbaceous state also apply to the seeded perennial herbaceous state. However, specifics of grazing management may differ according to the needs of the seeded species.

TREE STATE

Description: Juniper and/or pinyon pine has established on a site and has caused a decline in understory (herbaceous and shrub) cover and production due to extended fire return interval. Although trees generally establish under shrub canopies, they can invade the perennial herbaceous, seeded perennial herbaceous, and shrub states. The trees have assumed ecological dominance, driving future ecological processes. Understory (herbaceous and/or sagebrush) has decreased across a threshold level defined by its lack of resilience to a tree-removing disturbance. Tree biomass now dominates the plant community, with leaf and fuel biomass as much as seven to eleven times the levels of perennial herbaceous or shrub states. However, tree cover is highly concentrated, often leaving large bare interspaces that are susceptible to rill erosion, especially on drier sites. Cheatgrass is present and often dominates the understory as trees mature. Although live cheatgrass density and vigor may be lower in the tree state than in other states, its seed bank is often large.

Successional trajectories: Herbaceous and/or shrub understory diminished from previous state levels to almost absent where trees are mature and the site fully stocked. Shrub cover declines to approximately 20 to 25 percent of potential when tree cover approaches 50 percent of maximum potential for the site

(Tausch and West 1995; Miller et al. 2000). During this process a ten percent increase in tree cover can result in a fifty percent decline in understory production. The degree of resilience of the understory is determined in part by the tree-removing disturbance. A very hot wildfire may remove remaining herbaceous species and their seed reserves (indicating the threshold to the tree state has been crossed) while a more gentle form of tree removal may release these species from the tree competition (indicating that the threshold had not yet been crossed). Once one or more thresholds have been crossed in getting to the tree state, return to the perennial herbaceous state requires going to the seeded perennial herbaceous state first. This requires shrub and/or tree control, reseeding, and generally other management actions such as weed control. Cheatgrass is present and its proportion in the understory tends to increase as native understory species decline. If the native perennial understory is absent or sparse, fire or other tree control measures alone will not increase most herbaceous/shrub understory species of the perennial herbaceous state. Rather the cheatgrass seed bank will increase cheatgrass abundance after the release from tree competition and transition of the site to the annual grass fire cycle state. Major soil erosion events from severe wind after large and/or hot fires, or from major precipitation events on moderate or steeper slopes, can trigger a transition to an altered site potential state. Mature tree stands may increase this risk by allowing rills to form in large bare interspaces.

Management strategies: To manage this state for continued tree production, protection from fire is essential. However, as trees grow, fuel accumulates and tree canopies grow closer to each other. This increases the likelihood of a catastrophic fire spreading across the landscape. Thinning a stand reduces fuel loads. However, larger bare interspaces increase erosion hazard. Continued net fuel production on this type often increases the risk of fires in neighboring woodland types including areas where trees are very old because fire was historically rare or involved only single trees. Management plans designed to break up the landscape scale continuity of fuels with firebreaks, greenstrips, or imposed differences in vegetation structure serve to reduce the risk of large fires that leave watersheds barren. Applying tree control and rehabilitation treatments in smaller patches increases the likelihood of fires creating a diverse mosaic of habitats. This reduces the cost of future fire fighting, increases the opportunity for fire use, and increases sustainability for ecological processes.

To transition to the seeded perennial herbaceous state, apply tree and weed control and seed adapted perennials. After successfully attaining the seeded perennial herbaceous state, facilitated succession can return the site to the perennial herbaceous state. Tree control measures could include prescribed fire, herbicide, or mechanical treatments. Restoration requires the use of site-adapted grass, forb, and shrub species and methods. If site stabilization is a priority objective, nonnative perennial herbaceous species may be the best option for revegetation. Rehabilitation is required in the fall or early winter immediately following tree removal.

ANNUAL GRASS FIRE CYCLE STATE

Description: Cheatgrass and/or other annual grasses and forbs (e.g., mustards) dominate the herbaceous community. Most perennial herbaceous species cannot compete with the dense population of cheatgrass and are absent or nearly so. Fire intervals often shorten to 2 to 10 years. Sagebrush is generally unable to

survive and reproduce with this fire frequency. Sprouting, fire-tolerant shrubs may form a shrub overstory where fires are too frequent for sagebrush but infrequent enough to support non-palatable sprouting shrubs.

Successional trajectories: This plant community is functionally an annual grassland. Cheatgrass initially dominates the site following wildfire. Sprouting, fire-tolerant shrubs are the only woody plants and these shrubs may eventually dominate the visual aspects of the area if fires do not return too frequently. Cheatgrass and annual forbs become the dominant vegetation after repeated frequent fires. Poor grazing management can shift species composition toward less palatable species and decrease soil cover, thereby increasing erosion hazard. Thus, the level of risk has increased for the community to transition to a perennial invasive weed state. If perennial invasive species such as knapweeds (*Centaurea* sp.) are introduced to the system, the plant community could rapidly become dominated by these species, marking a transition to the perennial invasive weed state. This makes rehabilitation to a seeded perennial herbaceous state more difficult, even with extensive and intensive inputs. Fires export nitrogen and frequent fires may shift the plant community toward undesired species tolerant of low-nitrogen soils. Repeated fires expose soil to erosion more often. During severe hydrologic or wind events this may facilitate transition to the altered site potential state.

Management strategies: To manage this state for continual annual grass production, apply proper grazing for annual grassland. Leave sufficient residue for seed production and soil protection while consuming sufficient fuel to reduce fire risk. This can be challenging due to highly variable production among wet and dry years. In the wettest years, grazing may consume the abundant forage in only some pastures or use areas, or in fuel breaks. In the driest years forage may be essentially absent. To transition to the perennial herbaceous state, cheatgrass control and reseeding operations are required. Mechanical, chemical, or herbivory treatments can reduce cheatgrass seed. If fire intolerant shrubs like sagebrush are included in the seed mix, a fuel management strategy must be employed to reduce fire danger to newly established species. Prescription grazing and green stripping can be used across a landscape to reduce fuel loads and fire size (reducing fire frequency). Establishment of seeded perennial herbaceous species (such as bunchgrasses) also will reduce fuel continuity, potentially reducing the rate of fire spread and size of fires.

PERENNIAL INVASIVE WEED STATE

Description: One or more of the weeds that are on the state noxious or invasive weed lists, or a new invasive weed, dominates the herbaceous vegetation, competitively excluding the native perennial herbaceous dominants. Such weeds may burn readily and typically exclude sagebrush and/or pinyon and juniper trees. Their competitive advantage in an environment without diseases, insects, etc., from their ancestral home allows them to displace most other plants to form virtual monocultures. Initial weeds may facilitate the establishment of even more competitive invasive weeds.

Successional trajectories: The risk of transitioning to the perennial invasive weed state increases after transition to the Shrub, Tree, Annual Grassland Fire Cycle, and the Altered Site Potential states. Risk increases as soon as invasive perennial plants, such as one of several knapweed species, begin to colonize an area; unless they are eradicated immediately upon discovery. Otherwise, initial colonization generally expands toward a monoculture. Experience in other parts of the western U.S. demonstrates the highly

competitive nature of some invasive weeds. However, which species will be most competitive on each ecological site, state, or phase is still unknown. As initial infestations change species composition and/or soil characteristics and site potential, other weeds will likely become more competitive, causing instability in species composition. Many invasive weeds are competitive, but do not effectively protect soil from erosion or they are highly flammable, leading to unprotected soils after frequent fires. These increase the risk of transitioning to the Altered Site Potential state.

Management strategies: Invasive plant colonies should be eradicated immediately upon discovery. Once invasive weeds dominate a site, the expense of weed control, follow-up control, and revegetation treatments generally exceed on-site economic returns. However, these management strategies are justified to quarantine weeds in one area, reducing spread potentials. Herbicides and/or hand grubbing should be used to eradicate small populations. Where eradication is no longer possible, mechanical, chemical, and/or biological controls such as insects or prescribed grazing should be used to control/confine infestations. Weed control areas will require reseeding with the most competitive of adapted (native or nonnative) desired species and careful post-seeding grazing management to reduce the risk and consequences of reinvasion. They may also require periodic treatment for residual weeds. For whole landscapes dominated by noxious weeds, there may be little option other than biological control. Yet biological controls are not available for many weed species.

To accomplish the vegetation management objectives suggested for this state and transition model, care should be taken to avoid facilitating the spread of invasive weeds. Expansions to the road network and soil disturbances increase bare areas where invasive weeds can more easily establish. Virtually every invasive weed population is first a roadside weed before its population explodes. Many weed infestations begin in areas disturbed by machines, and some of these are for vegetation management purposes. To prevent weed infestations from spreading, it is important to routinely scout for new invasive weeds, especially in areas likely to be initially colonized (roadsides, waters, riparian areas, turnout areas, corrals, utility corridors, borrow pits, etc.). Also, remove/alter stresses that can aid expansion from an affected area.

ALTERED SITE POTENTIAL STATE

Description: Accelerated erosion has resulted in loss of topsoil, altered hydrologic characteristics (i.e., reduced infiltration and increased runoff), and lowered water and nutrient storage capacity. These changes to the growing environment have resulted in an altered ecological potential for the site. For example, a Wyoming big sagebrush site may become a shadscale (*Atriplex confertifolia* [Torr. & Frem.]) site. Lowered site potential means lowered vegetation production, less soil protection, and increased soil loss until a new equilibrium is reached.

Successional trajectories: The risk of transitioning to the altered site potential state increases after transitioning to the shrub, tree, annual grass fire cycle or perennial invasive weed states. The new site potential and the array of possible plant species and successional trajectories greatly depend on the soil remaining as the rate of soil erosion stabilizes. For very shallow soils, plants survive by tolerating extended periods without available soil moisture or by sending roots deep into rock fissures. Cheatgrass, a winter annual, survives drought as seeds that do not germinate in some years and by developing seed early. On

sites where the topsoil has been eroded away, clayey subsoil becomes exposed at the surface. Roots must penetrate the heavy clay and tolerate any shrinking and swelling of the clayey soil during germination. Then the plants must be able to persist with less soil moisture than available within an intact, non-eroded soil. Clayey sites are susceptible to invasion by medusahead rye (*Taeniatherum caput-medusa* [L. Nevski]).

Management strategies: Because topsoil or even subsoil has been lost, return of the native perennial herbs and shrubs characteristic of the perennial herbaceous state depends on soil forming processes that are slow under most conditions. The area should now be managed under the guidance provided by the state and transition model and ecological site description for the new ecological site if available. It is expected that the species composition and limited productivity of the vegetation established on the altered site will have a low resiliency and minimal utility.

NATIVES ONLY

In these plant communities and landscapes, exotic plants are not usually present. Only plant species native to the Great Basin are important in ecological processes and management. If present, exotics reflect a disturbance of vegetation that has left an open niche that can easily be filled through recovery of native vegetation. Any exotics present are not strongly competitive with native vegetation. This general model (**Figure C-2**) may describe historic ecological processes and is still relevant in some areas.

PERENNIAL HERBACEOUS STATE

Description: The plant community is dominated by deep-rooted perennial bunchgrasses, perennial forbs, and varying amounts of Wyoming big sagebrush. Sagebrush can dominate the plant community and juniper and/or pinyon pine trees may be present as seedlings, saplings, or very sparse mature trees, as long as the understory remains robust. If the perennial understory is dense and vigorous enough to recover after being released from the competition of woody plants, the vegetation has not crossed a threshold to the shrub or tree state. Descriptions of the ecological sites listed in **Table C-1** provide relative species composition and production data for each ecological site in this perennial herbaceous state.

Successional trajectories: Plant community is resilient or cyclic because secondary succession processes and disturbance regimes are functional. Life-form dominance (species composition) is controlled primarily by fire, although aroga moth, or other phenomena can also thin or kill patches of Wyoming big sagebrush. Normal fire frequency is approximately 50 to 100 years (Wright and Bailey 1982). Without periodic woody plant removal, a plant community will transition toward the shrub state or if trees are adjacent to the site, to the tree state. On drier sites, juniper may increase and on more mesic sites, pinyon may increase. Following wildfire sprouting shrubs may dominate but will be gradually replaced by perennial bunchgrasses and sagebrush. If the area is devoid of big sagebrush, it could be restored through time with seeds from surrounding areas and it could be re-established more quickly with seeding and without the need for vegetation control. Poor grazing management of large domestic and/or wild herbivores can diminish the vigor and expression of deep-rooted perennial herbaceous plants leaving primarily sandberg's bluegrass. This makes soil moisture and other site resources more available to competitive shrubs and/or trees and accelerates and increases the likelihood of the transition to the shrub, or tree state. If the perennial

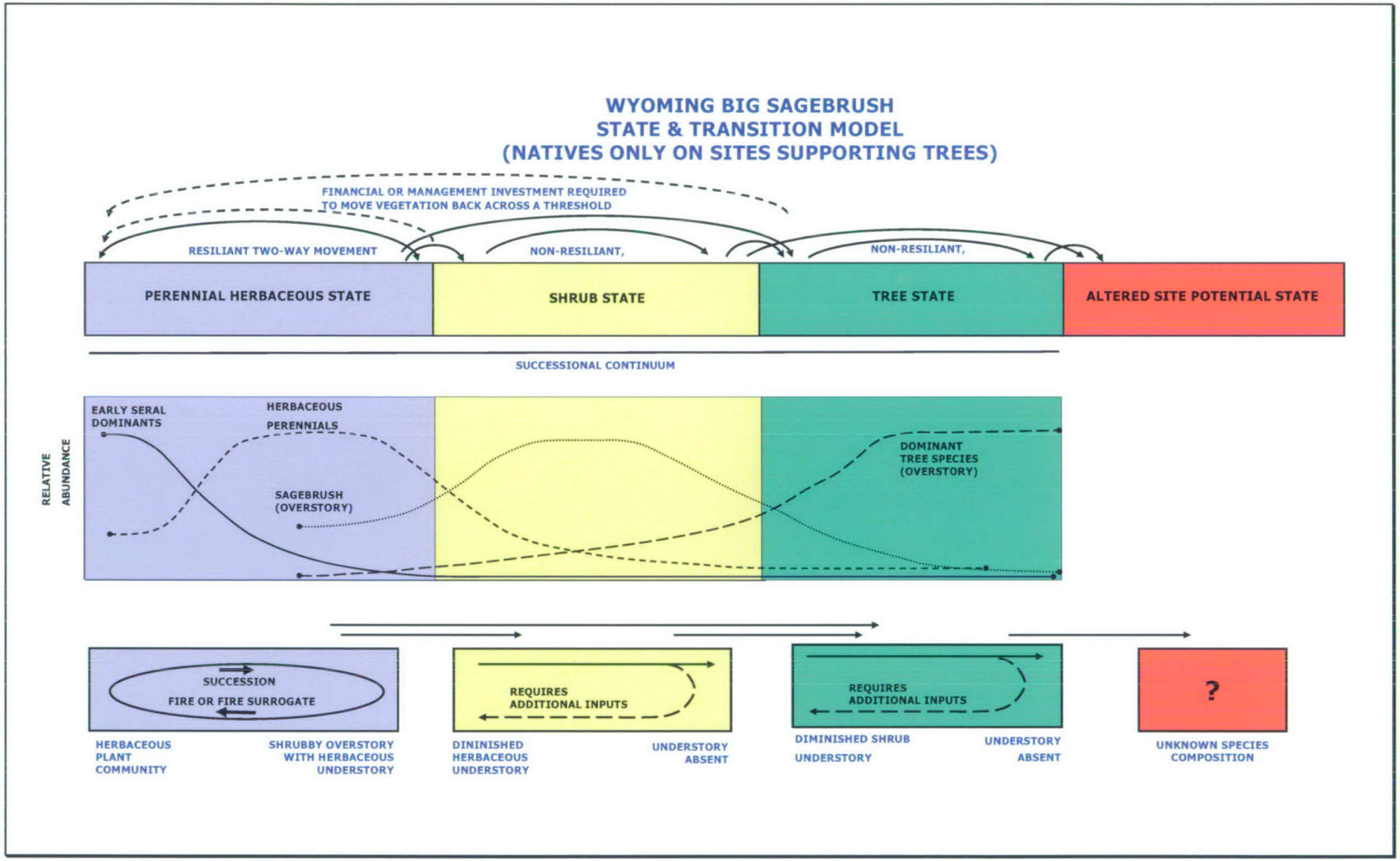

Figure C-2 Each box is shown as a different color to identify that it is a different state. The arrows between boxes are transitions across thresholds. Solid line arrows are irreversible transitions without active restoration of ecological processes, dashed arrows. Middle box shows relative abundance of plant groups and relative sequence of transitions through succession without proactive management.

understory is too sparse or weak to recover quickly after being released by fire or other major disturbance, the vegetation has crossed a threshold to the shrub or tree state. Large fires that remove sagebrush by leaving no islands and/or repeated fires that remove succeeding generations before their reproductive age (about five years) may create large landscape areas with few or no sagebrush plants for extended periods.

Management strategies: To maintain the state, limit over-development of shrub or tree cover to what is appropriate for a resilient herbaceous understory on the site. Intervene with prescribed fire, herbicide, mechanical control measures, or prescription grazing. Grazing can be managed to reduce stress to palatable species, especially during the growing season, which slows the advance of woody species. Grazing also can be used to accelerate the process of sagebrush recolonization after a fire. Shrub decrease can be fostered by relatively intense winter grazing by shrub-consuming herbivores. Concentration of livestock at feeding sites can reduce shrub density through mechanical damage to sagebrush, especially when these shrubs are frozen or dry and brittle. Grazing prescriptions should strive to maintain the vigor of the herbaceous community. Management to maintain the perennial herbaceous state is often much more cost effective than management to return to this state once a threshold has been crossed.

SHRUB STATE

Description: Herbaceous understory cover has decreased below a threshold level. Shrub cover has, or will soon, increase above a threshold level. Wyoming big sagebrush and/or unpalatable sprouting shrubs dominate the plant community. Spiny hop sage and other palatable shrubs are usually absent or rare in the shrub state. Perennial understory vegetation, especially deep-rooted bunchgrasses, is not capable of recovery after fire.

Successional trajectories: Native herbaceous understory declines substantially from perennial herbaceous state levels and trends toward absence when sagebrush cover reaches its maximum. If trees are present and not controlled, a plant community will transition to tree state. Because a threshold has been crossed, transition to the seeded perennial herbaceous state requires fire or other shrub control measures, reseeding operations, and follow-up management. Removal of grazing pressure alone may not restore the native herbaceous understory characteristic of the perennial herbaceous state or reduce shrub abundance. Burning or other shrub or tree control measures alone will not return the mix of deep-rooted bunchgrasses and other perennial herbaceous plants largely because the seed bank and seed source has been depleted. Woody plant removal will release fire-adapted shrubs and create open areas for early seral species, sagebrush, and invasive species, and/or accelerate erosion.

Management strategies: To maintain sagebrush stands, prevent wildfires but control junipers and/or pinyon pines as needed. To transition to the seeded perennial herbaceous state, apply shrub control measures in conjunction with reseeding. Shrub control measures could include prescribed fire, herbicide, mechanical, or shrub consuming herbivores. Because one or more thresholds have been crossed, reseeding is essential after wildfire. Reseeding, with appropriate seedbed preparation, planting date, and other methods should include a mix of adapted desired (native or nonnative) grass, forb, and shrub species. Where perennial herbaceous understory is weak and shrub cover is still well below maximum, investigate the feasibility of reseeding or adjusting grazing management to improve the vigor and density of desirable

species in the understory several growing seasons prior to controlling shrubs. The goal of re-establishing a desired herbaceous component may require a multi-step approach through many years or decades.

TREE STATE

Description: Juniper and/or pinyon pine has established on the area due to extended fire return interval. Although trees generally establish under shrub canopies, they can invade both the perennial herbaceous and shrub states. The understory (herbaceous and shrub) has decreased below a threshold level because tree cover has increased above a threshold level. Trees dominate the plant community, with leaf biomass and fuel buildup often 7 to 11 times the level of the perennial herbaceous or shrub states. However, canopy cover is concentrated, leaving large bare interspaces where rills can erode soil. The depleted perennial understory can no longer respond to fire or other tree-removing disturbances because seed banks and seed sources have been depleted.

Successional trajectories: The perennial herbaceous and/or shrub understory declines from previous state levels to almost absent as trees attain their mature height at normal density. Shrub cover declines to approximately 20 to 25 percent of potential when tree cover approaches 50 percent of maximum potential for the site (Tausch and West 1995; Miller et al. 2000). Each 1 percent increase in tree cover can lead to approximately a 5 percent decline in understory production. Post fire vegetation is dominated by early seral species and the limited number of species that survived tree dominance and fire or other tree removal. Because one or more thresholds have been crossed, transition to the seeded perennial herbaceous state requires shrub and/or tree control and reseeding. If native perennial understory is absent, fire or other tree control measures alone will not increase most herbaceous/shrub understory species to levels found in the perennial herbaceous state. Removing the trees will create open areas susceptible to invasive species, sagebrush and fire-tolerant shrubs and/or accelerated erosion. After large and/or hot fires, major soil erosion from severe wind or major precipitation events on moderate or steeper slopes, can trigger a transition to an altered site potential state. Accelerated soil erosion can also occur in large bare interspaces where rills can develop and erode soil quickly. This is more common on arid sites.

Management strategies: To manage this state for continued tree production, protection from fire is essential. However, as trees grow, fuel accumulates and tree canopies grow closer to each other, increasing the likelihood of a hot crown fire spreading across the landscape. Thinning to reduce crown cover, fuel load, and fuel connectivity, is critical to long-term maintenance of a woodland plant community. Continued net fuel production on this type often increases the risk of fires in neighboring woodland types including areas where trees are much older because fire was historically infrequent or lightening strikes caused only single-tree fires. Management plans should be designed to break up the landscape scale continuity of fuels with firebreaks, greenstrips, or imposed differences in vegetation structure.

To transition to the seeded perennial herbaceous state, apply tree control measures in conjunction with reseeding. Tree control measures could include prescribed fire, herbicide, or mechanical treatments. Reseeding should include adapted grass, forb, and shrub species and appropriate seedbed preparation, planting date, and follow-up grazing management and weed control where needed. Because one or more thresholds have been crossed, reseeding is essential after wildfire.

ALTERED SITE POTENTIAL STATE

Description: Accelerated erosion has thinned or eliminated the topsoil, altered hydrologic characteristics, and lowered water and nutrient holding capacity. These changes alter the ecological potential of the site. Thereafter, reduced vegetation cover and infiltration rate cause increased erosion that continues to diminish site potential until a new equilibrium is established.

Successional trajectories: The new site potential, the possible plant species for revegetation, and subsequent successional trajectories greatly depend on the soil remaining. For very shallow soils, plants survive by tolerating extended periods without available soil moisture or by sending roots deep into rock fissures. On sites where clayey subsoil becomes exposed at the surface after topsoil has been eroded away, roots must tolerate any shrink-swell characteristics of a clayey soil during germination. Their roots must be able to penetrate a heavy soil and they must be able to persist with less available soil moisture than within the intact non-eroded soil.

Management strategies: Because topsoil or even subsoil has been lost, return of the native perennial herbs and shrubs characteristic of the perennial herbaceous state depends on soil forming processes that are very slow under most conditions. The area should now be managed under the guidance provided by the state and transition model and ecological site description most similar to the altered site. It is expected that the species composition and limited productivity of the vegetation established on the altered site will have low resilience and minimal utility.

CONCLUSION

This state and transition model and management key is designed to help managers recognize opportunities to influence vegetation in a positive manner. It can be used for analysis at the site-specific or the landscape scale. Management opportunities are identified by determining the state and successional trajectory by examining the vegetation. Pathways toward thresholds indicate a need for action to prevent a transition to an unwanted state. Thus, the model and management key helps set short-term or long-term management objectives. Usually these objectives call for restoring resilience by encouraging natural processes. Management actions are less risky, less expensive, and more satisfying when or where important biological diversity remains and before difficult species, dangerous fuels, or accelerated soil erosion dominate ecological processes. That is, before crossing a threshold.

Across a landscape, the model helps focus attention on the highest priorities, those areas where an important management action or change has become urgent. Across most landscapes, there are hot spots where site specific management is urgently needed. There are other areas where the vegetation will remain resilient into the future and areas where the threshold has been crossed. Once the threshold is crossed and one state has transitioned into another, much resilience has been lost and the cost for vegetation treatments escalates. Management action may no longer be urgent or economically justified unless the new state puts neighboring areas at risk with invasive weed seeds or accumulating fuels.

In general the risk of losing the perennial herbaceous state is the highest priority. This state cycles among a variety of native plant communities to which many wildlife and other species have adapted, including the many sagebrush-dependent species. In addition, many other resource values are produced in one or more of the seral phases of this state. Its natural resistance to transitioning across a threshold due to its resilience following natural disturbances, makes this state a low-cost management objective. However, after the introduction of exotic invasive weeds and a century of altered fire regimes, this state is often at risk. Its increasing scarcity, and the presence of invasive weeds that can more easily dominate after transitioning to the shrub state, elevates its value and its priority for management. Where it no longer remains, the seeded perennial herbaceous state is its closest alternative.

Management does not equal preservation without disturbance. This state is maintained by periodic disturbance. The focus of land management in the Wyoming sagebrush type is to use management tools to simulate natural disturbances at the right times and with the right combination of other actions.

LANDFIRE AND FIRE REGIME CONDITION CLASS

LANDFIRE is a 5-year, multi-partner wildland fire, ecosystem, and wildland fuel mapping project that will generate consistent, comprehensive maps and data describing vegetation, fire, and fuel characteristics across the United States. These maps can assist in prioritizing and planning hazardous fuel reduction and ecosystem restoration efforts. The consistent and comprehensive nature of LANDFIRE methods ensures that data will be nationally relevant, while the 30-meter grid resolution ensures that data can be locally applicable. LANDFIRE meets agency, partner, and stakeholder needs for data to support landscape fire management planning, prioritization of fuel treatments, collaboration, community and firefighter protection, and effective resource allocation.

The objective of LANDFIRE is to provide consistent, nationwide data describing wildland fuel, existing vegetation composition and structure, historical vegetation conditions, and historical fire regimes to:

- Identify areas at risk due to accumulation of hazardous fuel
- Prioritize hazardous fuel reduction projects
- Improve coordination between agencies with regard to fire and other resource management
- Model real-time fire behavior to support tactical decisions to ensure sufficient wildland firefighting capacity and safety
- Model potential fire behavior and effects to strategically plan projects for hazardous fuel reduction and the restoration of ecosystem integrity on fire-adapted landscapes

Further information on LANDFIRE can be found at www.landfire.gov.

Fire Regime Condition Class is a standardized, interagency tool for determining the degree to which current landscape conditions have departed from historical reference condition vegetation, fuel, and disturbance regimes. Assessing Fire Regime Condition Class can help guide management objectives and assist in setting priorities for hazardous fuel treatments and ecological restoration.

Information on Fire Regime Condition Class can be found at www.frcc.org. An expanded definition for Fire Regime Condition Class is also included below.

FIRE REGIME CONDITION CLASS DEFINITION

A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (Agee 1993, Brown 1995). Coarse-scale definitions for natural (historical) fire regimes have been developed by Hardy et al. (2001) and Schmidt et al. (2002) and interpreted for fire and fuels management by Hann and Bunnell (2001). The five natural (historical) fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant overstory vegetation. These five regimes include:

I – 0 to 35 year frequency and low (surface fires most common) to mixed severity (less than 75 percent of the dominant overstory vegetation replaced);

II – 0 to 35 year frequency and high (stand replacement) severity (greater than 75 percent of the dominant overstory vegetation replaced);

III – 35 to 100+ year frequency and mixed severity (less than 75 percent of the dominant overstory vegetation replaced);

IV – 35 to 100+ year frequency and high (stand replacement) severity (greater than 75 percent of the dominant overstory vegetation replaced); and

V – 200+ year frequency and high (stand replacement) severity.

As scale of application becomes finer, these five classes may be defined with more detail, or any one class may be split into finer classes, but the hierarchy to the coarse scale definitions should be retained.

A fire regime condition class is a classification of the amount of departure from the natural regime (Hann and Bunnell 2001). Coarse-scale fire regime condition classes have been defined and mapped by Hardy et al. (2001) and Schmidt et al. (2001). They include three condition classes for each fire regime. The classification is based on a relative measure describing the degree of departure from the historical natural fire regime. This departure results in changes to one (or more) of the following ecological components: vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated disturbances (e.g., insect and diseased mortality, grazing, and drought). There are no wildland vegetation and fuel conditions or wildland fire situations that do not fit within one of the three classes.

The three classes are based on low (fire regime condition class I), moderate (fire regime condition class II), and high (fire regime condition class III) departure from the central tendency of the natural (historical) regime (Hann and Bunnell 2001), Hardy et al. 2001, Schmidt et al. 2002). The central tendency is a composite estimate of vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated natural

disturbances. Low departure is considered to be within the natural (historical) range of variability, while moderate and high departures are outside.

Characteristic vegetation and fuel conditions are considered to be those that occurred within the natural (historic) fire regime. Uncharacteristic conditions are considered to be those that did not occur within the natural (historical) fire regime, such as invasive species (e.g., weeds, insects, and diseases), "high graded" forest composition and structure (e.g., large trees removed in a frequent surface fire regime), or repeated annual grazing that maintains grassy fuels across relatively large areas at levels that will not carry a surface fire. Determination of amount of departure is based on comparison of a composite measure of fire regime attributes (vegetation characteristics; fuel composition; fire frequency, severity, and pattern) to the central tendency of the natural (historical) fire regime. The amount of departure is then classified to determine the fire regime condition class. A simplified description of the fire regime condition classes and associated potential risks follow.

Fire Regime Condition Class	Description	Potential Risks
Condition Class I	Within the natural (historical) range of variability of vegetation characteristics; fuel composition; fire frequency, severity, and pattern; and other associated disturbances	Fire behavior, effects, and other associated disturbances are similar to those that occurred prior to fire exclusion (suppression) and other types of management that do not mimic the natural fire regime and associated vegetation and fuel characteristics. Composition and structure of vegetation and fuels are similar to the natural (historical) regime. Risk of loss of key ecosystem components (e.g., native species, large trees, and soil) are low.
Condition Class II	Moderate departure from the natural (historical) regime of vegetation characteristics; fuel composition; fire frequency, severity, and pattern; and other associated disturbances.	Fire behavior, effects, and other associated disturbances are moderately departed (more or less severe). Composition and structure of vegetation and fuel are moderately altered. Uncharacteristic conditions range from low to moderate. Risk of loss of key ecosystem components are moderate.
Condition Class III	High departure from the natural (historical) regime of vegetation characteristics; fuel composition; fire frequency, severity, and pattern; and other associated disturbances.	Fire behavior, effects, and other associated disturbances are highly departed (more or less severe). Composition and structure of vegetation and fuel are highly altered. Uncharacteristic conditions range from moderate to high. Risk of loss of key ecosystem components are high.

More detailed descriptions of the fire regime condition classes and associated attributes are provided in the following table.

			Examples of Key Ecosystem Component Susceptibility to Changing Fire Regime Condition Classes			
Condition Class	**Fire Regime**	**Example Management Options**	**Species Composition and Structure**	**Invasion by Nonnative Species**	**Smoke Production Hydrology and Soils**	**Insects and Disease**
Condition Class I	Fire regimes are within the natural (historical) range, and the risk of losing key ecosystem components is low. Vegetation attributes (species composition, structure, and pattern) are intact and functioning within the natural (historical) range.	Where appropriate, these areas can be maintained within the natural (historical) fire regime by treatments such as fire use.	Species composition and structure are functioning within their natural (historical) range at both patch and landscape scales.	Nonnative species are currently not present or present in limited extent. Through time or following disturbance, sites are potentially vulnerable to invasion by nonnative species.	Functioning within their natural (historical) range.	Insect and disease populations functioning within their natural (historical) range.
Condition Class II	Fire regimes have been moderately altered from their natural (historical) range. Risk of losing key ecosystem components is moderate. Fire frequencies have departed from natural frequencies by one or more return intervals (either increased or decreased). This result in moderate changes to one or more of the following: fire size, intensity and severity, and landscape patterns. Vegetation and fuel attributes have been moderately altered from their natural (historical) range.	Where appropriate, these areas may need moderate levels of restoration treatments, such as fire use and hand or mechanical treatments, to be restored to natural fire regime.	Species composition and structure have been moderately altered from their historical range at patch and landscape scales. For example: Grasslands – Moderate encroachment of shrubs and trees and/or invasive exotic species. Shrublands – Moderate encroachment of trees, increased shrubs, or invasive exotic species. Forestland/Woodland – Moderate increases in density, encroachment of shade tolerant tree species, or moderate loss of shade tolerant tree species caused by fire exclusion, logging, or exotic insects or disease. Replacement of surface shrub/grass with woody fuels and litter.	Populations of nonnative invasive species may have increased, thereby increasing the potential risk for these populations to expand following disturbances, such as wildfires.	Have been moderately altered from their natural (historical) range. Water flow typically less. Smoke and soil erosion following fire typically greater.	Insect and disease population have been moderately altered from their natural (historical) range. Typically higher mortality or defoliation.
Condition Class III	Fire regimes have been substantially altered from their natural (historical) range. The risk of losing key ecosystem components is high. Fire frequencies have departed from natural frequencies by multiple return intervals. Dramatic changes occur to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been substantially altered from their natural (historical) range.	Where appropriate, these areas may need high levels of restoration treatments, such as hand or mechanical treatments, before fire can be used to restore the natural fire regime.	Species composition and structure have been substantially altered from their historical range at patch and landscape scales. For example: Grasslands – High encroachment and establishment of shrubs, trees, or invasive exotic species. Shrublands – High encroachment and establishment of trees, increased shrubs, or invasive exotic species. Forestland/Woodland – High increases in density, encroachment of shade tolerant tree species, or high loss of shade tolerant tree species caused by fire exclusion, logging, or exotic insects or disease.	Invasive species may be common and, in some cases, the dominant species on the landscape. Any disturbance will likely increase both the dominance and geographic extent of these invasive species.	Have been substantially altered from their historical range.	Insect and disease population have been substantially altered from their natural (historical) range. Typically higher mortality or defoliation.

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APPENDIX D
AREAS OF CRITICAL ENVIRONMENTAL CONCERN

APPENDIX D
AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACECs)

The ACEC designation is an administrative designation used by the BLM that is accomplished through the land use planning process. It is unique to the BLM in that no other agency uses this form of designation. The Federal Land Policy and Management Act states that the BLM will give priority to the designation and protection of ACECs in the development and revision of land use plans.

BLM regulations (43 Code of Federal Regulations part 1610) define an ACEC as an area "within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards." Private lands and lands administered by other agencies are not included in the boundaries of ACECs. ACECs differ from other special management designations such as wilderness study areas in that designation by itself does not automatically prohibit or restrict other uses in the area (with the exception that wind energy is prohibited and a mining plan of operation is required for any proposed mining activity within a designated ACEC). Specific management direction will be provided in the proposed plan, however, in order to be designated, special management beyond standard provisions established by the plan must be required to protect the relevant and important values.

RELEVANCE AND IMPORTANCE CRITERIA

Relevance

An area meets the relevance criteria if it contains one or more of the following:

- A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to American Indians).
- A fish and wildlife resource (including but not limited to habitat for threatened, endangered, or sensitive species, or habitat essential for maintaining species diversity).
- A natural process or system (including but not limited to threatened, endangered, or sensitive plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).
- Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the RMP process that it has become part of a natural process.

Importance

The value, resource, system, process, or hazard described in the relevance section must have substantial significance and values to meet the importance criteria. This generally means that the value, resource, system, process, or hazard is characterized by one or more of the following:

- Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
- Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.

- Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of Federal Land Policy and Management Act.
- Has qualities that warrant highlighting in order to satisfy public or management concerns about safety and public welfare.
- Poses a substantial threat to human life and safety or to property.

SUMMARY

A total of 128 nominations, including 3 existing ACECs, were considered as part of the Ely land use planning process. Several of these nominations pertained to the same areas and, therefore, were combined for a total of 100 nominated areas. The work of an internal review group is summarized in **Table D-1**. This table displays the nominated areas and explains why 77 of these areas met relevance and importance. **Table D-1** summarizes how relevant and important resources within these areas are protected by the different alternatives and if ACEC designation is needed.

After nomination, the boundaries and acreages for some nominated areas were adjusted to more closely reflect the values of the relevant and important resource. Therefore, the acreage of the final proposed ACEC may not match the acreage presented in **Table D-1**.

The 3 existing and 22 new potential ACECs are described in this appendix and shown on **Maps D-1** through **D-4**. Legal descriptions for the potential ACECs are presented in **Table D-2**.

Table D-1
Determination of Relevance and Importance of Nominated ACECs

Nomination	Acres/Miles	Primary Resource Values	Met Relevance	Met Importance	Rationale for not Designating
ACECs should be established to protect the largest old growth of pinyon-juniper forests and their habitats	Unknown	Old growth pinyon-juniper	No	No	N/A
Alamo Pictograph Site (Pahranagat Rock Art)	480 acres	Rock art	Yes	Yes	1,3
All remaining sage grouse and pygmy rabbit habitats	Approximately 5.0 million acres	Sage grouse and pygmy rabbit habitats	Yes	Yes	1
All riparian areas should be inventoried for their potential or historic status as fisheries. They should have special management to achieve and maintain this potential.	Unknown	Riparian habitats	No	No	N/A
Andy's Mine Trilobites	100 acres	Trilobites	Yes	Yes	1
Ash Springs (Pahranagat Rock Art)	160 acres	Rock art	Yes	Yes	1
Baker Archaeological Site	80 acres	Freemont habitation site	Yes	Yes	ACEC
Baking Powder Flat	13,012 acres	*Baking Powder Flat Blue butterfly*	Yes	Yes	ACEC
Beaver Dam Slope ACEC	36,900 acres	Critical desert tortoise habitat	Yes	Yes	ACEC
Bennett Springs	520 acres	Earliest settlement in district. Lost 49ers Trail passed through the area.	Yes	Yes	1,3
Black Canyon (Pahranagat Rock Art)	400 acres	Rock art	Yes	Yes	1,3
Blue Mass Scenic Area	950 acres	Scenic pastoral setting with rock art	Yes	Yes	ACEC
Bristol Wells	400 acres	Historic mining town, cemetery, and charcoal kilns	Yes	Yes	1
Carbonari sites	21,279 acres	Historic charcoal production sites	Yes	Yes	1,3
Cave Valley Cave Geologic Area	40 acres	Cave resources	Yes	Yes	1
Chisolm Mine Trilobite Area	160 acres	Trilobite area	Yes	Yes	1
Christmas Wash (Snake Range Rock Art)	1,920 acres	Rock art	Yes	Yes	1,2,3
Condor Canyon	6,900 acres	Riparian habitat and scenic canyon	Yes	Yes	ACEC
"The Crack"	5 miles	Earthquake upheaval that snakes over floor of Dry Lake Valley	No	No	N/A
Crystal Wash (Pahranagat Rock Art)	1,440 acres	Rock art	Yes	Yes	1
Currant/Lund Route	35 miles	Historic emigrant and teamster road with remnants	No	No	N/A
Delamar	4,160 acres	Historic mining town and cemetery	Yes	Yes	1
Delamar Mountain Range	90,000 acres	Aid in management of desert bighorn sheep	No	No	N/A
Evergreen Flat (Pahranagat Rock Art)	960 acres	Rock art	Yes	Yes	1
Flat Spring	42 acres	Cold spring system for the *Pyrgulopsis cruciglans* (snail)	Yes	Yes	1
Frenchy Flat (Pahranagat Rock Art)	220 acres	Rock art	Yes	Yes	1,3
Garnet Hill	1,210 acres	Rock hounding area	Yes	Yes	ACEC
Garrison Archaeological Site	160 acres	Freemont village site	Yes	Yes	1,3
George Keil Memorial Botanical Area	464 acres	Gigantic limestone monolith, ancient and rejuvenated bristlecone pines, Sonoran cactus, virgin Engelmann spruce	No	No	N/A
Gleason Canyon and Panaca Charcoal Kilns	4,000 acres	Region of sandstone shelters, and side canyons, with tall scattered ponderosa pines and pioneer charcoal kilns	Yes	Yes	1
Golden Gate Range	Unknown	Archaeologic and scenic values	No	No	N/A
Goshute Lake	18,360 acres	Paleo-Indian site	Yes	Yes	1,3
Hampton Creek	½ mile on public land	Nomination stated creek was inhabited by the state endangered Utah cutthroat trout (correctly named the Bonneville cutthroat trout)	Yes	Yes	1
Hell's Half Acre (Pahranagat Rock Art)	320 acres	Rock art	Yes	Yes	1,3
Hendry's Creek	0.3 mile on public land	Nomination stated creek was inhabited by the state endangered Utah cutthroat trout (correctly named the Bonneville cutthroat trout)	Yes	Yes	1
Hendry's Creek/Rock Animal Corral	3,300 acres	Archaeological site	Yes	Yes	ACEC
Highland Range, including Highland Peak and Anderson Canyon	11,962 acres	Ancient bristlecone pines, *Hypaurotis crysalus intermedia, Satyrium saepium, latilnea,* intermountain bristlecone pine woodland, montane	Yes	Yes	ACEC

Table D-1 (Continued)

Nomination	Acres/Miles	Primary Resource Values	Met Relevance	Met Importance	Rationale for not Designating
		shrublands, butterfly diversity			
Hiko Canyon (Pahranagat Rock Art)	15 acres	Rock art	Yes	Yes	1,3
Hiko Mountain Range	21,000	Aid in management of desert bighorn sheep	No	No	N/A
Honeymoon Hill/City of Rocks	3,900 to 5,900 acres	Rock art	Yes	Yes	ACEC
Jake's Valley Paleo Shoreline	19,209 acres	Paleo-Indian site	Yes	Yes	1,3
Kane Springs ACEC	57,190 acres	Critical desert tortoise habitat	Yes	Yes	ACEC
Kious Springs Scenic Area	40 acres	Scenic monolith and flora area	No	No	N/A
Kixmiller Ranch	10 acres	Historic charcoal kilns	Kilns are located on private land		N/A
Leviathan Cave Geologic Area	160 acres	"Picture window" cave entrance with huge interior room and wondrous speliothems	Yes	Yes	1,2
Lote's Canyon	Unknown	Scenic cultural values and rock art	No	No	N/A
Lower Meadow Valley Wash	39,000 acres	Biological resources (endangered, threatened, and candidate species)	Yes	Yes	ACEC
Magnolia and Boundary Canyons and North Creek	Unknown	Unique natural arches	Could not determine their location and the nominator did not respond to requests for information.		N/A
Mahoney Canyon Jasperoid Source	200 acres	Tool stone quarry	Yes	Yes	1,3
Meadow Valley Mountain Range	165,000 acres	Aid in management of desert bighorn sheep	No	No	N/A
Meteor Crater	1 acre	Reported meteor impact site	No	No	N/A
Modena Obsidian Source	13,260 acres	Obsidian source	Yes	Yes	1,3
Mojave/Utah Yucca Natural Area	Unknown	Farthest known northern occurrence of yucca cactus	No	No	N/!
Moriah Site (Pahranagat Rock Art)	640 acres	Rock art	Yes	Yes	1,3
Mormon Barrel Cactus	45,772 acres	Scenic quality of barrel cactus	No	No	N/A
Mormon Mesa ACEC	109,700 acres	Critical desert tortoise habitat	Yes	Yes	ACEC
Mormon Mountain Range	90,000 acres	Aid in the management of desert bighorn sheep	No	No	N/A
Mormon Peak Caves, Mormon Mountains and Mormon Peak	123,000 acres	Agave roasting pits, rock shelters and caves	Yes	Yes	1,2,3
Mount Irish	26,200 acres	Rock art	Yes	Yes	ACEC
Negro Creek (Snake Range Rock Art)	560 acres	Rock art	Yes	Yes	1,3
Oak Spring Summit Trilobite Trail	40 acres	Trilobites	Yes	Yes	1
Oak Spring Summit, Delamar Joshua Tree Forest	2,400 acres	Joshua tree forest and fossils	No	No	N/A
Osceola and Osceola Ditch	14,600 acres	Historic townsite and ditch	Yes	Yes	ACEC
Pahroc Rock Art	3,200 acres	Rock art and rock shelters	Yes	Yes	ACEC
Park Range Aboriginal Sites	42,154 acres	High altitude aboriginal sites	Yes	Yes	1,2
Park Range Pristine Meadows	1,280 acres	Pristine meadows	Yes	Yes	1,2
Pennsylvania Canyon	15,000 acres	Geological sight-seeing	No	No	N/A
Pine (Ridge) Creek	2.5 miles	Nomination stated that the creek was inhabited by the state endangered Utah cutthroat trout (correctly named the Bonneville cutthroat trout)	Yes	Yes	1
Pony Springs Open Space Reserve	39,100 acres	Pinyon pine and juniper area	No	No	N/A
Pygmy Sage Research Natural Area	160 acres	Pygmy sage habitat	Yes	Yes	ACEC
Quaking Aspen Spring	40 acres	Recreation	No	No	N/A
Rainbow Canyon	45,827 acres	Scenic volcanic gorge and rock art	Yes	Yes	1,2
Rose Guano Bat Cave	40 acres	Historic guano mine and cave	Yes	Yes	ACEC
Ruin Wash and Klondyke Gap	160 acres	Fossils	Yes	Yes	1
Sawmill Canyon	9,920 acres	Historic timber operations and rock art	Yes	Yes	1,3
Scarlet Buckwheat-White Rock	642 acres	*Eriogonum Phoenicium*	Yes	Yes	1
Schlesser Pincushion	6,468 acres	Schlesser Pincushion cactus	Yes	Yes	ACEC
Shooting Gallery	20,700 acres	Rock art	Yes	Yes	ACEC
Shoshone Ponds Natural Area	1,240 acres	Rocky Mountain juniper trees living in hostile alkali valley soils. Spring-fed pools containing rare and endangered Pahrump killifish and Relic Steptoe Dace.	Yes	Yes	ACEC

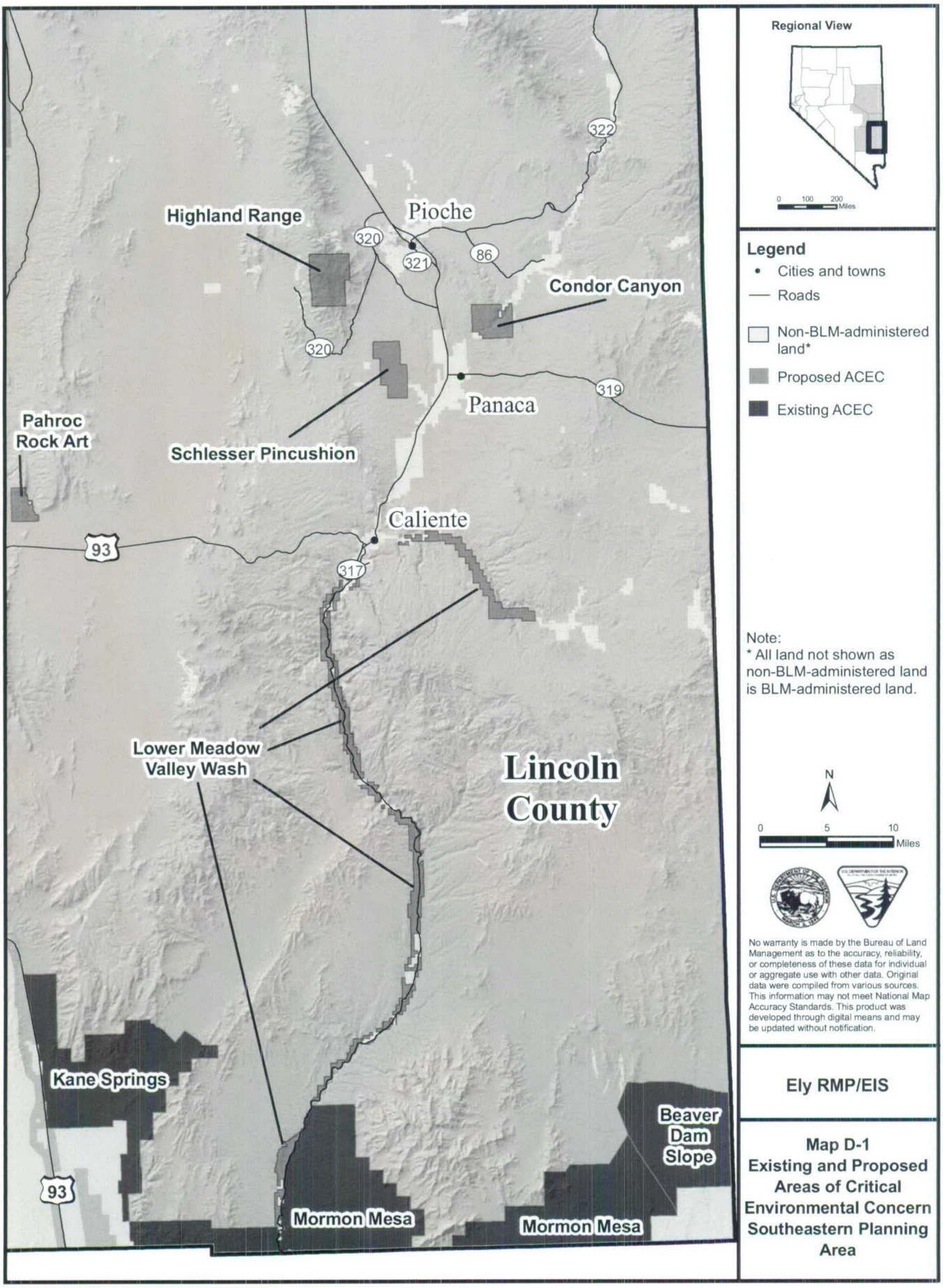
Table D-1 (Continued)

Nomination	Acres/Miles	Primary Resource Values	Met Relevance	Met Importance	Rationale for not Designating
Six Mile Flat (Pahranagat Rock Art)	2,160 acres	Rock art	Yes	Yes	1,3
Snake Creek Indian Burial Cave	40 acres	Archaeological resource and cave	Yes	Yes	ACEC
South Pahroc Range	28,395 acres	Geologic sight-seeing and desert bighorn sheep habitat	No	No	N/A
Spring Valley Waterfowl Area	9,733 acres	Natural wildlife resource system	No	No	N/A
Stateline Canyon Graveyard (Rice Family Cemetery)	10 acres	Historic graveyard	Yes	Yes	1
Steptoe Valley Cresentspot	1,937 acres	Sensitive status species of butterfly and its habitat	Yes	Yes	1,3
Sunshine Locality National Register District	34,540 acres	Paleo-Indian site	Yes	Yes	1,3
Swamp Cedar Natural Area	3,200 acres	Rocky Mountain juniper trees living in alkali valley soils. Battlefield of the Goshute War of 1863.	Yes	Yes	ACEC
Tempiute Obsidian Source	29,767 acres	Obsidian source	Yes	Yes	1,3
Tepee Rocks	160 acres	Geologic sight-seeing	No	No	N/A
Tri-county Paleo Site	19,967 acres	Paleo-Indian site	Yes	Yes	1,3
Tunnel Canyon	200 acres	Fremont pictographs	Yes	Yes	1,3
Turnley Spring	41 acres	Cold spring system of the *Pyrgulopsis peculiaris* (snail)	Yes	Yes	1
Tybo/Duckwater Route	60 miles	Historic emigrant, stage and teamster route	No	No	N/A
Upper Meadow Valley Archaeological Zone	980 acres	Prehistoric campsites and rock art	Yes	Yes	1,3
Ward Mining District	2,500 to 11,000 acres	Historic mining area	Yes	Yes	ACEC
Weaver Creek Scenic Area	½ mile of public land	Nomination stated the creek was inhabited by the state endangered Utah cutthroat trout (correctly named the Bonneville cutthroat trout).	Nevada Department of Wildlife cannot establish a Bonneville cutthroat trout fishery because water levels are not dependable.		N/A
Weepah Spring (Pahranagat Rock Art)	5,120 acres	Rock art	Yes	Yes	1,2,3
Whipple Cave Geologic Area	160 acres	Cave resources	Yes	Yes	1,2
White River Narrows (Pahranagat Rock Art)	8,960 acres	Rock art	Yes	Yes	1
White River Valley	15,556 acres	*Frasera gypsicola, Cryptantha welshii, Lepidium nanum, Mentzelia tiehmii, Ascrlpias Rastwoodiana, Phacelia parishii, Townsendia jonesii var, tumulosa,* pygmy sagebrush dwarf shrublands (sensitive plants)	Yes	Yes	ACEC
Worthington Peak, Golden Gates, Mount Wilson and Scottie's Cabin	Unknown	Ponderosa pine groves	No	No	N/A
Yucca Gardens	Unknown	Unique suspect succulent cactus hybrid ecology	Field visit to the area did not reveal the unique suspect succulent cactus hybrid ecology identified in the nomination.		N/A

[1] Special management attention is not required to protect the potential ACEC because standard or routine management prescriptions are sufficient to protect the resource or value from risks or threats of damage/degradation. (That is, the same management prescriptions would have been provided for the area in the absence of the important and relevant values.)

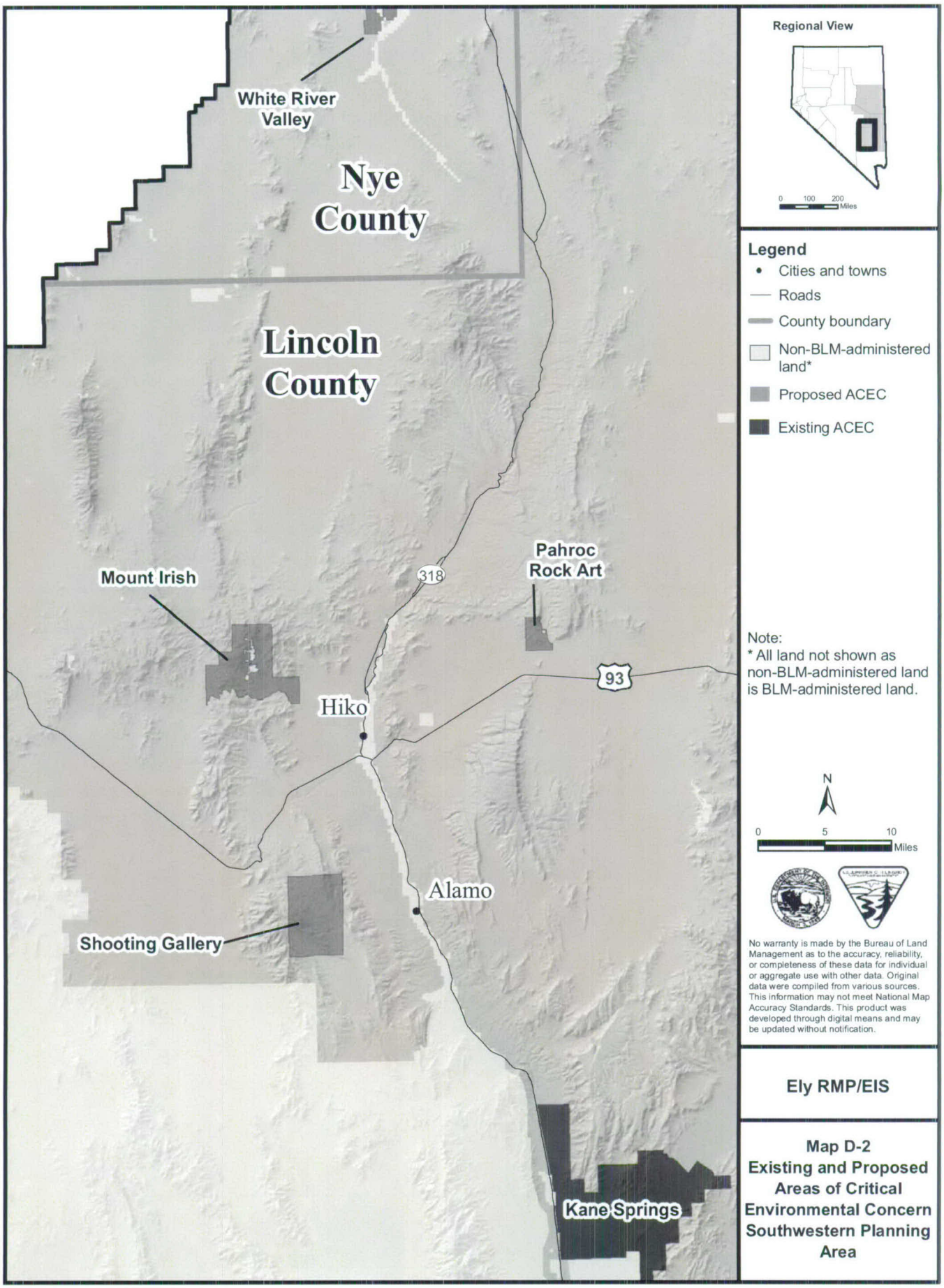
[2] The area is being proposed for designation under another statutory authority, e.g., designated wilderness, and requires no management attention differing from that afforded the entire designation.

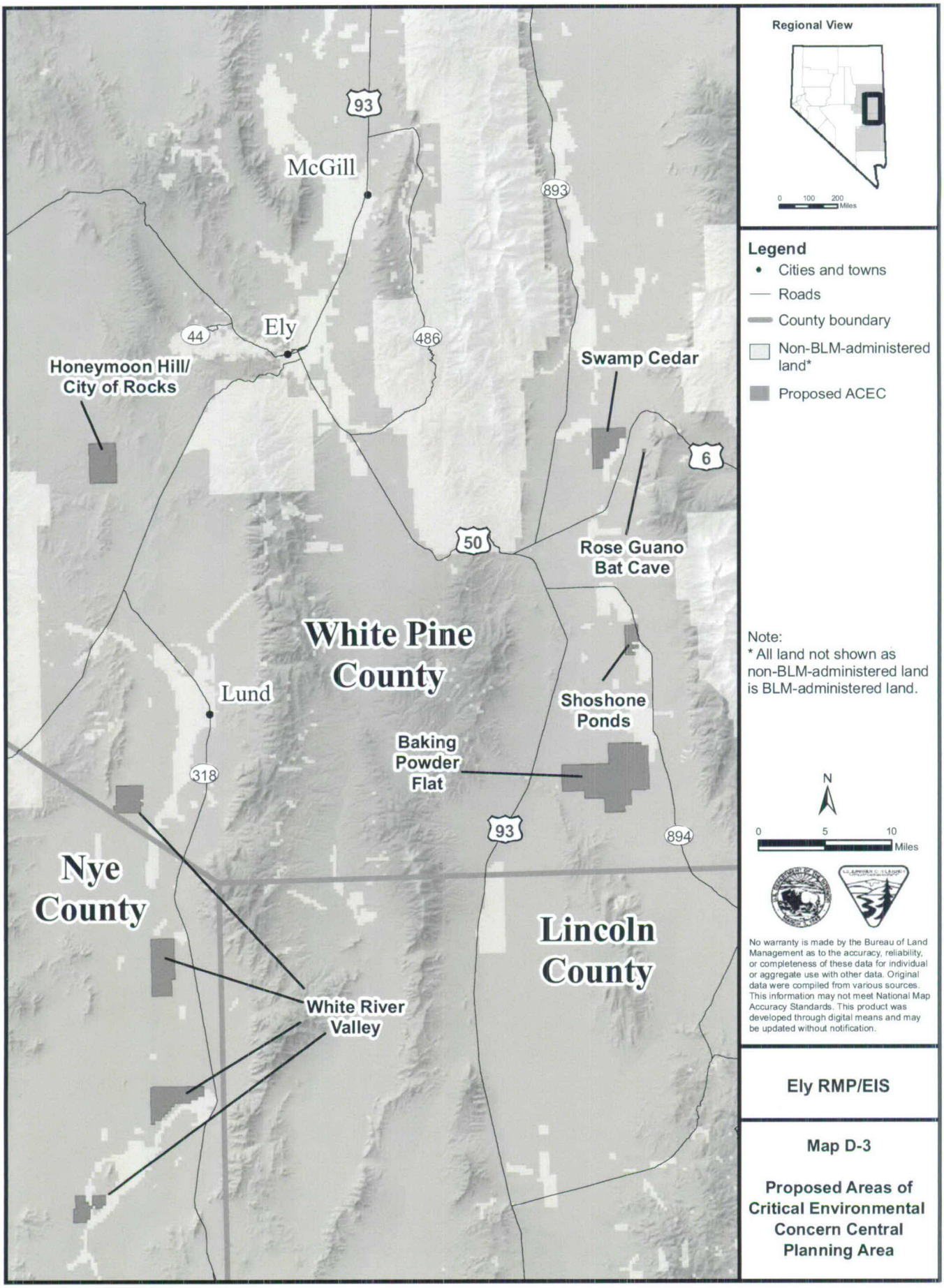
[3] The manager has concluded that no special management attention is justified either because exposure to risks of damage or threats to safety is greater if the area is designated or there are not reasonable special management actions which can be taken to protect the resource from irreparable damage or the restore it to a viable condition.



Ely RMP/EIS

Map D-1
Existing and Proposed Areas of Critical Environmental Concern Southeastern Planning Area


White River Valley
Nye County
Lincoln County
Mount Irish
318
Pahroc Rock Art
93
Hiko
Alamo
Shooting Gallery
Kane Springs
Regional View
0 100 200 Miles
Legend
Cities and towns
Roads
County boundary
Non-BLM-administered land*
Proposed ACEC
Existing ACEC
Note:
* All land not shown as non-BLM-administered land is BLM-administered land.
N
0 5 10 Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Ely RMP/EIS
Map D-2
Existing and Proposed Areas of Critical Environmental Concern Southwestern Planning Area


Regional View
0 100 200 Miles
Legend
Cities and towns
Roads
County boundary
Non-BLM-administered land*
Proposed ACEC
Note:
* All land not shown as non-BLM-administered land is BLM-administered land.
N
0 5 10 Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Ely RMP/EIS
Map D-3
Proposed Areas of Critical Environmental Concern Central Planning Area
93
McGill
893
Ely
44
486
Honeymoon Hill/ City of Rocks
Swamp Cedar
6
50
Rose Guano Bat Cave
White Pine County
Lund
Shoshone Ponds
Baking Powder Flat
318
93
894
Nye County
Lincoln County
White River Valley

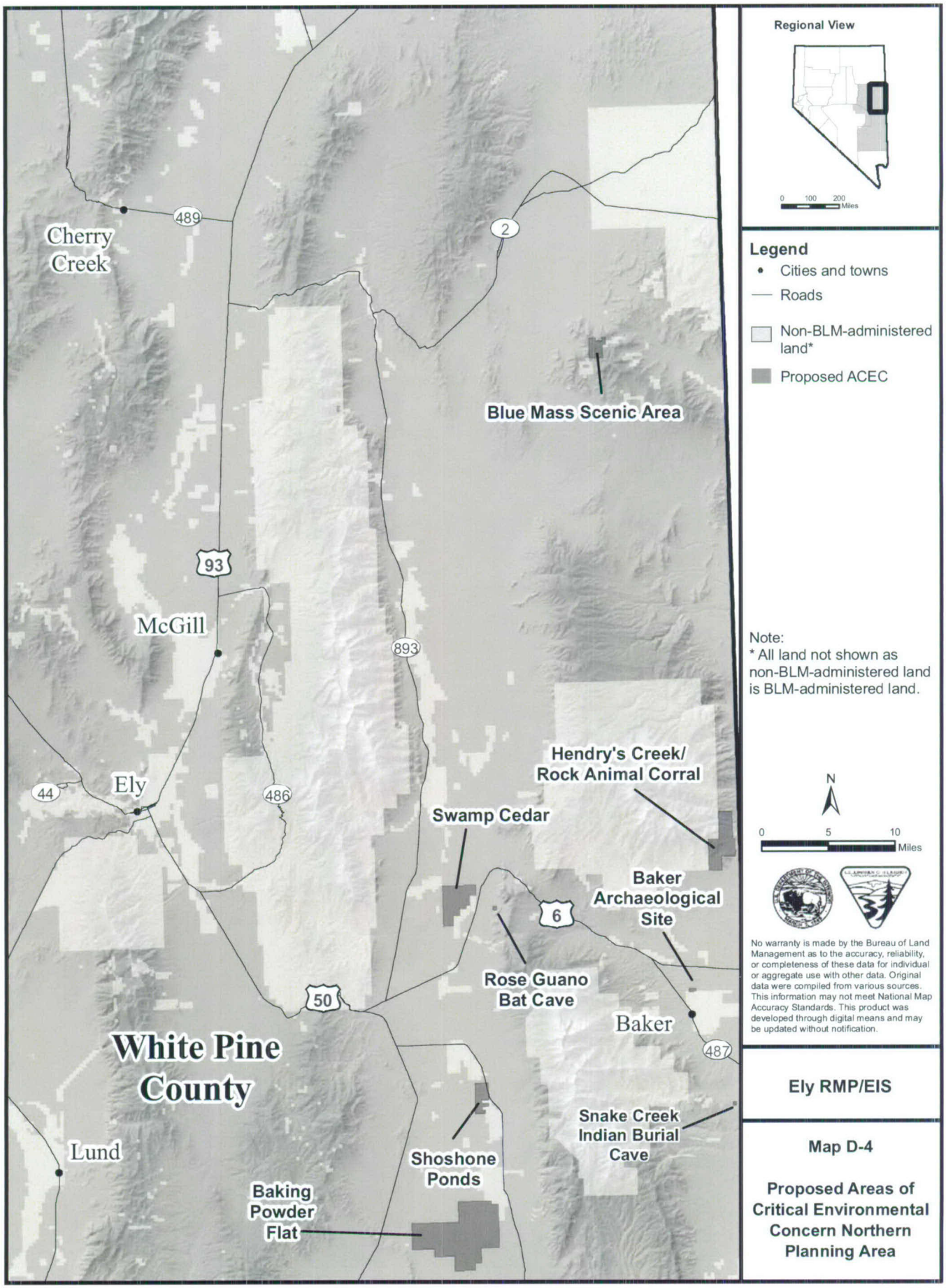

Regional View
0 100 200 Miles
Legend
Cities and towns
Roads
Non-BLM-administered land*
Proposed ACEC
Note:
* All land not shown as non-BLM-administered land is BLM-administered land.
N
0 5 10 Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Ely RMP/EIS
Map D-4
Proposed Areas of Critical Environmental Concern Northern Planning Area
Cherry Creek
489
2
Blue Mass Scenic Area
93
McGill
893
Hendry's Creek/ Rock Animal Corral
44
Ely
486
Swamp Cedar
Baker Archaeological Site
6
Rose Guano Bat Cave
50
Baker
487
White Pine County
Snake Creek Indian Burial Cave
Lund
Shoshone Ponds
Baking Powder Flat

Table D-2
Legal Descriptions for Potential ACECs

Township	Range	Section	
Baker Archeological Site			
14 N	70 E	33	LOT 7, SE¼SE¼SE¼
Baking Powder Flat			
11N	66E	25	ALL
		36	ALL
10N	67E	2	W½
		3	ALL
		4	SE¼N½
		5	N½
		9	NE¼
		10	N½
11N	67E	13	S½SW¼
		14	S½
		15	S½
		16	SE¼
		21	E½
		22	ALL
		23	ALL
		24	W½
		25	W½
		26	ALL
		27	ALL
		28	ALL
		29	ALL
		30	ALL
		31	ALL
		32	ALL
		33	ALL
		34	ALL
		35	ALL
		36	W½
Blue Mass Scenic Area			
21N	68E	1	LOTS 1 & 2, SW¼NE¼, SE¼NE¼
21N	69E	6	NW¼
22N	68E	36	E½
22N	69E	31	LOTS 2-4, E½SW¼, SE¼NW¼, W½NE¼
Condor Canyon			
1S	68E	13	LOTS 1-7, SW¼NW¼
		14	LOTS 1-8, S½NW¼, S½NE¼
		15	SE¼, SW¼, S½NW¼, S½NE¼
		22	ALL
		23	ALL
		24	LOTS 1-15
		25	LOTS 1-12
		26	N½SE¼, N½SW¼, N½
		27	NE¼SE¼, N½NW¼, NE¼
Garnet Hill			
17N	62E	1	ALL
		2	LOTS 1, 2, S½NE¼, NE¼SW¼ (PORTIONS), SE¼ (PORTIONS)
		12	LOT 1, LOTS 2, 3, 4, 7, 8 (PORTIONS)
Hendry's Creek/Rock Animal Corral			
15N	70E	1	ALL
		2	ALL
		11	ALL
		12	ALL
		14	ALL
16N	70E	26	ALL
		35	ALL

Table D-2 (Continued)

Township	Range	Section	
Highland Range			
1N	66E	26	ALL
		27	ALL
		28	ALL
		33	ALL
		34	ALL
		35	ALL
1S	66E	1	W½
		2	ALL
		3	ALL
		10	ALL
		11	ALL
		12	W½
Honeymoon Hill/City of Rocks			
15N	61E	19	ALL
		20	ALL
		29	ALL
		30	ALL
		31	ALL
		32	ALL
Lower Meadow Valley Wash			
11S	65E	25	SE¼, SE¼SW¼, NE¼ (WITHIN)
		36	WITHIN
11½S	65E	36	WITHIN
12½ S	65E	1	LOTS 3 & 4, LOT 2 (WITHIN), W½SE (WITHIN), W½SW¼, S½NW¼, W½SW¼NE¼
		11	E½SE¼
		12	SE¼SW¼ (WITHIN), N½SW¼, NW¼, W½SW¼NE¼, W½NW¼NE¼
		13	W½SW¼, SE¼NW¼ (WITHIN ALL)
		23	E½SE¼, E½NE¼
		24	S½SW¼, SW¼NW¼
4S	66E	25	SW¼SE, E½SE¼, W½NW¼, E½NE¼
		26	S½SE¼
		34	SE¼
		35	SW¼, NW¼, NW¼NE¼
5S	66E	2	LOTS 3 & 4, NE¼SW¼, SE¼NW¼
		3	LOTS 1 & 2, SE¼SE¼, E½SW¼, SW¼NE¼
		10	SE¼, E½SW¼, E½NW¼, SW¼NE¼, E½NE¼
		15	SE¼, E½SW¼, E½NW¼, NE¼
		22	SE¼, E½SW¼, E½NW¼, NE¼
		26	SE¼, W½NW¼
		27	E½SE, E½NW, NE¼
		34	E½SE¼, E½NE¼
6S	66E	2	LOTS 3-5, W½SE¼, S½SW¼, NW¼SW¼, S½NW¼
		3	LOT 1, SE¼NE¼
		11	SE¼, E½SW¼, NW¼, W½NE¼
		13	W½SW¼, W½NW¼
		14	SE¼, NE¼
		23	SE¼, NE¼
		24	W½SW¼, W½NW¼
		25	SW¼, NW¼
		26	E½SE, E½NE¼
		35	NE¼NE¼
		36	SE¼, E½SW¼, NW¼, W½NE¼
7S	66E	1	LOTS 1-3, SE¼, E½SE¼, SE¼NW¼, S½NE¼
		12	NE¼

Table D-2 (Continued)

Township	Range	Section	
10S	66E	24	SW¼, E½NW¼, NE¼ (WITHIN ALL)
		25	NW¼ (WITHIN)
		26	N½SE¼, SW¼, E½NE¼ (WITHIN ALL)
		27	S½SE¼
		34	W½SE¼, S½SW¼, SW¼NE¼, N½NE¼ (WITHIN ALL)
10½S	66 E	33	SE¼ (WITHIN), E½SW¼, E½NE¼ (WITHIN)
11S	66E	4	SW¼, E½NW¼ (WITHIN ALL)
		5	SE¼ (WITHIN)
		8	S¼, SW¼, NE¼ (WITHIN ALL)
		17	SW¼, NW¼ (WITHIN)
		19	WITHIN
		30	W½ (WITHIN)
		31	NW¼NW¼ (WITHIN)
4S	67E	10	SW¼SE¼, S½SE¼SW¼, SW¼SW¼, S½SE¼NW¼SW¼, S½NE¼
		11	NW¼SE¼, NW¼SW¼, SE¼NW¼
		12	N½SE¼, N½SW¼, SE¼NW¼, N½NW¼, NE¼
7S	67E	7	LOTS 1 & 2, S½SE¼
		17	SW¼SW¼SE¼(WITHIN), SW¼, NW¼
		18	N½SE, N½NW¼, NE¼
		20	NW¼SE¼, N½NW¼
		21	SW¼SW¼
		27	S½SE¼, S½SW¼
		28	SE¼SE¼, NW¼SE¼, N½NW¼, W½NE¼
		34	SW¼SE¼, N½SE¼, NE¼
		35	SE¼SW¼ (WITHIN), SE¼NW¼, NW¼NW¼
8S	67E	2	LOT 4, W½SW¼, SW¼NW¼
		3	LOTS 1 & 2, SE¼, S½NE¼
		10	E½SE, E½NE¼
		11	W½ (WITHIN)
		14	SW¼, NW¼ (WITHIN)
		15	E½SE¼, E½NE¼
		22	E½SE¼, E½NE¼
		23	SW¼, NW¼
		26	W½SW¼, NW¼
		27	S½SW¼, S½SE
		28	SE¼SE¼, NW¼SE¼, N½NW¼, W½NE¼
		34	E½, SW¼, E½NW¼
		35	W½SW¼, W½NW¼
9S	67E	2	LOTS 3 & 4, SW¼, S½NW¼
		3	LOT 1, E½SE¼, SE¼NE¼
		10	E½SE¼, E½NE¼
		14	NW¼SW¼
		15	E½SE¼, E½NE¼
		22	E½SE¼, NE¼
		27	W½SW¼
		34	W½SE¼, SW¼, NW¼, E½NE¼
10S	67E	3	LOTS 3 & 4, W½SW¼, S½NW¼
		4	LOT 1 SE¼, SE¼NE¼
		8	S½SE¼
		9	W½SW¼, NE¼NW¼, NW¼NE¼
		17	NW¼SW¼SW¼ (WITHIN), NE¼SW¼ (WITHIN), S½NW¼ (WITHIN), NE¼ (WITHIN)
		18	LOT 4, NW¼SE¼, SE¼SW¼
		19	NE¼NE¼ (WITHIN)

Table D-2 (Continued)

Township	Range	Section	
4S	68E	7	LOTS 2 & 3, SE¼, NE¼SW¼, S½NE¼
		8	W½SE¼, SW¼
		16	SW¼
		17	SE¼, E½NW¼, NE¼
		21	SE¼, E½SW¼, NW¼, W½NE¼
		27	SW¼, W½NW¼
		28	E½
		34	SE¼, E½SW¼, NW¼, W½NE¼
5S	68E	2	SE¼, SW¼, NW¼
		11	N½SE¼, N½SW¼, NW¼, NE¼
		12	N½SE¼, N½SW¼, NW¼NE¼
5S	69E	7	LOTS 1-3
		8	SW¼, S½NW¼
Mount Irish			
4S	58E	36	ALL
3S	59E	19	LOTS 1-4, SE¼, E½SW¼, E½NW¼, NE¼
		20	ALL
		21	SE¼SW¼NW¼, N½SW¼NW¼, SE¼NW¼, SW¼SW¼NW¼ (WITHIN), N½NW¼, NE¼
		28	ALL
		29	WITHIN
		30	LOTS 1-4, SE (WITHIN), E½SW¼, E½NW¼, NE¼ (WITHIN)
		31	LOTS 1-4, SE¼, E½SW¼, E½NW¼, NE¼ (WITHIN)
		32	WITHIN
		33	ALL
4S	59E	4	ALL
		5	WITHIN
		6	WITHIN
		7	LOTS 1-3, LOT 4 (WITHIN), SE¼ (WITHIN), E½SW¼, E½NW¼, NE¼
		8	ALL
		9	ALL
		10	ALL
		11	ALL
		14	SE¼, SW¼ (WITHIN), NE¼
		15	N½NW¼, N½NE¼ (WITHIN ALL)
		16	N½, N½SW¼ (WITHIN ALL)
		17	N½SE¼ (WITHIN), NE¼NE¼SW¼ (WITHIN), NW¼ (WITHIN), NE¼
		18	E½NW¼, NE¼ (WITHIN)
Osceola and Osceola Ditch			
13N	67E	1	LOTS 2-4, S½NW¼, SW¼, SE¼
		2	LOT 1, SE¼NE¼, E½SE¼
		11	E½NE¼, E½SE¼
		12	ALL
		13	ALL
		14	E½NE¼, E½SE¼
13N	68E	6	LOTS 5-7, SE¼NW¼, E½SW¼
		7	W½
		18	W½
14N	67E	11	E½SE¼
		12	W½SW¼
		13	S½NE¼, NW¼NW¼, SW¼,SE¼
		14	E½NE¼, E½SE¼
		23	E½NE¼, E½SE¼
		24	ALL PUBLIC LANDS WITHIN
		25	ALL PUBLIC LANDS WITHIN
		35	E½NE¼, E½SE¼
		36	ALL

Table D-2 (Continued)

Township	Range	Section	
14N	68E	7	LOTS 8, 9, SE¼SE¼, E½SW¼, SE¼
		8	S½NE¼, S½NW¼, SW¼, SE¼
		9	S½NE¼, S½NW¼, SW¼, SE¼
		10	S½NE¼, S½NW¼, SW¼, SE¼
		11	S½NE¼, S½NW¼, SW¼, SE¼
		12	S½NE¼, S½NW¼, SW¼, SE¼
		16	ALL
		17	ALL
		18	ALL
		19	ALL
		20	ALL
		29	ALL
		30	ALL
		31	ALL
		32	ALL
Pahroc Rock Art			
4S	62E	23	ALL
		24	SW¼SE¼SW¼SW¼SE¼, S½SW¼SW¼SW¼SE¼
		25	SW¼SE¼SE¼ WITHIN, W½SE¼ WITHIN, SW¼, NW¼NW¼, S½NW¼, SW¼NE¼ WITHIN, W½NW¼NE¼
		35	N½
		36	N½ WITHIN
Pygmy Sage			
14N	67E	33	SW¼
Rose Guano Bat Cave			
15N	67E	25	SE¼SE¼
Schlesser Pincushion			
1S	67E	27	S½SW¼
		28	S½SE, S½SW¼
		29	S½SE¼
		32	SE¼, NE¼
		33	ALL
		34	SW¼, NW¼
2S	67E	3	LOTS 3 & 4, SE¼, SW¼, S½NW¼
		4	ALL
		9	ALL
		10	ALL
		15	ALL
		16	SE¼, NE¼
Shooting Gallery			
6S	59E	25	ALL
		26	ALL
		35	ALL
		36	ALL
7S	59E	1	ALL
		2	ALL
		11	ALL
		12	ALL
		13	ALL
		14	ALL
		23	ALL
		24	ALL
6S	60E	29	ALL
		30	ALL
		31	ALL
		32	ALL

Table D-2 (Continued)

Township	Range	Section	
7S	60E	5	ALL
		6	ALL
		7	ALL
		8	ALL
		17	ALL
		18	ALL
		19	ALL
		20	ALL
Shoshone Ponds			
12N	67E	2	ALL
		11	SW¼SE¼, SW¼, NW¼, S½NE¼
13N	67E	35	S½SE¼, S½SW¼
Snake Creek Indian Burial Cave			
12N	70E	13	SE¼NW¼
Swamp Cedar Natural Area			
15N	67E	21	ALL
		22	ALL
		23	N½SW¼, NW¼
		27	NW¼SE¼, SW¼SW¼, N½SW¼, NW¼, NE¼
		33	W½SE¼, SW¼, NW¼, SW¼NE¼, N½NE¼
Ward Mining District			
14N	63E	9	ALL PUBLIC LAND WITHIN
		10	ALL PUBLIC LAND WITHIN
		11	ALL
		12	ALL
		13	ALL PUBLIC LAND WITHIN
		14	ALL PUBLIC LAND WITHIN
		15	ALL PUBLIC LAND WITHIN
		16	W½
		21	ALL
		22	ALL
		23	S½NE¼, NW¼NW¼, S½NW¼, SW¼, SE¼
		24	NE¼, NE¼NW¼, S½NW¼, SW¼, SE¼
		25	NE¼, NW¼, N½SW¼, N½SE¼, E½SE¼SE¼
		33	ALL
		34	ALL
		35	NW¼NW¼, SW¼, SE¼
		36	E½NE¼NE,¼, SE¼NE¼, SW¼, SE¼
White River Valley			
5N	60E	1	Lot 4, SW¼NW¼
		2	Lots 1-4, S½NE, S½NW¼, SW¼, N½SE¼, SW¼SE¼
6N	60E	35	W½NE¼, NW¼, SW¼, SE¼
		36	NE¼, E½NW¼, NE¼SW¼, SW¼SW¼, SW¼SE¼, N½SE¼
6N	61E	31	Lots 1,2
7N	61E	22	E½SE¼, E½NE¼
		23	ALL
		24	ALL
		25	NW¼SW¼, NW¼, N½NE¼
		26	ALL
		27	E½SE¼, E½NE¼
		34	NE¼SE¼, E½NE¼
		35	NW¼, NW¼NE¼
8N	61E	1	W½NE¼, NW¼, SW¼, W½SE¼
		2	ALL
		11	ALL
		12	NW¼, SW¼
		13	N½NW¼
		14	N½NE¼, N½NW¼

Table D-2 (Continued)

Township	Range	Section	
9N	61E	25	W½NE¼, NW¼, SW¼, W½SE¼
		26	ALL
		35	ALL
		36	W½NE¼, NW¼, SW¼, W½SE¼
10N	61E	3	LOTS 3 & 4, S½NW¼
		4	LOTS 1-4, S½NW¼, S½NE¼
		5	LOTS 1&2, S½NE¼
11N	61E	27	SW¼
		28	SE¼, SW¼
		29	SE¼
		32	SE¼, NE¼
		33	ALL
		34	S½SW¼, NW¼SW¼, NW¼
7N	62E	19	ALL
		20	W½NE¼, NW¼, N½SW¼, SW¼SW¼, NW¼SE¼
		30	LOT 1, NW¼NE¼, NE¼NW¼

DETAILED DESCRIPTIONS OF EXISTING AND PROPOSED ACECs

Existing ACECs

Beaver Dam Slope, Kane Springs, and Mormon Mesa ACECs

The Beaver Dam Slope ACEC is located in southeast Lincoln County east of the Mormon Mesa ACEC and west of the Nevada/Arizona/Utah border. The ACEC extends north from the Lincoln/Clark County line and northwest of the city of St. George, Utah. The Kane Springs ACEC is located in southwestern Lincoln County, west of the Mormon Mesa ACEC. The ACEC extends north along U.S. Highway 93 towards Alamo from the Lincoln/Clark County border. The Mormon Mesa ACEC is located in south central Lincoln County west of the Kane Springs ACEC and east of the Beaver Dam Slope ACEC. The ACEC extends north from the Lincoln/Clark County line and the cities of Mesquite and Moapa, Nevada, near the Mormon Mountain Range.

These ACECs offer several relevant and important features and encompass important desert tortoise and hot desert wildlife habitats in Lincoln County. The Mormon Mesa ACEC also includes riparian habitats on BLM-administered land along the Lower Meadow Valley Wash for several other sensitive or listed Mojave species including the federally threatened southwestern willow flycatcher and federal candidate yellow-billed cuckoo.

The current condition and trend of the relevant and important values of these ACECs are byproducts of historic human uses, present human uses, and unnatural and reoccurring fire regimes. The area is composed of a mixture of Mojave vegetative communities, including northern and southern desert shrub and annual grasslands. In some areas native shrubs, cactus, yuccas, and Joshua trees composition has been replaced with non-native red brome and native annual grasses due to increased fire frequency and intensity. Previous grazing use by domestic cattle and sheep and wild horses and burros, have additionally altered the vegetative state and composition of the Mojave habitats within the ACECs. Development in adjoining non-ACEC designated areas is increasing near the communities of Las Vegas, Mesquite, Moapa, and Alamo. The ACECs also are receiving tremendous increases in recreational utilization and off-highway vehicle use due to an ever increasing demand placed on these resources from the growing populations of the greater Las Vegas area. Desert tortoise populations in the northeastern Mojave remain relatively low, but mostly stable.

Threats

The current threats and risks to the wildlife and critical Mojave Desert wildlife habitats of Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs include: conversion of Mojave shrub habitats to annual grassland from altered fire regimes, habitat fragmentation from past development/actions within ACECs and current development and habitat loss adjacent to ACECs, direct mortality and indirect alteration of habitat from vehicles and off-highway vehicle use, and increased predation rates due to habitat fragmentation and increased predator abundance and distribution resulting from human activity and actions.

Proposed ACECs

Baker Archaeological Site

The Baker Archaeological Site is located in White Pine County, Nevada, about 1.5 to 2 miles northwest of Baker, Nevada. This ACEC, in Snake Valley, is located on the eastern edge of the planning area.

This area is a potential ACEC based on the prehistoric values it contains. The Baker Archaeological Site is a Fremont habitation site containing foundations of several structures. The positioning of the structures indicates the inhabitants' use of the sun to aid them in determining seasons. Evidence of agriculture was found during the excavations. To date, this site is the furthest west and north Fremont site in the U.S.

Threats

Threats to the historic resources include livestock grazing, visitor use, weathering, the potential for the designation of rights-of-way, and mineral development. Several lands and realty actions have occurred immediately adjacent to or within the Baker Archaeological Site. The Baker Archaeological Site occurs within the Baker Creek grazing allotment.

Baking Powder Flat

Baking Powder Flat ACEC is located in Spring Valley in White Pine County about 12 miles south of Highway 50 and lies in the valley east of Lake Valley Summit. The valley bottoms in the area have sandy soils and low sand dunes that provide exemplary habitat for the rare, endemic Baking Powder Flat blue butterfly *(Euphilotes bernardino minuta)* a BLM sensitive status species. Six of seven separate occurrences on public lands within the planning area were located in Spring Valley. Baking Powder Flat ACEC harbors four occurrences and is the largest contiguous habitat for the blue butterfly.

This area is a potential ACEC to protect the habitat essential for maintaining the Baking Powder Flat Blue butterfly. Its host plant, Shockley buckwheat (*Eriogonum shockleyi* var. *shockleyi*) is a common mound-forming plant often found on fine-textured substrates. This plant reaches exceptional diameters at this location and is the predominant plant in the valley bottom land.

Threats

Threats to the continued existence of this butterfly include limited habitat and potential damage to Shockley buckwheat by permitted cattle and wild horse grazing. Additional threats include habitat damage from off-highway vehicles, construction of new roads, land sales, and rights-of-way designation.

Blue Mass Scenic Area

Blue Mass Scenic Area is located in northern White Pine County approximately 9 miles from the Utah border in the Kern Mountains. The geology of the area is mostly granitic. The area is made up of a winding canyon and many rock hoodoos (a column, pinnacle, or pillar of rock produced by differential weathering.) with Blue Mass creek flowing through.

This area is a potential ACEC for the preservation of the high scenic values and unusual geology.

Threats
Threats and risks to the scenic qualities of Blue Mass include increased recreation and visitation resulting in an increase in off-highway vehicle use, vehicle route proliferation, and an increase in the number of informal campsites.

Condor Canyon

Condor Canyon is a steeply confined and isolated canyon located within the Meadow Valley Wash of Lincoln County, Nevada, 4 miles north of Panaca. The canyon encompasses 4 miles of perennial stream reach, which is moderately to deeply entrenched by 10-foot sandy high-flow walls and a man-made railroad levee. Condor Canyon is comprised only of BLM-administered lands.

This area is a potential ACEC for the protection of significant historic, cultural, archaeological, and scenic values and critical terrestrial and aquatic wildlife habitats. Features include numerous prehistoric lithic/ceramic scatters, rock shelters and overhangs, and rock art locations encompassing hundreds of panels of both pictograph and petroglyphs. In addition, remnants of mill foundations, dugouts, trails, and artifact scatters exist within the canyon. Both the Pioche-Bullionville Narrow Gauge Railroad (Circa 1870) and Union Pacific Pioche/Caliente Railroad (Circa 1900) remain evident within the canyon. Condor Canyon contains designated critical habitat (50 Federal Register 12298) for Big Spring spinedace (*Lepidomeda mollispinis pratensis*) and harbors the only known population of this federally threatened species. Additionally, the U.S. Fish and Wildlife Service Species of Concern and Nevada State Sensitive, Meadow Valley Wash desert sucker (*Catostomus clarki* ssp.) and Meadow Valley Wash speckled dace (*Rhinichthys osculus* ssp.) occur within Condor Canyon.

Threats
Several threats and risks exist to the critical wildlife habitats and cultural resources of Condor Canyon. Pre-historic pictograph and petroglyph rock art panels are highly susceptible to intense heat and subsequent rock exfoliation from reoccurring wildfires. Additionally, fish species of Condor Canyon are extremely vulnerable to catastrophic events, habitat modification, or loss and associated habitat fragmentation from natural and human induced biotic and abiotic impacts. Increased recreation and visitation to the canyon have brought increased off-highway vehicle and impacts to the terrestrial and aquatic habitats during all periods of the year and has increased the likelihood of the spread or introduction of nonnative species, vandalism or removal of historic artifacts and resources, and toxic or unwanted substance releases into the stream.

Garnet Hill

Garnet Fields rock hound area (Garnet Hill) is located in White Pine County approximately 6 miles west of Ely.

This area is a potential ACEC for the protection of Garnet Hill, a nationally-known rock hound area that is famous for dark red garnets.

Threats
Several threats and risks to the resource include the potential for commercial mining activity as well as illegal collecting of garnets for commercial sale. An increase in recreation in the Ely area has led to increased visitation and vandalism at the Garnet Hill site.

Hendry's Creek/Rock Animal Corral Archaeological Site

The proposed Hendry's Creek/Rock Animal Corral ACEC is located in White Pine County, Nevada, about 15 miles north of Baker, Nevada. This proposed ACEC, in the Snake Range, is located along the eastern border of the planning area.

This area is a potential ACEC for the protection of the prehistoric values it contains including several rockshelters, pictographs, lithic scatters, and the rock animal corral itself."

Threats
Several threats and risks exist than may affect the relevant and important values in the proposed Hendry's Creek/Rock Animal Corral ACEC. These threats and risks include decorative stone removal, off-highway vehicle use, and visitor use.

Highland Range

The Highland Range is located in Lincoln County approximately 6 miles west of Pioche.

This area is a potential ACEC for the protection of the habitat for several populations of globally rare butterflies including the intermediate Colorado hairstreak (*Hypaurotis crysalus intermedia*), and broadlined saepium hairstreak (*Satyrium saepium latilinea*) and habitat for basin waxflower (*Jamesia tetrapetala*) a BLM sensitive status species that commonly grows in association with bristlecone pine.

Threats
Threats to this habitat include wildland fire, mineral development, off-highway vehicle use, and rights-of-way designation.

Honeymoon Hill/City of Rocks

The proposed Honeymoon Hill/City of Rocks ACEC is located in White Pine County, Nevada, about 25 to 30 miles southwest of Ely, Nevada. This area, in Jakes Wash, is located in the central portion of the planning area.

This area is a potential ACEC based on the prehistoric values and geologic scenic values it contains. The Honeymoon Hill archaeological site is a part of a much larger archaeological site complex known as the City of Rocks. It includes an extensive prehistoric chert quarry, a large, upland Paleo-Indian site, later Archaic occupation, numerous rock shelters exhibiting red pictographs, and scattered shards of brown ware pottery, presumably of Numic origin. Honeymoon Hill is the only identified petroglyph location within this complex.

Threats
Threats and risks that could affect the relevant and important values in the Honeymoon Hill/City of Rocks area are off-highway vehicle use, visitor use, rights-of-way designation, and mineral exploration and development. Disposal of land within the ACEC also could threaten the resources being protected.

Lower Meadow Valley Wash ACEC

The Lower Meadow Valley Wash is an 80-mile perennial stream stretch of the historic Meadow Valley Wash. The Lower Meadow Valley Wash begins 2 miles east of Barclay, Nevada near the Utah/Nevada State Line, at the Big Springs in the Clover Creek drainage, flows west-by-northwest through Caliente, then south through Elgin, Carp, and Rox Nevada toward the Lincoln Clark County Line. It includes the perennial inflows of Ash and Pine Creek from the Clover Mountains. The Lower Meadow Valley wash feeds into the Muddy River and Virgin River drainage of the Lower Colorado River System.

This area is a potential ACEC for the protection of federally endangered, threatened, and candidate species, as well as Nevada State protected species and BLM Sensitive species. Some of the more prominent terrestrial and aquatic species include southwestern willow flycatcher (endangered), desert tortoise (threatened), yellow-billed cuckoo (candidate), Meadow Valley Wash desert sucker and speckled dace (sensitive), Arizona toad (sensitive), and chuckwalla (sensitive).

Threats
Threats to habitat potential for terrestrial and aquatic wildlife species include poorly managed grazing, railroad and state highway right-of-way alteration of hydrologic regimes, damming and channelization of the stream flow, re-direction/diversions of stream flows, habitat removal/fragmentation, non-native weed (salt cedar, tall whitetop, etc.) monotypic dominance, loss of terrestrial understory, decreased native vegetative resiliency, increased fire and flood frequency, increased fire and flood impacts from sedimentation and down cutting, and degraded water quality.

Mount Irish

The proposed Mount Irish ACEC is located in Lincoln County, Nevada, about 8 miles west of Hiko, Nevada in the southwest portion of the planning area.

This area is a potential ACEC for the protection of the prehistoric and historic values it contains. The area includes the Mount Irish Archaeological District, as well as two historic sites; remnants of the Pahranagat Mining District, Crescent Mill, and Logan City. Crescent Mill is located on public land in a drainage area on the west side of Mt. Irish. Thousands of petroglyphs have been located on Mount Irish, but the entire archaeological district has not been fully explored. Petroglyph panels are associated with other cultural features including lithic scatters, pottery scatters, rockshelters with deposits, and an occasional pictograph. The Mount Irish rock art is particularly important because of its research potential. Crescent Mill and Logan City are part of Nevada's earliest mining era. They also are part of the Pahranagat mining district, which was organized in 1865, and Crescent Mill is a remnant of Southern Nevada's first major mining booms. Logan City is located in the hills south of Mount Irish on the east side of the range at the base of a cliff with dramatic horizontal strata of water deposited volcanic ash. The Pahranagat Mining District is on Mount Irish in the Pahranagat Range about 10 miles northwest of Hiko.

Threats
Threats that could impact the relevant and important values in the proposed Mount Irish ACEC include off-highway vehicle use, visitor use, locatable mineral development, livestock grazing, and land disposals.

Osceola and Osceola Ditch

The proposed Osceola/Osceola Ditch ACEC is located in White Pine County, Nevada, about 35 miles east of Ely, Nevada. This area, in the Snake Range, is located in the eastern central portion of the planning area.

This area is a potential ACEC for the protection of the historic values it contains.

Osceola

The Osceola district was organized in October 1872 after placer gold was discovered the previous summer. Osceola has gained at least three distinctions: its pioneering use of hydraulic hoses in the 1880s, a massive gold nugget (probably Nevada's largest) that was found in 1877 reportedly weighed over 20 pounds and was valued at approximately $6,000, and most important, it survived longer than any other placer camp in Nevada. (All information about Osceola from Paher 1970 – Nevada Ghost Towns and Mining Camps.)

Osceola Ditch

The Osceola (east) Ditch was constructed in 1889-1890 by the Osceola Gravel Mining Company. It consists of the east ditch, a wooden flume, and a rock dam that was used for transporting water for hydraulic mining operations at Osceola.

Threats
Several threats and risks exist that may affect the relevant and important values in the proposed Osceola/Osceola Ditch ACEC. These threats and risks are locatable mineral development, visitor use, off-highway vehicle use, natural deterioration of the ditch and cemetery, and trespass/unauthorized use.

Pahroc Rock Art

The proposed Pahroc Rock Art ACEC is located in Lincoln County, Nevada, about 35 miles west of Caliente, Nevada. This area, in the North Pahroc Range, is located in the south central portion of the planning area.

This area is a potential ACEC for the protection of the prehistoric values it contains. These prehistoric vales include several petroglyphs, rock shelters, and other artifacts indicating ongoing use in this area.

Threats
Threats to the relevant and important values in the proposed Pahroc Rock Art ACEC include recreational bouldering, livestock grazing, unrestricted off-highway vehicle use, and visitor use/vandalism. In addition, land disposals and rights-of-way designations could negatively impact the prehistoric values.

Pygmy Sage Research Natural Area

The Pygmy Sage Research Natural Area is located in White Pine County in Spring Valley, northwest of Wheeler Peak.

This area is a potential ACEC based on its designation as a research natural area to assist in the preservation of an example of a pygmy sage (*Artemesia pygmaea*) ecosystem for comparison with other ecosystems influenced by humans.

Threats
Threats to the unusual vegetation include increased recreation and visitation resulting in increased off-highway vehicle use and vehicle route proliferation. An increase in the spread of noxious and invasive weeds also could impact the area as could the permitted livestock grazing in the area.

Rose Guano Bat Cave

The proposed Rose Guano Bat Cave ACEC is located in White Pine County, Nevada, about 40 miles east of Ely, Nevada, on U.S. Highway 50. This Snake Range area is located in the east central portion of the planning area.

This area is a potential ACEC for the protection of historic values and sensitive species.

Rose Guano Bat Cave was mined for phosphate rock and bat guano and is home to a large roosting summer population of Mexican (or Brazilian) free-tailed bats (*Tadarida brasiliensis*) and winter use by a smaller population of Townsend's big eared bats (*Plecotus townsendii pallenscens*), a Nevada BLM sensitive species.

Threats
Threats and risks that may affect the relevant and important values in the Bat Cave include visitor use/visitor safety and wildlife protection.

Schlesser Pincushion

The proposed Schlesser Pincushion ACEC is located in the Bennett Springs Wash area, 3 miles southwest of Cathedral Gorge State Park in Lincoln County.

This area is a potential ACEC for the protection of populations of the globally-rare Schlesser pincushion (*Sclerocactus schlesseri).* The cactus is a BLM sensitive status species and is a local endemic restricted to the Central Mountains section of the Great Basin ecoregion. It is currently known from seventeen occurrences and the proposed Schlesser Pincushion ACEC harbors ten of them.

Threats
Threats to the Schlesser pincushion include diminished quality of the habitat caused by disturbance of soil crusts and vegetative cover, increased recreation and proliferation of off-highway vehicle use, uncontrolled grazing, wild horse grazing, and mineral development.

Shooting Gallery

The proposed Shooting Gallery ACEC is located in Lincoln County, Nevada, about 7 miles west of Alamo, Nevada. This area, between the Pahranagat Range and the East Pahranagat Range, is located in the southwest portion of the planning area.

This area is a potential ACEC based on the prehistoric values it contains including the Shooting Gallery Game Drive District—a multi-component cultural landscape consisting of a large complex of scattered rock art sites (seven sites, approximately 200 to 300 panels) in association with several well-developed habitation areas. There also are at least five areas of stacked rocks, upright rock slabs, and small rock circles likely to have functioned as a game-drive complex used for hunting large game (bighorn sheep, deer, or pronghorn antelope).

Threats to relevant and important values in the proposed Shooting Gallery ACEC include off-highway vehicle use, visitor use, and vandalism.

Shoshone Ponds

Shoshone Ponds are located in White Pine County in Spring Valley, just west of the Snake Range.

This area is a potential ACEC for the protection of significant habitat for endangered species, as well as important vegetation communities such as valley bottom Rocky Mountain Junipers. Three ponds designed to hold endangered fish are within the area. The endangered fish include the Pahrump poolfish and the Relic Steptoe dace. The original ponds were built by the Civilian Conservation Corp in the 1930s and remnants of the Civilian Conservation Corp camp are located within the Natural Area. These ponds also represent an important water source for the Brazilian free-tailed bats found in the Rose Guano Bat Cave and Guano Mine Historic Area. The Pahrump poolfish is found nowhere else in the world.

Threats and risks to Shoshone Ponds include drought and a decrease in the natural runoff necessary for the plant communities' health, increasing off-highway vehicle use, the spread of noxious and invasive weeds, and livestock grazing and trampling around the ponds. Drought and increased recreational use also could impact the endangered fish found in the ponds. Active grazing occurs within the Bastian Creek allotment and several roads and fence lines cross the area.

Snake Creek Indian Burial Cave

The proposed Snake Creek Indian Burial Cave ACEC is located in White Pine County, Nevada, about 7 miles southeast of Baker, Nevada. This proposed ACEC, in western Snake Valley, is located on the eastern edge of the planning area.

This area is a potential ACEC for the protection of the prehistoric archaeological, geological, and zooarchaeological values it contains. The prehistoric archaeological values include recovery of an extinct camel (*Camelops* sp) and horse of late Pleistocene age (*Equus* spp.) and identification of eight mustelid species including three species not previously reported from the late Rancholabrean of the Great Basin:

black footed ferret (*Mustela nigripes*), least weasel (*Mustela nivalis*), and wolverine (*Gulo gulo*). Geological values include examples of moonmilk folia and at a lower level, an interesting sedimentation sequence. The form of the cave is unusual because of the sinkhole entrance, the entrance drop, the different levels and rooms, and the opportunity to observe a variety of speleothems. The cave has been severely vandalized over a period of many decades with little or no record of the actual materials recovered. According to the native residents of Baker, Nevada, and Garrison, Utah, artifacts and remains of what were considered Indians have been taken from the cave since early pioneer days. Human remains (portions of a human pelvis and cranium) were reported to be visible on the cave floor in 1980 and more human remains reported in 1987.

Threats

Threats that may affect the relevant and important values in the proposed Snake Creek Indian Burial Cave ACEC include visitor use, public safety, and vandalism.

Swamp Cedar Natural Area

The Swamp Cedar Natural Area is located in central Spring Valley in White Pine County, Nevada.

This natural area is a potential ACEC for the protection of habitat for endangered, sensitive, or threatened species, habitat essential for maintaining species diversity, and rare and endemic plant communities. In addition, the Swamp Cedar Natural Area is a significant historical site containing the battlefield of the Goshute War of 1863.

The Swamp Cedar Natural Area is the largest of three known occurrences of a valley bottom ecotype of Rocky Mountain juniper woodlands. Although they are locally called swamp cedars, they are described by the national vegetation classification system as Rocky Mountain juniper (*Juniperus scopulorum*) temporarily flooded woodland. In addition to the rare plant community, the Spring Valley Swamp Cedars site provides habitat for slender thelypody (*Thelypodium sagittatum* ssp. *ovalifolium*), a rare plant endemic to the Great Basin ecoregion.

Threats

Threats and risks to the Swamp Cedar Natural Area include drought and a decrease in the natural runoff necessary for the plant communities' health, increasing off-highway vehicle use, and the spread of noxious and invasive weeds.

Ward Mining District

The proposed Ward Mining District ACEC is located in the Egan Range in White Pine County, Nevada, about 17 miles south of Ely, Nevada, in the center of the planning area.

This area is a potential ACEC for protection of the historic values it contains. Silver ore was discovered around what is now Ward Gulch. The town site of Ward contained two smelters and a twenty-stamp mill with three furnaces connected to the mines by a tramway. The beehive-shaped charcoal ovens are spectacular examples of stone architecture and masonry craftsmanship.

Threats

Threats and risks exist that may affect the relevant and important values in the proposed Ward Mining District ACEC include visitor use, right-of-way access, off-highway vehicle use, locatable mineral development, vandalism, harvest of forestry/woodland products, and wildland fire.

White River Valley

White River Valley ACEC contains four separate polygons located in White River Valley in Nye County. This area is a potential ACEC for protection of the numerous sensitive plant and animal species and unique badland soil types. The predominant plant community in which most of these plant populations occur is pygmy sagebrush (*Artemisia pygmaea*) dwarf shrub lands which are restricted to the Great Basin and adjacent ecoregions. Pygmy sagebrush dwarf shrub lands are plant communities considered rare and local throughout its range by NatureServe.

Sensitive status species in White River ACEC include:

Nevada State Protected (BLM manages as if Federal candidate species)
- Sunnyside green gentian, (*Frasera gypsicola)*

BLM Sensitive Status species
- Eastwood milkweed (*Asclepias eastwoodiana*)
- White River catseye, (*Cryptantha welshii)*
- Tiehm blazingstar, (*Mentzelia tiehmii)*
- Parish phacelia, (*Phacelia parishii)*
- Charleston grounddaisy, *(Townsendia jonesii* var. *tumulosa)*
- White River wood nymph (*Cercyonis pegala pluvialis*)
- White River Valley skipper (*Hesperia uncas*)

Rare Species tracked by the Nevada Natural Heritage Program
- Southwestern peppergrass, (*Lepidium nanum)*
- Rayless tansy aster *(Machaeranthera grindelioides* var. *depressa)*

The gypsum soils formed as springmounds also are extremely rare.

Threats

Threats to the important qualities of the White River Valley ACEC include any action which disrupts soil surfaces and vegetation cover such as off-highway vehicle use and road maintenance or construction. The introduction of invasive and nonnative plants to the area, oil and gas exploration, and mineral material removal all constitute a threat to the protected resources.

APPENDIX E
SPECIAL STATUS SPECIES

Table E-1
Special Status Species Table

Common Name[1,2,3,4,5]	Scientific Name	Habitat Type	Special Status Species		Potential for Occurrence within the Planning Area		
			U.S. Fish and Wildlife Service[8]	BLM Sensitive Species	Lincoln County	White Pine County	Nye County
MAMMALS							
Pallid bat	*Antrozous pallidus*	All		X	X	X	X
Pygmy rabbit	*Brachylagus idahoensis*	SB; MDV		X	X	X	X
Townsend's big-eared bat	*Corynorhinus townsendii*	All		X	X	X	X
Big brown bat	*Eptesicus fuscus*	All		X	X	X	X
Spotted bat	*Euderma maculatum*	All		X	X	X	X
Silver-haired bat	*Lasionycteris noctivagans*	R-W; PJ; MC/A		X	X	X	X
Hoary bat	*Lasiurus cinereus*	R-W; PJ; MC/A		X	X	X	X
Desert Valley kangaroo mouse	*Microdipodops megacephalus albiventer*	SB; MDV		X	X		
Pahranagat Valley montane vole	*Microtus montanus fucosus*	R-W; MDV		X	X		
California myotis	*Myotis californicus*	All		X	X	X	X
Small-footed myotis	*Myotis ciliolabrum*	All		X	X	X	X
Long-eared myotis	*Myotis evotis*	All		X	X	X	X
Little brown myotis	*Myotis lucifugus*	All		X	X	X	X
Fringed myotis	*Myotis thysanodes*	All		X	X	X	X
Long-legged myotis	*Myotis volans*	PJ; MC/A		X	X	X	X
Yuma myotis	*Myotis yumanensis*	All		X	X	X	X
Desert bighorn sheep	*Ovis canadensis nelsoni*	MM		X	X	X	X
Western pipistrelle bat	*Pipistrellus hesperus*	All		X	X	X	X
Brazilian free-tailed bat	*Tadarida brazilliensis*	All		X	X	X	X
BIRDS							
Northern goshawk	*Accipiter gentiles*	MC/A; R-W; SB		X	X	X	X
Golden eagle	*Aquila chrysaetos*	All		X	X	X	X
Short-eared owl	*Asio flammeus*	R-W		X	X	X	X
Long-eared owl	*Asio otus*	R-W; MC; MDV		X	X	X	X
Western burrowing owl	*Athene cunicularia hypugea*	SB; MDV		X	X	X	X
Juniper titmouse	*Baeolophus griseus*	MC; SB; MDV		X	X	X	X
Ferruginous hawk	*Buteo regalis*	PJ; R-W; MDV; SB		X	X	X	X
Swainson's hawk	*Buteo swainsoni*	PJ; MDV; SB		X	X	X	X
Greater sage grouse	*Centrocercus urophasianus*	R-W; SB		X	X	X	X
Western snowy plover	*Charadrius alexandrinus nivosus*	R-W		X	X	X	X
Black tern	*Chlidonias niger*	R-W		X		X	X
Yellow-billed cuckoo	*Coccyzus americanus*	R-W; PJ	C		X		
Southwestern willow flycatcher	*Epidonax tralii extimus*	R-W; PJ	LE		X		
Prairie falcon	*Falco mexicanus*	MDV		X	X	X	X
Sandhill Crane	*Grus canadensis*	R-W		X	X	X	X

Table E-1 (Continued)

Common Name[1,2,3,4,5]	Scientific Name	Habitat Type	Special Status Species		Potential for Occurrence within the Planning Area		
			U.S. Fish and Wildlife Service[8]	BLM Sensitive Species	Lincoln County	White Pine County	Nye County
Pinyon jay	*Gymnorhinus cyanocephalus*	R-W; MC; MDV		X	X	X	X
Bald eagle	*Haliaeetus leucocephalus*	R-W			X	X	X
Yellow-breasted chat	*Icteria virens*	R-W		X	X	X	X
Least bittern	*Ixobrychus exilis*	R-W		X	X	X	X
Loggerhead Shrike	*Lanius ludovicianus*	PJ; SB		X	X	X	X
Black rosy-finch	*Leucosticte atrata*	SB		X	X	X	X
Lewis's woodpecker	*Melanerpes lewis*	R-W		X	X	X	X
Long-billed curlew	*Numenius americanus*	R-W		X	X	X	X
Flammulated owl	*Otus flammeolus*	PJ; MC/A		X	X	X	X
Phainopepla	*Phainopepla nitens*	MDV; PJ		X	X		X
Vesper sparrow	*Pooecetes gramineus*	SB; MDV; PJ		X	X	X	X
Yuma clapper rail[7]	*Rallus longirostris yumanensis*	R-W	LE				
Red-naped sapsucker	*Sphyrapicus nuchalis*	MC; R-W		X	X	X	X
Crissal thrasher	*Toxostoma crissale*	MDV; R-W; PJ		X	X		X
Lucy's warbler	*Vermivora luciae*	R-W; MDV; SB		X	X		X
Gray vireo	*Vireo vicinior*	PJ; WC; MDV; SB		X	X		X
REPTILES							
Desert tortoise	*Gopherus agassizii*	MDV	LT		X		
Banded gila monster	*Heloderma supectum cinctum*	R-W; MDV		X	X		X
Sonoran mountain kingsnake	*Lampropeltis pyromelana*	PJ; MM; R-W; MC; SB		X	X	X	
Short-horned lizard	*Phrynosoma douglassii*	SB; MDV		X		X	X
Chuckwalla	*Sauromalus obesus*	MDV		X	X		X
AMPHIBIANS							
Columbia Spotted Frog	*Rana luteiventris*	R-W		X	[9]	[9]	[9]
Southwestern toad, Arizona toad	*Bufo microscaphus microscaphus*	R-W		X	X		
Northern leopard frog	*Rana pipens*	R-W		X	X	X	X
FISH							
White River desert sucker	*Catostomus clarki intermedius*	R-W		X	X	X	X
Meadow Valley Wash desert sucker	*Catostomus clarki* ssp.	R-W		X	X		
Preston White River springfish	*Crenichthys baileyi albivallis*	R-W		X		X	
White River springfish	*Crenichthys baileyi baileyi*	R-W	LE		X		
Hiko White River springfish	*Crenichthys baileyi grandis*	R-W	LE		X		
Moorman White River springfish	*Crenichthys baileyi thermophilus*	R-W		X			X

Table E-1 (Continued)

Common Name[1,2,3,4,5]	Scientific Name	Habitat Type	Special Status Species		Potential for Occurrence within the Planning Area		
			U.S. Fish and Wildlife Service[8]	BLM Sensitive Species	Lincoln County	White Pine County	Nye County
Railroad Valley springfish	*Crenichthys nevadae*	R-W	LT				X
Pahrump poolfish	*Empetrichthys latos*	R-W	LE			X	
Newark Valley tui chub	*Gila bicolor newarkensis*	R-W		X		X	
Big Smoky Valley tui chub	*Gila bicolor ssp.*	R-W		X			X
Hot Creek Valley tui chub	*Gila bicolor ssp.*	R-W		X			X
Railroad Valley tui chub	*Gila bicolor* ssp.	R-W		X		X	X
Pahranagat roundtail chub	*Gila robusta jordani*	R-W	LE		X		
Virgin River chub	*Gila seminuda*	R-W	LE	X	X		
White River spinedace	*Lepidomeda albivallis*	R-W	LE			X	X
Virgin spinedace	*Lepidomeda mollispinis mollispinis*	R-W		X	X		
Big Spring spinedace	*Lepidomeda mollispinis pratensis*	R-W	LT		X		
Bonneville cutthroat trout	*Oncorhynchus clarki utah*	R-W		X		X	
Woundfin[7]	*Plageopterus argentissimus*	R-W	LE				
Relict dace	*Relictus solitarius*	R-W		X		X	
Big Smoky Valley speckled dace	*Rhinichthys osculus lariversi**	R-W		X			X
Meadow Valley Wash speckled dace	*Rhinichthys osculus* ssp.	R-W		X	X		
Monitor Valley speckled dace	*Rhinichthys osculus ssp.**	R-W		X			X
Oasis Valley speckled dace	*Rhinichthys osculus ssp.**	R-W		X			X
White River speckled dace	*Rhinichthys osculus ssp.*	R-W		X		X	X
Pahranagat speckled dace	*Rhinichthys osculus velifer*	R-W		X	X		
INVERTEBRATES							
White River wood nymph	*Cercyonis pegala pluvialis*	R-W		X	X	X	X
Baking Powder Flat blue	*Euphilotes bernadino minuta*	MDV		X		X	
Koret's checkerspot	*Euphydryas editha koreti*	MC/A		X		X	
Railroad Valley uncas skipper	*Hesperia uncas fulvapalla*	MDV		X			X
White River uncas skipper	*Hesperia uncas grandiosa*	R-W		X		X	
Schell Creek mountainsnail	*Oreohelix nevadensis*	R-W		X		X	
Pahranagat nauconid bug	*Pelocoris shoshone shoshone*	R-W		X	X		
Steptoe Valley crescentspot	*Phyciodes pascoensis arenacolor*	R-W		X		X	
Duckwater pyrg	*Pyrgulopsis aloba*	R-W		X			X
Southern duckwater pyrg	*Pyrgulopsis anatine*	R-W		X			X
Transverse gland pyrg	*Pyrgulopsis cruciglans*	R-W		X		X	
Spring Mountains pyrg	*Pyrgulopsis deaconi*	R-W		X		X	
Landyes pyrg	*Pyrgulopsis landeyi*	R-W		X		X	
Sub-globose Steptoe Ranch pyrg	*Pyrgulopsis orbiculata*	R-W		X		X	
Big Warm Spring pyrg	*Pyrgulopsis papillata*	R-W		X			X

Table E-1 (Continued)

Common Name[1,2,3,4,5]	Scientific Name	Habitat Type	Special Status Species		Potential for Occurrence within the Planning Area		
			U.S. Fish and Wildlife Service[8]	BLM Sensitive Species	Lincoln County	White Pine County	Nye County
Bifid duct pyrg	*Pyrgulopsis peculiaris*	R-W		X		X	
Southern Steptoe pyrg	*Pyrgulopsis sulcata*	R-W		X		X	
Duckwater warm springs pyrg	*Pyrgulopsis villacampae*	R-W		X			X
Grated tryonia	*Tryonia clathrata*	R-W		X	X		X
PLANTS							
White bearpoppy; Merriam bearpoppy	*Arctomecon merriamii*	MG; MDV		X	X		X
Eastwood milkweed	*Asclepias eastwoodiana*	PJ; SB; MDV; MC		X	X	X	X
Sheep Mountain milkvetch; crescent milkvetch	*Astragalus amphioxys* var. *musimonum*	MDV		X	X		
Needle Mountains milkvetch; Peck Station milkvetch	*Astragalus eurylobus*	MDV		X	X		X
Black woollypod; Funeral milkvetch; black milkvetch; Rhyolite milkvetch	*Astragalus funereus*	MDV; SB		X	X		X
Gilman milkvetch	*Astragalus gilmanii*	PJ		X	X		
Halfring milkvetch	*Astragalus mohavensis* var. *hemigyrus*	MDV		X	X		X
Long-calyx eggvetch; pink eggvetch	*Astragalus oophorus* var. *lonchocalyx*	PJ; MC/A		X	X		
Currant milkvetch	*Astragalus uncialis*	MDV		X			X
Cane Spring evening-primrose; suncup	*Camissonia megalantha*	MDV		X	X		X
Remote rabbitbrush; Pintwater rabbitbrush	*Chrysothamnus eremobius*	PJ; MM		X	X		
White River catseye; Welsh catseye	*Cryptantha welshii*	PJ		X	X	X	X
Sanicle biscuitroot; Ripley biscuitroot	*Cymopterus ripleyi* var. *saniculoides*	PJ; MDV		X	X		X
Nevada willowherb	*Epilobium nevadense*	PJ; MC/A		X	X		
Sheep fleabane	*Erigeron ovinus*	PJ; MC/A		X	X		
Clokey buckwheat	*Eriogonum heermannii* var. *clokeyi*	MDV		X	X		X
Scarlet buckwheat	*Eriogonum phoeniceum*	PJ		X	X		
Sunnyside green gentian[6]	*Frasera gypsicola*	MDV		X			X
Rock purpusia	*Ivesia arizonica* var. *saxosa*	PJ; SB		X	X		X
Waxflower	*Jamesia tetrapetala*	MM		X	X	X	X
Pioche blazingstar	Mentzelia argillicola	SB; MDV		X	X		
Tiehm blazingstar	*Mentzelia tiehmii*	SB; MDV		X	X		X
Tunnel Springs beardtongue	*Penstemon concinnus*	PJ		X	X	X	
Beatley scorpion plant	*Phacelia beatleyae*	MDV		X	X		X
Overlooked phacelia; Clarke phacelia	*Phacelia filiae*	MDV		X	X		X
Parish phacelia; playa phacelia	*Phacelia parishii*	MDV		X	X	X	X
Pygmy poreleaf	*Porophyllum pygmaeum*	PJ; MDV		X	X		
Schlesser pincushion; Schlesser fishhook cactus	*Sclerocactus schlesseri*	MDV		X	X		
Jan's catchfly; Nachlinger catchfly	*Silene nachlingerae*	MC/A		X		X	X

Table E-1 (Continued)

Common Name[1,2,3,4,5]	Scientific Name	Habitat Type	Special Status Species		Potential for Occurrence within the Planning Area		
			U.S. Fish and Wildlife Service[8]	BLM Sensitive Species	Lincoln County	White Pine County	Nye County
Railroad Valley globemallow; Jones globemallow	*Sphaeralcea caespitosa* var. *williamsiae*	PJ; MG		X			X
Ute ladies'-tresses	*Spiranthes diluvialis*	R-W	LT		X		
Charleston grounddaisy	*Townsendia jonesii* var. *tumulosa*	PJ; MDV; SB		X			X
Currant Summit clover	*Trifolium andinum* var. *podocephalum*	PJ		X	X		X
Rock violet	*Viola lithion*	MC/A		X		X	X

Sources:
[1] BLM Nevada Sensitive Species list, July 29, 2003; Nevada Department of Wildlife 2005a.
[2] Nevada Heritage Program shape files, 2004.
[3] U.S. Fish and Wildlife Service species list, 2004. The Ely Field Office is maintaining ongoing coordination with the U.S. Fish and Wildlife Service offices in Reno and Las Vegas to ensure that any additions, deletions, or changes in species status will be updated in the RMP/EIS.
[4] Nevada Natural Heritage Program Detailed Rare Plant and Animal Species list, March 18, 2004.
[5] Nevada Natural Heritage Program Rare Plant Atlas, June 2001.
[6] Because this species is on the U.S. Fish and Wildlife Service species list as a Species of Concern, it is being retained.
[7] This species does not occur within the planning area boundary, but has been documented along the Virgin River.
[8] U.S. Fish and Wildlife Service Status:
LE – Federally listed as endangered.
LT – Federally listed as threatened.
C – Federal candidate species.
[9] No documented occurrences within the planning area.

Habitat Type
PJ – Pinyon-Juniper Woodlands
A – Aspen
C – High-elevation Conifer
R-W – Riparian-Wetlands
MM – Mountain Mahogany
SB – Sagebrush
SDS – Salt Desert Shrub
MDV – Mojave Desert Vegetation
NNS – Non-native Seedings
MC – Mixed Conifer
MG – Mixed Grasses

APPENDIX F
RESOURCE PROGRAM BEST MANAGEMENT PRACTICES

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RESOURCE PROGRAM BEST MANAGEMENT PRACTICES

Best management practices are management actions that have been developed by agency, industry, scientific, and/or working groups as methods for reducing environmental impacts to certain resources associated with certain kinds of activity. Appendix F in the Proposed Resource Management Plan (RMP)/Final Environmental Impact Statement (EIS) presents the best management practices for the Proposed RMP. They have been organized in this appendix by the source of the best management practice. Section 1 and Section 2 have been developed by the Ely Field Office specifically to guide management in the decision area. Section 3 contains the Wind Energy EIS best management practices, which was developed by the BLM Washington Office and is applied nationally.

Best management practices typically are implemented at the discretion of the BLM Authorized Officer (the Field Manager or his/her designee) at the activity plan or project-specific level. The impact analysis in any project-specific National Environmental Policy Act (NEPA) document would be based on the reduction of impacts afforded by the application of those best management practices that are appropriate for the specific project under review. Best management practices may be added, deleted, or modified through plan maintenance as new and better information dictates.

APPENDIX F, SECTION 1
RESOURCE PROGRAM BEST MANAGEMENT PRACTICES

APPENDIX F, SECTION 1
RESOURCE PROGRAM BEST MANAGEMENT PRACTICES

1.1 Introduction

Section 1 contains best management practices developed by the Ely Field Office. They have been organized by the primary resource the best management practices would benefit or protect. Each best management practice could actually be implemented by a number of resource programs within the Field Office. Between the Draft RMP/EIS and the Proposed RMP/Final EIS, certain best management practices have been incorporated into Chapter 2.0 as management actions, edited for clarity, or deleted because they are no longer appropriate. Best management practices would be implemented at the discretion of the Ely Field Office on a project-specific basis, depending on the specific characteristics of the project area and the types of disturbance being proposed. They may not be appropriate to implement in all cases. It has been assumed for impact analysis that best management practices would be implemented wherever appropriate.

1.2 Air Resources

1.2.1 Use dust abatement techniques on unpaved, unvegetated surfaces to minimize airborne dust.

1.2.2 Post and enforce speed limits (e.g., 25 miles per hour) to reduce airborne fugitive dust.

1.2.3 Cover construction materials and stockpiled soils if they are a source of fugitive dust.

1.2.4 Use dust abatement techniques before and during surface clearing, excavation, or blasting activities.

1.3 Water Resources

1.3.1 Avoid the application of fire retardant or foam within 300 feet of a stream channel or waterway, when possible, except for the protection of life and property. Aerial application and use of retardants and foams would be consistent with national policy guidelines established by the National Office of Fire and Aviation, as amended.

1.3.2 Fire engines that have surfactant foam mixes in tanks must be fitted with an anti-siphon (back flow protection valve) if filled directly from a stream channel.

1.3.3 Construct a containment barrier around all pumps and fuel containers utilized within 100 feet (30.5 meters) of a stream channel. The containment barrier would be of sufficient size to contain all fuel being stored or used on site.

1.3.4 Prior to use on lands administered by the Ely Field Office, all fire suppression equipment from outside the planning area utilized to extract water from lakes, streams, ponds, or spring sources (e.g., helicopter buckets, draft hoses, and screens) will be thoroughly rinsed to remove mud and debris and then disinfected to prevent the spread of invasive aquatic species. Rinsing equipment with disinfectant solution will not occur within 100 feet of natural water sources (i.e., lakes, streams, or springs). Ely suppression equipment utilized to extract water from water sources known to be contaminated with invasive aquatic species, as identified by the U.S. Fish and Wildlife Service and Nevada Department of Wildlife, also will be disinfected prior to use elsewhere on lands administered by the Ely Field Office.

1.3.5 Do not dump surfactant foam mixes from fire engines within 600 feet of a stream channel.

1.3.6 Do not conduct fire retardant mixing operations within 600 feet of a stream channel.

1.3.7 Remove all modifications made to impound or divert stream flow by mechanical or other means to facilitate extraction of water from a stream for fire suppression efforts when suppression efforts are completed.

1.3.8 When drafting or dipping water during fire operations, continuously monitor water levels at the site that water is being removed from. Do not allow water extraction to exceed the ability of the recharge inflow to maintain the water levels that exist at the time initial attack efforts began. If the water level drops below this predetermined level, all water removal would cease immediately until water levels are recharged.

1.3.8 When possible, do not cross or terminate fire control lines at the stream channel. Terminate control lines at the edge of the riparian zone at a location determined appropriate to meet fire suppression objectives based on fire behavior, vegetation/fuel types, and fire fighter safety.

1.3.10 Construct access roads and fords that cross stream channels to BLM road standards.

1.3.11 Do not construct new roads or mechanical fire control lines or improve existing roads within 300 feet of a stream channel unless authorized by the BLM Field Manager or Authorized Officer.

1.3.12 Limit stream crossings on travel routes and trails to the minimal number necessary to minimize sedimentation and compaction. The BLM Authorized Officer will determine if any impacts need to be rehabilitated by the permittee.

1.3.13 Conduct mixing of herbicides and rinsing of herbicide containers and spray equipment only in areas that are a safe distance from environmentally sensitive areas and points of entry to bodies of water (storm drains, irrigation ditches, streams, lakes, or wells).

1.3.14 A water well may be accepted by the BLM Ely Field Office upon completion of operations. The BLM authorized officer will make the determination whether to accept the well based upon the submission of the well completion forms and relevant hydrogeologic data reports. The well must be installed by drillers licensed by the state of Nevada according to specifications in Nevada Revised Statutes Title 48, Chapter 534.

1.4 Soil Resources

1.4.1 Require the use of specialized low-surface impact equipment (e.g., balloon tired vehicles) or helicopters, as determined by the BLM Authorized Officer, for activities in off-road areas where it is deemed necessary to protect fragile soils and other resource values.

1.4.2 During periods of adverse soil moisture conditions caused by climatic factors such as thawing, heavy rains, snow, flooding, or drought, suspend activities on existing roads that could create excessive surface rutting. When adverse conditions exist, the operator would contact the BLM Authorized Officer for an evaluation and decision based on soil types, soil moisture, slope, vegetation, and cover.

1.4.3 When preparing the site for reclamation, include contour furrowing, terracing, reduction of steep cut and fill slopes, and the installation of water bars, as determined appropriate for site-specific conditions.

1.4.4 Upon completion or temporary suspension of mining operations, backfill all holes and trenches and re-contour the pit to the natural slope, if possible, with pit walls greater than 3 feet in height knocked down and sloped at 3 horizontal to 1 vertical or to the original topography, whichever is less.

1.4.5 Restoration requirements include reshaping, re-contouring, and/or resurfacing with topsoil, installation of water bars, and seeding on the contour. Removal of structures such as culverts, concrete pads, cattle guards, and signs would usually be required. Fertilization and/or fencing of the disturbance may be required. Additional erosion control measures (e.g., fiber matting and barriers) to discourage road travel may be required.

1.5 Vegetation Resources

1.5.1 Where seeding is required, use appropriate seed mixture and seeding techniques approved by the BLM Authorized Officer.

1.5.2 The BLM Authorized Officer will specify required special handling and recovery techniques for Joshua trees, yucca, and some cactus in the southern part of the planning area on a site-specific basis.

1.5.3 Keep removal and disturbance of vegetation to a minimum through construction site management (e.g., using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.).

1.5.4 Generally, conduct reclamation with native seeds that are representative of the indigenous species present in the adjacent habitat. Document rationale for potential seeding with selected nonnative species. Possible exceptions would include use of nonnative species for a temporary cover crop to out-complete weeds. In all cases, ensure seed mixes are approved by the BLM Authorized Officer prior to planting.

1.5.5 Certify that all interim and final seed mixes, hay, straw, and hay/straw products are free of plant species listed on the Nevada noxious weed list.

1.5.6 An area is considered to be satisfactorily reclaimed when all disturbed areas have been recontoured to blend with the natural topography, erosion has been stabilized, and an acceptable vegetative cover has been established. Use the Nevada Guidelines for Successful Revegetation prepared by the Nevada Division of Environmental Protection, the BLM, and the U.S. Department of Agriculture Forest Service (or most current revision or replacement of this document) to determine if revegetation is successful.

1.5.7 Reclamation bond release criteria would include the following:

The perennial plant cover of the reclaimed area would equal or exceed perennial cover of selected comparison areas (normally adjacent habitat). If the adjacent habitat is severely disturbed, an ecological site description may be used as a cover standard. Cover is normally crown cover as estimated by the point intercept method. Selected cover can be determined using a method as described in Sampling Vegetation Attributes, Interagency Technical Reference, 1996, BLM/RS/ST-96/002+1730. The reclamation plan for the area project would identify the site-specific release criteria and associated statistical methods in the reclamation plan or permit.

1.5.8 Utility companies will manage vegetation in their rights-of-way for safe and reliable operation while maintaining vegetation and wildlife habitat.

1.5.9 Respread weed-free vegetation removed from the right-of-way to provide protection, nutrient recycling, and seed source.

1.6 Fish and Wildlife

1.6.1 Install wildlife escape ramps in all watering troughs, including temporary water haul facilities, and open storage tanks. Pipe the overflow away from the last water trough on an open system to provide water at ground level.

1.6.2 As appropriate, mark certain trees on BLM-administered lands for protection as wildlife trees.

1.6.3 Consider seasonal distribution of large wildlife species when determining methods used to accomplish weed and insect control objectives.

1.6.4 Protect active raptor nests in undisturbed areas within 0.25 mile of areas proposed for vegetation conversion using species-specific protection measures. Inventory areas containing suitable nesting habitat for active raptor nests prior to the initiation of any project.

1.6.5 When used to pump water from any pond or stream, screen the intake end of the draft hose to prevent fish from being ingested. Screen opening size would be a maximum of 3/16 inch (4.7 millimeters).

1.6.6 Special recreation use permittees will take action to ensure that race participants and spectators do not harass wildlife.

1.7 Special Status Species

1.7.1 Avoid line-of-sight views between the power poles along powerlines and sage grouse leks, whenever feasible.

1.7.2 Use current science, guidelines, and methodologies (Avian Power Line Interaction Committee 1994, 1996, 2005) for all new and existing powerlines to minimize raptor and other bird electrocution and collision potential.

1.7.3 When managing weeds in areas of special status species, carefully consider the impacts of the treatment on such species. Wherever possible, hand spraying of herbicides is preferred over other methods.

1.7.4 Do not conduct noxious and invasive weed control within 0.5 mile of nesting and brood rearing areas for special status species during the nesting and brood rearing season.

1.7.5 To the greatest extent possible, survey all mine adits and shafts slated for closure for bat presence and use prior to being closed. Minimize impacts to bat roosts and bat habitat through the use of current science, guidelines, and methodologies when closing and abandoning mine adits.

1.7.6 Develop grazing systems to minimize conflicts with special status species habitat.

1.7.7 For streams currently occupied by any special status species, do not allow extraction of water from ponds or pools if stream inflow is minimal (i.e., during drought situations) and extraction of water would lower the existing pond or pool level.

1.7.8 When new spring developments are constructed on BLM lands and BLM has the authority to design the project, the source and surrounding riparian area will be fenced, the spring will be developed in a manner that leaves surface water at the source and maintains the associated riparian area, water will be provided outside the exclosure in a manner that provides drinking water for large ungulates, wild horses, and/or livestock so they are less likely to break into the exclosure.

1.7.9 Salt and mineral supplements:

- Base placement of salt and mineral supplements on site-specific assessment.
- Normally place salt and mineral supplements at least 0.5 mile away from riparian areas, sensitive sites, populations of special status plant species, cultural resource sites.
- Place salt at least 0.5 mile from any water source including troughs.
- Place salt and mineral supplements at least 1 mile from sage grouse leks.

1.7.9 Water hauling:

- Place water haul sites at least 0.5 mile away from riparian areas, cultural sites, and special status species locations.
- Limit water hauling to existing roads when possible.

1.8 Wild Horses

1.8.1 To protect wild horses and wildlife flag all new fences every 16 feet with white flagging that is at least 1 inch wide and has at least 12 inches hanging free from the top wire of the fence.

1.8.2 If a project involves heavy or sustained traffic, require road signs for safety and protection of wild horses and wildlife.

1.9 Cultural Resources

1.9.1 Ensure that all activities associated with the undertaking, within 100 meters of the discovery, are halted and the discovery is appropriately protected, until the BLM authorized officer issues a Notice to Proceed. A Notice to Proceed may be issued by the BLM under any of the following conditions:

- Evaluation of potentially eligible resource(s) results in a determination that the resource(s) are not eligible;
- The fieldwork phase of the treatment option has been completed; and
- The BLM has accepted a summary description of the fieldwork performed and a reporting schedule for that work.

1.9.2 The operator will inform all persons associated with the project that knowingly disturbing cultural resources (historic or archaeological) or collecting artifacts is illegal.

1.9.3 The BLM may approve cross-country operations of seismic trucks and support vehicles on bare frozen ground or over sufficient snow depth (vehicle traffic does not reveal the ground) so as to prevent surface disturbance.

1.9.4 Perform viewshed reclamation when the setting of a site contributes to the significance of the property.

1.10 Paleontological Resources

1.10.1 When paleontological resources of potential scientific interest are encountered (including all vertebrate fossils and deposits of petrified wood), leave them intact and immediately bring them to the attention of the BLM Authorized Officer.

1.11 Visual Resources

1.11.1 On industrial facilities authorized by the Ely Field Office, utilize anti-glare light fixtures to limit light pollution.

1.11.2 During the implementation of vegetation treatments, create irregular margins around treatment areas to better maintain the existing scenic character of the landscape.

1.11.3 When feasible, bury utility lines on public land when in the viewshed of residential or community development.

1.12 Travel Management and Off-highway Vehicle Use

1.12.1 Design access roads requiring construction with cut and fill to minimize surface disturbance and take into account the character of the landform, natural contours, cut material, depth of cut, where the fill material would be deposited, resource concerns, and visual contrast. Avoid construction of access roads on steep hillsides and near watercourses where alternate routes provide adequate access.

1.12.2 Where adverse impacts or safety considerations warrant, limit or prohibit public access when authorizing specific routes to areas or sites under permit or lease.

1.13 Recreation

1.13.1 Do not allow surface or underground disturbance to occur within 100 yards (horizontally or vertically) of known cave resources.

1.13.2 Where appropriate, do not allow ground disturbing activities within 100 yards of cave entrances, drainage areas, subsurface passages, and developed recreation sites. Do not dispose of waste material or chemicals in sinkholes or gates by cave entrances. If during construction activities any sinkholes or cave openings are discovered, cease construction activities and notify the BLM authorized officer.

1.14 Livestock Grazing

1.14.1 Water troughs

- Place troughs connected with spring developments outside of riparian and wetland habitats to reduce livestock trampling damage to wet areas.

- Control trough overflow at springs with float valves or deliver the overflow back into the native channel.

1.14.2 Based on allotment situations and circumstances associated with livestock grazing and multiple use management, implement any or all of the following appropriate management practices on winterfat dominated ecological sites.

- Develop grazing systems to control or rest grazing use on winterfat sites after March 1 or when the critical growing season begins. Allow spring grazing use during the critical growing period if a grazing rotation system that provides rest from grazing during the critical growing period at least every other year for all areas is in place. Utilization during the critical growth period should not exceed 35 percent under any circumstances.

- Place salt and supplements at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- Locate sheep bedding grounds and camps at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- Locate water haul sites at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- Construct livestock reservoirs away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- If water wells are approved to be drilled in winterfat dominated sites, strive to pipe the water at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

1.15 Mineral Extraction

1.15.1 Applications for permit to drill would follow the best management practices as outlined in the BLM oil and gas Gold Book (http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html), as well as on-shore regulations, individual surface use plans, and conditions of approval that may be part of the Record of Decision for EISs or Decision Records for environmental assessments/Findings of No Significant Impacts, Documentation of NEPA Adequacy, and Categorical Exclusions prepared for site-specific projects.

1.15.2 Do not permit blasting if it would be detrimental to the significant characteristics of archeological or historical values, recreation areas, known caves, water wells, or springs.

1.15.3 Notify the BLM authorized officer within 5 days of completion of reclamation work so that timely compliance inspections can be completed.

1.16 Watershed Management

1.16.1 Manage activities, uses, and authorizations on burned areas to best meet resource management objectives established for the area in specific stabilization, restoration, or activity plans. The BLM authorized officer may open areas to livestock grazing based upon those considerations.

1.17 Fire Management

1.17.1 Notify valid existing land users (such as mine claimants, holders of rights-of-way, and livestock permittees) prior to implementation of prescribed fires that may affect their investments.

1.17.2 Remove vegetation, where appropriate, to protect facilities (e.g., range improvements, communication sites, and recreation sites).

1.17.3 Within the area of operation, every effort will be made to prevent, control, or suppress any fire. Fire-fighting equipment may be required to be on site while operations are in progress, depending on hazards inherent in the type of operation and fire hazard levels. Report uncontrolled fires immediately to the BLM Ely Field Office Manager or Authorized Officer. The BLM Fire Dispatch telephone number is (775) 289-1925 or 1-800-633-6092. After working hours, call 911 or the White Pine County Sheriff's Office at (775) 289-8801, the Lincoln County Sheriff's Office at (775) 962-5151, or the Nye County Sheriff's Office at (775) 482-8101.

1.18 Noxious and Invasive Weed Management

1.18.1 Control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.

1.18.2 When maintaining unpaved roads on BLM-administered lands, avoid the unnecessary disturbance of adjacent native vegetation and the spread of weeds. Grade road shoulders or barrow ditches

only when necessary to provide for adequate drainage. Minimize the width of grading operations. The BLM Authorized Officer will meet with equipment operators to ensure that they understand this objective.

1.19 Health and Safety

1.19.1 Consider nozzle type, nozzle size, boom pressure, and adjuvant use and take appropriate measures for each herbicide application project to reduce the chance of chemical drift.

1.19.2 All applications of approved pesticides will be conducted only by certified pesticide applicators or by personnel under the direct supervision of a certified applicator.

1.19.3 Prior to commencing any chemical control program, and on a daily basis for the duration of the project, the certified applicator will provide a suitable safety briefing to all personnel working with or in the vicinity of the herbicide application. This briefing will include safe handling, spill prevention, cleanup, and first aid procedures.

1.19.4 Store all pesticides in areas where access can be controlled to prevent unauthorized/untrained people from gaining access to the chemicals.

1.19.5 Do not apply pesticides within 440 yards (0.25 mile) of residences without prior notification of the resident.

1.19.6 Areas treated with pesticides will be adequately posted to notify the public of the activity and of safe re-entry dates, if a public notification requirement is specified on the label of the product applied. The public notice signs will be at least 8 1/2" x 11" in size and will contain the date of application and the date of safe re-entry.

1.19.7 The recreation permittee will post warning signs at all known mine shafts and other hazardous areas that occur within 100 feet of a race course or pit/spectator area and will verbally inform race participants of all hazards at the pre-race meeting.

1.19.8 The recreation permittee will assume liability for and clean up of any and all releases of hazardous substances or oil (more than one quart) disposed on public land as defined in the National Oil and Hazardous Substances Contingency Plan (Title 40 Code of Federal Regulations Subpart 300). The permittee will immediately notify the BLM Authorized Officer of any and all releases of hazardous substances or oil (more than one quart) on public land.

1.19.9 Properly dispose of all tailings, dumps, and deleterious materials or substances. Take measures to isolate, control, and properly dispose of toxic and hazardous materials.

1.19.10 Remove and properly dispose of all trash, garbage, debris, and foreign matter. Maintain the disposal site and leave it in a clean and safe condition. Do not allow burning at the site.

1.19.11 Do not drain oil or lubricants onto the ground surface. Immediately clean up any spills under 25 gallons; clean up spills over 25 gallons as soon as possible and report the incident to the BLM Authorized Officer and Nevada Division of Environmental Protection.

1.19.12 The operator will work with the BLM Authorized Officer on the containment of drilling fluids and drill hole cuttings. Adequately fence, post, or cover mud and separation pits, and hazardous material storage areas.

1.19.13 Locate powder magazines at least 0.25 mile from traveled roads. Attend loaded shot holes and charges at all times. Use explosives according to applicable federal and state regulations.

1.19.14 Containerize petroleum products such as gasoline, diesel fuel, helicopter fuel, and lubricants in approved containers. Properly store hazardous materials in separate containers to prevent mixing, drainage, or accidents.

APPENDIX F, SECTION 2
FLUID MINERALS LEASE NOTICES AND STIPULATIONS

APPENDIX F, SECTION 2
FLUID MINERALS LEASE NOTICES AND STIPULATIONS

LEASE NOTICES

Cultural Sites

Lands within this lease contain areas of known high potential for cultural resources. Properties known at the time of lease announcement that are listed on or eligible for the National Register of Historic Places will be avoided, where possible, by means of lease exclusions or by limits on surface use. The preferred avoidance option is to exclude areas containing National Register of Historic Places eligible sites from leasing and all forms of surface disturbance. Cultural sites not avoided may require consultation with State Historic Preservation Officer and treatment plans.

Historic Sites

Lands within this lease are in proximity to or contain portions of the Pony Express National Historic Trail, the Hastings Cutoff, the Lincoln Highway, or the Osceola Ditch. Oil and gas exploration and development activities within 1 mile of these sites must undergo a visual assessment in conjunction with environmental review to determine if the activity will adversely affect the visual integrity. Appropriate mitigation will take place as necessary to maintain the management corridor in as natural a condition as possible.

Desert Tortoise Habitat

Lands within this lease will require Section 7 consultation prior to any surface disturbance in desert tortoise habitat. The BLM must ensure that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, U.S. Fish and Wildlife Service, and the BLM also must reach concurrence that the proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward.

LEASE TIMING STIPULATIONS

Resource: **Desert Tortoise Habitat**

Stipulation: Timing Limitation. No surface activity would be allowed within desert tortoise habitat from March 1 through October 31.

Objective: To protect desert tortoise during the most active period to maintain desert tortoise populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with U.S. Fish and Wildlife Service, if the operator submits a plan that demonstrates that impacts from the proposed action would not adversely affect desert tortoise habitat.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with U.S. Fish and Wildlife Service, determines that portions of the area can be occupied without adversely affecting desert tortoise. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with U.S. Fish and Wildlife Service, determines that the entire leasehold is no longer occupied by desert tortoise.

Resource: **Sage Grouse Nesting Habitat Associated with Leks**

Stipulation: Timing Limitation. No surface activity would be allowed within two miles of a sage grouse lek from March 1 through May 15 (June 15).

Objective: To protect sage grouse nesting activities associated with leks to maintain sage grouse populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting sage grouse nesting activity. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains nesting habitat for sage grouse.

Resource: **Sage Grouse Winter Range**

Stipulation: Timing Limitation. No surface activity would be allowed within winter range for sage grouse from November 1 through March 31.

Objective: To protect sage grouse from disturbance during the crucial winter period to maintain sage grouse populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area no longer contain sage grouse winter habitat. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains winter range for sage grouse.

Resource: **Raptor Nest Sites**

Stipulation: Timing Limitation. No surface activity would be allowed from May 1 through July 15 within 0.5 mile of a raptor nest site which has been active within the past five years.

Objective: To protect raptor nesting activities to maintain existing populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting raptor nesting activity. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains raptor nest sites.

Resource: **Big Game Calving/Fawning/Kidding/Lambing Grounds**

Stipulation: Timing Limitation. No surface activity would be allowed within big game calving/fawning/kidding/lambing grounds from April 15 through June 30.

Objective: To protect elk, mule deer, pronghorn antelope, and Rocky Mountain bighorn sheep from disturbance during calving, fawning, kidding, and lambing to maintain wildlife populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be

occupied without adversely affecting big game calving, fawning, kidding, and lambing. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains big game calving/fawning/kidding/lambing grounds.

Resource: **Big Game Crucial Winter Range**

Stipulation: Timing Limitation. No surface activity would be allowed within big game crucial winter range from November 1 through March 31.

Objective: To protect elk, mule deer, and pronghorn antelope from disturbance during the crucial winter period to maintain wildlife populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area no longer contain winter habitat. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains crucial winter range for big game.

Resource: **Desert Bighorn Sheep Habitat**

Stipulation: Timing Limitation. No surface activity would be allowed within occupied desert bighorn sheep habitat from March 1 through May 31 and from July 1 through August 31.

Objective: To protect desert bighorn sheep from disturbance during lambing and the crucial hot summer months to maintain existing populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting desert bighorn sheep. The dates for the timing

restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold is no longer occupied by desert bighorn sheep.

LEASE – NO SURFACE OCCUPANCY STIPULATIONS

Resource: **Desert Tortoise ACEC**

Stipulation: No surface occupancy would be allowed within the Beaver Dam Slope ACEC or the Mormon Mesa ACEC.

Purpose: These areas encompass the habitat which has been determined to be critical to the survival of the desert tortoise population. The desert tortoise is a listed species under the Endangered Species Act.

Exception: The authorized officer may grant an exception (allow surface occupancy) upon completion of formal consultation with the U.S. Fish and Wildlife Service that yields a no-jeopardy opinion if a plan of development is submitted that does not significantly impact tortoise habitats or populations. The plan of development must demonstrate no significant impact will occur through mitigation of impacts, compensation (in accordance with BLM policy), and restoration of the land to pre-disturbance condition.

Modification: None

Waiver: None

Resource: **Sage Grouse Leks**

Stipulation: No surface occupancy. No surface use would be allowed within 0.25 mile of a sage grouse lek.

Objective: To protect sage grouse breeding activities and the integrity of the habitat associated with sage grouse leks to maintain sage grouse populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action would not affect breeding activity nor degrade the integrity of the habitat associated with the sage grouse lek.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting the sage grouse lek.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the lek has been inactive for at least five consecutive years or the habitat has changed such that there is no likelihood the lek would become active.

Resource: **Threatened and Endangered and Sensitive Species Sites**

Stipulation: No ground disturbance activities would be allowed within the boundaries of areas known to contain unusually high concentrations of threatened, endangered, or BLM or State sensitive species. No surface occupancy would be allowed within the:

Baking Powder Flat Proposed ACEC
Condor Canyon Proposed ACEC
Highland Range Proposed ACEC
Lower Meadow Valley Wash Proposed ACEC
Schlesser Pincushion Proposed ACEC
Shoshone Ponds Proposed ACEC
Swamp Cedar Proposed ACEC
White River Valley Proposed ACEC

Purpose: To protect threatened and endangered and sensitive species.
Avoid BLM-approved activities that contribute to a need to list a species or its habitat as threatened or endangered.

Exception: None

Modification: None

Waiver: None

Resource: **Cultural Sites**

Stipulation: No ground disturbance activities would be allowed within the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible to the National Register of Historic Places. No surface occupancy would be allowed within the:

Baker Archeological Site Proposed ACEC
Hendry's Creek/Rock Animal Corral Proposed ACEC
Honeymoon Hill/City of Rocks Proposed ACEC

Mount Irish Proposed ACEC
Pahroc Rock Art Proposed ACEC
Rose Guano Bat Cave Proposed ACEC
Shooting Gallery Proposed ACEC
Snake Creek Indian Burial Cave Proposed ACEC
Sunshine Locality National Register District
White River Archeological District

Purpose: To protect significant cultural properties and archaeological districts and their settings.

Exception: None.

Modification: None.

Waiver: None.

Resource: **Paleontological Sites**

Stipulation: No ground disturbance activities would be allowed within the boundaries of areas of known paleontological sites/locales. No surface occupancy would be allowed within the:

Andies Mine Trilobite Site

Purpose: To preserve and protect significant vertebrate fossils and paleontological sites.

Exception: None

Modification: None

Waiver: None

Resource: **Natural, Scenic, and Recreation Sites**

Stipulation: No ground disturbance activities would be allowed within the boundaries of areas that exhibit exceptional natural, scenic, or recreational values. No Surface Occupancy would be allowed within the:

Ash Springs Proposed Withdrawal
Blue Mass Scenic Area Proposed ACEC
Cleve Creek Recreation Site
Egan Crest Trailhead
Garnet Hill
Illipah Reservoir
Kirch Wildlife Management Area

Sacramento Pass Recreation Site
Ward Mountain Recreation Site
White Pine County Shooting Range

Purpose: To protect the public's opportunity for quality recreation experiences at those sites developed for those purposes.
To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity.
To control the visual impacts of activities and facilities within acceptable levels.

Exception: None

Modification: None

Waiver: A waiver may be granted for a site if it is moved or eliminated.

Resource: **BLM Facilities**

Stipulation: No surface occupancy would be allowed within the areas proposed for withdrawal at:

Caliente Field Station
Pony Springs Fire Station

Purpose: To protect the operation and maintenance of the BLM's facilities.

Exception: None

Modification: None

Waiver: None

APPENDIX F, SECTION 3
BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES

BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES (BMPS)

The BLM's Wind Energy Development Program will establish a number of policies and BMPs, provided below, regarding the development of wind energy resources on BLM-administered public lands. The policies and BMPs will be applicable to all wind energy development projects on BLM-administered public lands. The policies address the administration of wind energy development activities, and the BMPs identify required mitigation measures that would need to be incorporated into project-specific Plans of Development (PODs) and right-of-way (ROW) authorization stipulations. Additional mitigation measures will be applied to individual projects, in the form of stipulations in the ROW authorization as appropriate, to address site-specific and species-specific issues.

These policies and BMPs were formulated through preparation of the Final Wind Energy PEIS (BLM 2005). The PEIS included detailed, comprehensive analysis of the potential impacts of wind energy development and relevant mitigation measures; reviews of existing, relevant mitigation guidance; and reviews of comments received during scoping and public review of the Draft PEIS.

A.1 Policies

- The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring and testing and development include designated areas that are part of the National Landscape Conservation System (NLCS) (e.g., Wilderness Areas, Wilderness Study Areas, National Monuments, NCAs,[1] Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs).[2] Additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans.

- To the extent possible, wind energy projects shall be developed in a manner that will not prevent other land uses, including minerals extraction, livestock grazing, recreational use, and other ROW uses.

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[1] Wind energy development is permitted in one NCA, the California Desert Conservation Area (CDCA), in accordance with the provisions of the *California Desert Conservation Area Plan 1980, as Amended* (BLM 1999).

[2] Although the MPDS developed for this PEIS (Section 2.2.1 and Appendix B) did not exclude all of these lands at the screening level, they will be excluded from wind energy development.

- Entities seeking to develop a wind energy project on BLM-administered lands shall consult with appropriate federal, state, and local agencies regarding specific projects as early in the planning process as appropriate to ensure that all potential construction, operation, and decommissioning issues and concerns are identified and adequately addressed.

- The BLM will initiate government-to-government consultation with Indian Tribal governments whose interests might be directly and substantially affected by activities on BLM-administered lands as early in the planning process as appropriate to ensure that construction, operation, and decommissioning issues and concerns are identified and adequately addressed.

- Entities seeking to develop a wind energy project on BLM-administered lands, in conjunction with BLM Washington Office (WO) and Field Office (FO) staff, shall consult with the U.S. Department of Defense (DoD) regarding the location of wind power projects and turbine siting as early in the planning process as appropriate. This consultation shall occur concurrently at both the installation/field level and the Pentagon/BLM WO level. An interagency protocol agreement is being developed to establish a consultation process and to identify the scope of issues for consultation. Lands withdrawn for military purposes are under the administrative jurisdiction of the DoD or a military service and are not available for issuance of wind energy authorizations by the BLM.

- The BLM will consult with the U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act of 1973 (ESA). The specific consultation requirements will be determined on a project-by-project basis.

- The BLM will consult with the State Historic Preservation Office (SHPO) as required by Section 106 of the National Historic Preservation Act of 1966 (NHPA). The specific consultation requirements will be determined on a project-by-project basis. If programmatic Section 106 consultations have been conducted and are adequate to cover a proposed project, additional consultation may not be needed.

- Existing land use plans will be amended, as appropriate, to (1) adopt provisions of the BLM's Wind Energy Development Program, (2) identify land considered to be available for wind energy development, and (3) identify land that will not be available for wind energy development.

- The level of environmental analysis to be required under NEPA for individual wind power projects will be determined at the FO level. For many projects, it may be determined that a tiered environmental assessment (EA) is appropriate in lieu of an EIS. To the extent that the PEIS addresses anticipated issues and

concerns associated with an individual project, including potential cumulative impacts, the BLM will tier off of the decisions embedded in the PEIS and limit the scope of additional project-specific NEPA analyses. The site-specific NEPA analyses will include analyses of project site configuration and micrositing considerations, monitoring program requirements, and appropriate mitigation measures. In particular, the mitigation measures discussed in Chapter 5 of the PEIS may be consulted in determining site-specific requirements. Public involvement will be incorporated into all wind energy development projects to ensure that all concerns and issues are identified and adequately addressed. In general, the scope of the NEPA analyses will be limited to the proposed action on BLM-administered public lands; however, if access to proposed development on adjacent non-BLM-administered lands is entirely dependent on obtaining ROW access across BLM-administered public lands and there are no alternatives to that access, the NEPA analysis for the proposed ROW may need to assess the environmental effects from that proposed development. The BLM's analyses of ROW access projects may tier off of the PEIS to the extent that the proposed project falls within the scope of the PEIS analyses.

- Site-specific environmental analyses will tier from the PEIS and identify and assess any cumulative impacts that are beyond the scope of the cumulative impacts addressed in the PEIS.

- The Categorical Exclusion (CX) applicable to the issuance of short-term ROWs or land use authorizations may be applicable to some site monitoring and testing activities. The relevant CX, established for the BLM in the DOI Departmental Manual 516, Chapter 11, Sec. 11.5, E(19) (DOI 2004), encompasses "issuance of short-term (3 years or less) rights-of-way or land use authorizations for such uses as storage sites, apiary sites, and construction sites where the proposal includes rehabilitation to restore the land to its natural or original condition."

- The BLM will require financial bonds for all wind energy development projects on BLM-administered public lands to ensure compliance with the terms and conditions of the rights-of-way authorization and the requirements of applicable regulatory requirements, including reclamation costs. The amount of the required bond will be determined during the rights-of-way authorization process on the basis of site-specific and project-specific factors. The BLM may also require financial bonds for site monitoring and testing authorizations.

- Entities seeking to develop a wind energy project on BLM-administered public lands shall develop a project-specific Plan of Development (POD) that incorporates all BMPs and, as appropriate, the requirements of other existing and relevant BLM mitigation guidance, including the BLM's interim off-site mitigation guidance (BLM 2005a). Additional mitigation measures will be

incorporated into the POD and into the ROW authorization as project stipulations, as needed, to address site-specific and species-specific issues. The POD will include a site plan showing the locations of turbines, roads, power lines, other infrastructure, and other areas of short- and long-term disturbance.

- The BLM will incorporate management goals and objectives specific to habitat conservation for species of concern (e.g., sage-grouse), as appropriate, into the POD for proposed wind energy projects.

- The BLM will consider the visual resource values of the public lands involved in proposed wind energy development projects, consistent with BLM Visual Resource Management (VRM) policies and guidance. The BLM will work with the ROW applicant to incorporate visual design considerations into the planning and design of the project to minimize potential visual impacts of the proposal and to meet the VRM objectives of the area.

- Operators of wind power facilities on BLM-administered public lands shall consult with the BLM and other appropriate federal, state, and local agencies regarding any planned upgrades or changes to the wind facility design or operation. Proposed changes of this nature may require additional environmental analysis and/or revision of the POD.

- The BLM's Wind Energy Development Program will incorporate adaptive management strategies to ensure that potential adverse impacts of wind energy development are avoided (if possible), minimized, or mitigated to acceptable levels. The programmatic policies and BMPs will be updated and revised as new data regarding the impacts of wind power projects become available. At the project-level, operators will be required to develop monitoring programs to evaluate the environmental conditions at the site through all phases of development, to establish metrics against which monitoring observations can be measured, to identify potential mitigation measures, and to establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific stipulations.

A.2 Best Management Practices (BMPs)

The BMPs will be adopted as required elements of project-specific PODs and/or as ROW authorization stipulations. They are categorized by development activity: site monitoring and testing, development of the POD, construction, operation, and decommissioning. The BMPs for development of the POD identify required elements of the POD needed to address potential impacts associated with subsequent phases of development.

A.2.1 Site Monitoring and Testing

- The area disturbed by installation of meteorological towers (i.e., footprint) shall be kept to a minimum.

- Existing roads shall be used to the maximum extent feasible. If new roads are necessary, they shall be designed and constructed to the appropriate standard.

- Meteorological towers shall not be located in sensitive habitats or in areas where ecological resources known to be sensitive to human activities (e.g., prairie grouse) are present. Installation of towers shall be scheduled to avoid disruption of wildlife reproductive activities or other important behaviors.

- Meteorological towers installed for site monitoring and testing shall be inspected periodically for structural integrity.

A.2.2 Plan of Development Preparation

General

- The BLM and operators shall contact appropriate agencies, property owners, and other stakeholders early in the planning process to identify potentially sensitive land uses and issues, rules that govern wind energy development locally, and land use concerns specific to the region.

- Available information describing the environmental and sociocultural conditions in the vicinity of the proposed project shall be collected and reviewed as needed to predict potential impacts of the project.

- The Federal Aviation Administration (FAA)-required notice of proposed construction shall be made as early as possible to identify any air safety measures that would be required.

- To plan for efficient use of the land, necessary infrastructure requirements shall be consolidated wherever possible, and current transmission and market access shall be evaluated carefully.

- The project shall be planned to utilize existing roads and utility corridors to the maximum extent feasible, and to minimize the number and length/size of new roads, lay-down areas, and borrow areas.

- A monitoring program shall be developed to ensure that environmental conditions are monitored during the construction, operation, and

decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts of wind energy development are mitigated. The monitoring program shall identify the monitoring requirements for each environmental resource present at the site, establish metrics against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and BMPs.

- "Good housekeeping" procedures shall be developed to ensure that during operation the site will be kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps; and to minimize storage yards.

Wildlife and Other Ecological Resources

- Operators shall review existing information on species and habitats in the vicinity of the project area to identify potential concerns.

- Operators shall conduct surveys for federal and/or state-protected species and other species of concern (including special status plant and animal species) within the project area and design the project to avoid (if possible), minimize, or mitigate impacts to these resources.

- Operators shall identify important, sensitive, or unique habitats in the vicinity of the project and design the project to avoid (if possible), minimize, or mitigate impacts to these habitats (e.g., locate the turbines, roads, and ancillary facilities in the least environmentally sensitive areas; i.e., away from riparian habitats, streams, wetlands, drainages, or critical wildlife habitats).

- The BLM will prohibit the disturbance of any population of federal listed plant species.

- Operators shall evaluate avian and bat use of the project area and design the project to minimize or mitigate the potential for bird and bat strikes (e.g., development shall not occur in riparian habitats and wetlands). Scientifically rigorous avian and bat use surveys shall be conducted; the amount and extent of ecological baseline data required shall be determined on a project basis.

- Turbines shall be configured to avoid landscape features known to attract raptors, if site studies show that placing turbines there would pose a significant risk to raptors.

- Operators shall determine the presence of bat colonies and avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies; in known migration corridors; or in known flight paths between colonies and feeding areas.

- Operators shall determine the presence of active raptor nests (i.e., raptor nests used during the breeding season). Measures to reduce raptor use at a project site (e.g., minimize road cuts, maintain either no vegetation or nonattractive plant species around the turbines) shall be considered.

- A habitat restoration plan shall be developed to avoid (if possible), minimize, or mitigate negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. The plan shall identify revegetation, soil stabilization, and erosion reduction measures that shall be implemented to ensure that all temporary use areas are restored. The plan shall require that restoration occur as soon as possible after completion of activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.

- Procedures shall be developed to mitigate potential impacts to special status species. Such measures could include avoidance, relocation of project facilities or lay-down areas, and/or relocation of biota.

- Facilities shall be designed to discourage their use as perching or nesting substrates by birds. For example, power lines and poles shall be configured to minimize raptor electrocutions and discourage raptor and raven nesting and perching.

Visual Resources

- The public shall be involved and informed about the visual site design elements of the proposed wind energy facilities. Possible approaches include conducting public forums for disseminating information, offering organized tours of operating wind developments, and using computer simulation and visualization techniques in public presentations.

- Turbine arrays and turbine design shall be integrated with the surrounding landscape. Design elements to be addressed include visual uniformity, use of tubular towers, proportion and color of turbines, nonreflective paints, and prohibition of commercial messages on turbines.

- Other site design elements shall be integrated with the surrounding landscape. Elements to address include minimizing the profile of the ancillary structures, burial of cables, prohibition of commercial symbols, and lighting. Regarding

lighting, efforts shall be made to minimize the need for and amount of lighting on ancillary structures.

Roads

- An access road siting and management plan shall be prepared incorporating existing BLM standards regarding road design, construction, and maintenance such as those described in the BLM 9113 Manual (BLM 1985) and the *Surface Operating Standards for Oil and Gas Exploration and Development* (RMRCC 1989) (i.e., the Gold Book).

Ground Transportation

- A transportation plan shall be developed, particularly for the transport of turbine components, main assembly cranes, and other large pieces of equipment. The plan shall consider specific object sizes, weights, origin, destination, and unique handling requirements and shall evaluate alternative transportation approaches. In addition, the process to be used to comply with unique state requirements and to obtain all necessary permits shall be clearly identified.

- A traffic management plan shall be prepared for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan shall incorporate measures such as informational signs, flaggers when equipment may result in blocked throughways, and traffic cones to identify any necessary changes in temporary lane configuration.

Noise

- Proponents of a wind energy development project shall take measurements to assess the existing background noise levels at a given site and compare them with the anticipated noise levels associated with the proposed project.

Noxious Weeds and Pesticides

- Operators shall develop a plan for control of noxious weeds and invasive species, which could occur as a result of new surface disturbance activities at the site. The plan shall address monitoring, education of personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching shall be required. If trucks and construction equipment are arriving from locations with known

invasive vegetation problems, a controlled inspection and cleaning area shall be established to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.

- If pesticides are used on the site, an integrated pest management plan shall be developed to ensure that applications would be conducted within the framework of BLM and DOI policies and entail only the use of EPA-registered pesticides. Pesticide use shall be limited to nonpersistent, immobile pesticides and shall only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

Cultural/Historic Resources

- The BLM will consult with Indian Tribal governments early in the planning process to identify issues regarding the proposed wind energy development, including issues related to the presence of cultural properties, access rights, disruption to traditional cultural practices, and impacts to visual resources important to the Tribe(s).

- The presence of archaeological sites and historic properties in the area of potential effect shall be determined on the basis of a records search of recorded sites and properties in the area and/or, depending on the extent and reliability of existing information, an archaeological survey. Archaeological sites and historic properties present in the area of potential effect shall be reviewed to determine whether they meet the criteria of eligibility for listing on the *National Register of Historic Places* (NRHP).

- When any rights-of-way application includes remnants of a National Historic Trail, is located within the viewshed of a National Historic Trail's designated centerline, or includes or is within the viewshed of a trail eligible for listing on the NRHP, the operator shall evaluate the potential visual impacts to the trail associated with the proposed project and identify appropriate mitigation measures for inclusion as stipulations in the POD.

- If cultural resources are present at the site, or if areas with a high potential to contain cultural material have been identified, a cultural resources management plan (CRMP) shall be developed. This plan shall address mitigation activities to be taken for cultural resources found at the site. Avoidance of the area is always the preferred mitigation option. Other mitigation options include archaeological survey and excavation (as warranted) and monitoring. If an area exhibits a high potential, but no artifacts were observed during an archaeological survey, monitoring by a qualified archaeologist could be required during all excavation and

earthmoving in the high-potential area. A report shall be prepared documenting these activities. The CRMP also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of artifacts and destruction of property on public land.

Paleontological Resources

- Operators shall determine whether paleontological resources exist in a project area on the basis of the sedimentary context of the area, a records search for past paleontological finds in the area, and/or, depending on the extent of existing information, a paleontological survey.

- If paleontological resources are present at the site, or if areas with a high potential to contain paleontological material have been identified, a paleontological resources management plan shall be developed. This plan shall include a mitigation plan for collection of the fossils; mitigation could include avoidance, removal of fossils, or monitoring. If an area exhibits a high potential but no fossils were observed during survey, monitoring by a qualified paleontologist could be required during all excavation and earthmoving in the sensitive area. A report shall be prepared documenting these activities. The paleontological resources management plan also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of fossils on public land.

Hazardous Materials and Waste Management

- Operators shall develop a hazardous materials management plan addressing storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan shall identify all hazardous materials that would be used, stored, or transported at the site. It shall establish inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The plan shall also identify requirements for notices to federal and local emergency response authorities and include emergency response plans.

- Operators shall develop a waste management plan identifying the waste streams that are expected to be generated at the site and addressing hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste

minimization procedures. This plan shall address all solid and liquid wastes that may be generated at the site.

- Operators shall develop a spill prevention and response plan identifying where hazardous materials and wastes are stored on site, spill prevention measures to be implemented, training requirements, appropriate spill response actions for each material or waste, the locations of spill response kits on site, a procedure for ensuring that the spill response kits are adequately stocked at all times, and procedures for making timely notifications to authorities.

Storm Water

- Operators shall develop a storm water management plan for the site to ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion.

Human Health and Safety

- A safety assessment shall be conducted to describe potential safety issues and the means that would be taken to mitigate them, including issues such as site access, construction, safe work practices, security, heavy equipment transportation, traffic management, emergency procedures, and fire control.

- A health and safety program shall be developed to protect both workers and the general public during construction, operation, and decommissioning of a wind energy project. Regarding occupational health and safety, the program shall identify all applicable federal and state occupational safety standards; establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses; Occupational Safety and Health Administration [OSHA] standard practices for safe use of explosives and blasting agents; and measures for reducing occupational electric and magnetic fields [EMF] exposures); establish fire safety evacuation procedures; and define safety performance standards (e.g., electrical system standards and lightning protection standards). The program shall include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies shall be established.

- Regarding public health and safety, the health and safety program shall establish a safety zone or setback for wind turbine generators from residences and occupied buildings, roads, rights-of-ways, and other public access areas that is sufficient to prevent accidents resulting from the operation of wind turbine generators. It shall identify requirements for temporary fencing

around staging areas, storage yards, and excavations during construction or decommissioning activities. It shall also identify measures to be taken during the operation phase to limit public access to hazardous facilities (e.g., permanent fencing would be installed only around electrical substations, and turbine tower access doors would be locked).

- Operators shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) shall be identified and addressed in the traffic management plan.

- If operation of the wind turbines is expected to cause significant adverse impacts to nearby residences and occupied buildings from shadow flicker, low-frequency sound, or EMF, site-specific recommendations for addressing these concerns shall be incorporated into the project design (e.g., establishing a sufficient setback from turbines).

- The project shall be planned to minimize electromagnetic interference (EMI) (e.g., impacts to radar, microwave, television, and radio transmissions) and comply with Federal Communications Commission [FCC] regulations. Signal strength studies shall be conducted when proposed locations have the potential to impact transmissions. Potential interference with public safety communication systems (e.g., radio traffic related to emergency activities) shall be avoided.

- The project shall be planned to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.

- Operators shall develop a fire management strategy to implement measures to minimize the potential for a human-caused fire.

A.2.3 Construction

General

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the construction phase, as appropriate.

- The area disturbed by construction and operation of a wind energy development project (i.e., footprint) shall be kept to a minimum.

- The number and size/length of roads, temporary fences, lay-down areas, and borrow areas shall be minimized.

- Topsoil from all excavations and construction activities shall be salvaged and reapplied during reclamation.

- All areas of disturbed soil shall be reclaimed using weed-free native grasses, forbs, and shrubs. Reclamation activities shall be undertaken as early as possible on disturbed areas.

- All electrical collector lines shall be buried in a manner that minimizes additional surface disturbance (e.g., along roads or other paths of surface disturbance). Overhead lines may be used in cases where burial of lines would result in further habitat disturbance.

- Operators shall identify unstable slopes and local factors that can induce slope instability (such as groundwater conditions, precipitation, earthquake activities, slope angles, and the dip angles of geologic strata). Operators also shall avoid creating excessive slopes during excavation and blasting operations. Special construction techniques shall be used where applicable in areas of steep slopes, erodible soil, and stream channel crossings.

- Erosion controls that comply with county, state, and federal standards shall be applied. Practices such as jute netting, silt fences, and check dams shall be applied near disturbed areas.

Wildlife

- Guy wires on permanent meteorological towers shall be avoided, however, may be necessary on temporary meteorological towers installed during site monitoring and testing.

- In accordance with the habitat restoration plan, restoration shall be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.

- All construction employees shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, pets shall not be permitted on site during construction.

Visual Resources

- Operators shall reduce visual impacts during construction by minimizing areas of surface disturbance, controlling erosion, using dust suppression techniques, and restoring exposed soils as closely as possible to their original contour and vegetation.

Roads

- Existing roads shall be used, but only if in safe and environmentally sound locations. If new roads are necessary, they shall be designed and constructed to the appropriate standard and be no higher than necessary to accommodate their intended functions (e.g., traffic volume and weight of vehicles). Excessive grades on roads, road embankments, ditches, and drainages shall be avoided, especially in areas with erodible soils. Special construction techniques shall be used, where applicable. Abandoned roads and roads that are no longer needed shall be recontoured and revegetated.

- Access roads and on-site roads shall be surfaced with aggregate materials, wherever appropriate.

- Access roads shall be located to follow natural contours and minimize side hill cuts.

- Roads shall be located away from drainage bottoms and avoid wetlands, if practicable.

- Roads shall be designed so that changes to surface water runoff are avoided and erosion is not initiated.

- Access roads shall be located to minimize stream crossings. All structures crossing streams shall be located and constructed so that they do not decrease channel stability or increase water velocity. Operators shall obtain all applicable federal and state permits.

- Existing drainage systems shall not be altered, especially in sensitive areas such as erodible soils or steep slopes. Potential soil erosion shall be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts shall be cleaned and maintained regularly.

Ground Transportation

- Project personnel and contractors shall be instructed and required to adhere to speed limits commensurate with road types, traffic volumes, vehicle types,

and site-specific conditions, to ensure safe and efficient traffic flow and to reduce wildlife collisions and disturbance and airborne dust.

- Traffic shall be restricted to the roads developed for the project. Use of other unimproved roads shall be restricted to emergency situations.

- Signs shall be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuters, consideration shall be given to limiting construction vehicles traveling on public roadways during the morning and late afternoon commute time.

Air Emissions

- Dust abatement techniques shall be used on unpaved, unvegetated surfaces to minimize airborne dust.

- Speed limits (e.g., 25 mph [40 km/h]) shall be posted and enforced to reduce airborne fugitive dust.

- Construction materials and stockpiled soils shall be covered if they are a source of fugitive dust.

- Dust abatement techniques shall be used before and during surface clearing, excavation, or blasting activities.

Excavation and Blasting Activities

- Operators shall gain a clear understanding of the local hydrogeology. Areas of groundwater discharge and recharge and their potential relationships with surface water bodies shall be identified.

- Operators shall avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities.

- Foundations and trenches shall be backfilled with originally excavated material as much as possible. Excess excavation materials shall be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.

- Borrow material shall be obtained only from authorized and permitted sites. Existing sites shall be used in preference to new sites.

- Explosives shall be used only within specified times and at specified distances from sensitive wildlife or streams and lakes, as established by the BLM or other federal and state agencies.

Noise

- Noisy construction activities (including blasting) shall be limited to the least noise-sensitive times of day (i.e., daytime only between 7 a.m. and 10 p.m.) and weekdays.

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. All construction equipment used shall be adequately muffled and maintained.

- All stationary construction equipment (i.e., compressors and generators) shall be located as far as practicable from nearby residences.

- If blasting or other noisy activities are required during the construction period, nearby residents shall be notified in advance.

Cultural and Paleontological Resources

- Unexpected discovery of cultural or paleontological resources during construction shall be brought to the attention of the responsible BLM authorized officer immediately. Work shall be halted in the vicinity of the find to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed.

Hazardous Materials and Waste Management

- Secondary containment shall be provided for all on-site hazardous materials and waste storage, including fuel. In particular, fuel storage (for construction vehicles and equipment) shall be a temporary activity occurring only for as long as is needed to support construction activities.

- Wastes shall be properly containerized and removed periodically for disposal at appropriate off-site permitted disposal facilities.

- In the event of an accidental release to the environment, the operator shall document the event, including a root cause analysis, appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the BLM authorized officer and other federal and state agencies, as required.

- Any wastewater generated in association with temporary, portable sanitary facilities shall be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews shall be adequate to support expected on-site personnel and shall be removed at completion of construction activities.

Public Health and Safety

- Temporary fencing shall be installed around staging areas, storage yards, and excavations during construction to limit public access.

A.2.4 Operation

General

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the operational phase, as appropriate. These control and mitigation measures shall be reviewed and revised, as needed, to address changing conditions or requirements at the site, throughout the operational phase. This adaptive management approach would help ensure that impacts from operations are kept to a minimum.

- Inoperative turbines shall be repaired, replaced, or removed in a timely manner. Requirements to do so shall be incorporated into the due diligence provisions of the rights-of-way authorization. Operators will be required to demonstrate due diligence in the repair, replacement, or removal of turbines; failure to do so could result in termination of the rights-of-way authorization.

Wildlife

- Employees, contractors, and site visitors shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, any pets shall be controlled to avoid harassment and disturbance of wildlife.

- Observations of potential wildlife problems, including wildlife mortality, shall be reported to the BLM authorized officer immediately.

Ground Transportation

- Ongoing ground transportation planning shall be conducted to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts.

Monitoring Program

- Site monitoring protocols defined in the POD shall be implemented. These will incorporate monitoring program observations and additional mitigation measures into standard operating procedures and BMPs to minimize future environmental impacts.

- Results of monitoring program efforts shall be provided to the BLM authorized officer.

Public Health and Safety

- Permanent fencing shall be installed and maintained around electrical substations, and turbine tower access doors shall be locked to limit public access.

- In the event an installed wind energy development project results in EMI, the operator shall work with the owner of the impacted communications system to resolve the problem. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.

A.2.5 Decommissioning

General

- Prior to the termination of the rights-of-way authorization, a decommissioning plan shall be developed and approved by the BLM. The decommissioning plan shall include a site reclamation plan and monitoring program.

- All management plans, BMPs, and stipulations developed for the construction phase shall be applied to similar activities during the decommissioning phase.

- All turbines and ancillary structures shall be removed from the site.

- Topsoil from all decommissioning activities shall be salvaged and reapplied during final reclamation.

- All areas of disturbed soil shall be reclaimed using weed-free native shrubs, grasses, and forbs.

- The vegetation cover, composition, and diversity shall be restored to values commensurate with the ecological setting.

APPENDIX G
TOOLS AND TECHNIQUES AND PROGRAMMATIC EMERGENCY STABILIZATION AND REHABILITATION PLAN

APPENDIX G
TOOLS AND TECHNIQUES AND PROGRAMMATIC EMERGENCY STABILIZATION AND REHABILITATION PLAN

Introduction

Typical tools and techniques that may be used to manage resources, watersheds, and ecological systems within the planning area are described in this appendix. For discussion and general evaluations, these management aids have been grouped into several categories based on similarity in the types of effects they would have. Vegetation treatment for the restoration of watersheds is a primary management action outlined in the Proposed RMP. Therefore, the first step has been to group similar tools and techniques used for vegetation treatment into categories. These are presented below. Obviously many of the typical tools and techniques listed in this appendix overlap into two or more of these broad categories. Professional judgment was used to identify the best fit with the inherent nature of the tool or technique itself.

For any particular resource or resource use, potential impacts may be driven by only a few primary tools and techniques within a category. Where substantial impacts may occur on other resources from a typical tool or technique, these are described in Chapter 4.0. Potential impact assessments generally focus on vegetation, soils, water resources, wildlife resources, and other resources as appropriate. Typical tools and techniques do not vary by alternative, so their potential impacts are discussed at the beginning of each resource program under consideration.

Typical Tools and Techniques

Vegetation Treatment Tools and Techniques

Fire Treatments

- Wildland fire use – Natural fires started by lightning or other natural causes would be managed to achieve restoration goals.
- Prescribed fire – Management fires ignited by available devices.
- Heavy equipment – Heavy equipment such as bulldozers is used to clear fire lines.
- Hand tools – Typically, crews dig hand lines around small fires with chainsaws, pulaskis, and shovels to provide a fuel break for containing them. Fire fighting also includes "mop-up" methods to extinguish embers. Methods include turning over soil and logs and spraying water on the hottest spots.
- Aircraft – Helicopters and slurry bombers (single-engine and multi-engine) are primarily used for fire detection, management, and suppression. Smoke jumpers and helitack crews often are deployed from helicopters and other aircraft to perform initial attack on wildfires.
- Fire retardant – Aerial applications of slurry to suppress or influence wildfire behavior. In some areas, retardant in the form of foam is used to protect sensitive resources.
- Pile burning – Woody debris is piled together and subsequently burned on site.

- Burn out – Setting fire inside a control line to widen it or to consume fuel between the edge of the fire and the control line.
- Fire rehabilitation – Procedures for stabilizing and rehabilitating burned areas are included in the Normal Year Fire Rehabilitation Plan.

Mechanical Treatments

- Chaining/brush rolling – Steel chain (60 to 120 pound links totaling 200 to 300 feet in length), with or without rails welded to each link, spanned between two bulldozers to uproot trees. Rails are 18 to 24 inches in length and made from 70- to 90-pound rail. Two passes of the chain in opposite directions is required.
- Mowing/brush beating – Mowing is sometimes used for noxious weed management.
- Machine cutting and piling – Heavy machinery is used to cut and push woody vegetation into piles.
- Disc plowing – A farming disc or brush-land plow is pulled by a tractor to turn over the soil for several types of vegetation treatment, including reseeding.
- Green-stripping – Remove flammable fuels by brush beating, mowing, or other methods in strategic locations and replace with less flammable species, such as forage kochia or crested wheatgrass in order to influence fire behavior.
- Hand cutting – Woody vegetation is cut using chainsaws, hydraulic axes, or other hand tools.
- Pulling – Where noxious weed infestations are small and conditions are conducive, manual pulling of weeds can be an effective non-invasive method of weed management. May also be used where other methods are prohibited.
- Lopping and scattering – Woody biomass that results from vegetation clearing is cut into specified dimensions and scattered.
- Chipping – Residual biomass created as a result of tree removal is turned into small wood chips. Wood chippers are typically small mobile machines transported to and used on site. Chips are distributed by mechanical spreading.
- Pitting and scalping – The ground surface is mechanically pitted or scalped to increase water retention.
- Biomass use – Biomass in the form of trees and shrubs may be generated through vegetation clearing for watershed restoration and for fuel reduction in wildland urban interface areas. Such biomass could be utilized in a number of ways depending on the proposed project size and location and the economic conditions at the time the project is implemented. Biomass uses could include fuel for small electric generating plants (green energy) and raw material for consumer products. BLM would approve such uses of biomass on a case-by-case basis.

Chemical Treatments

- Selective and non-selective herbicides

  As of 2004, the following herbicides were approved for use on BLM lands. It is anticipated that this list will be modified over time. As herbicides gain or lose BLM approval, their use on Ely Field Office lands will reflect BLM approval. All herbicide use will be according to label directions. The

Ely Field Office will use the least toxic or lowest amount of herbicide that will achieve the desired result.

Atrazine	Dicamba	Imazapyr + Diuron	Tebuthiuron
Bromacil	Dicamba + 2,4-D Diuron	Mefluidide	Tebuthiuron + Diuron
Bromacil + Diuron	Glyphosate	Metsulfuron	Triclopyr
Chlorsulfuron	Glyphosate + 2,4-D	Picloram	Triclopyr + 2,4-D
Clopyralid	Glyphosate + Dicamba	Picloram + 2,4-D	Triclopyr + Clopyralid
Clopyralid + 2,4-D	Hexazinone	Simazine	
2,4-D	Imazapyr	Sulfometuron	

[1] BLM Information Bulletin No. 2004-030.

Biological Treatments – Grazing Management

- Type of livestock – Use livestock including sheep and goats to remove unwanted vegetation or to facilitate changes in vegetative composition.
- Season of use – Livestock authorizations include season of use by allotment and/or pasture. Allotments are either yearlong or seasonal in permitted use. Rest-rotation, deferred rotation provide rest from grazing under different types of schedules.
- Stocking rate – Permitted stocking levels (animal numbers) can be adjusted to achieve vegetation objectives.
- Allowable use – Identified for allotments, pastures or other specified areas based on the physiology, phenology, density, vigor and condition of key forage species. Monitoring is required on a periodic basis to determine if allowable use is exceeded and what actions should be taken.
- Water haul facilities – Moveable water tanks may be used to control livestock distribution. Avoid tank locations on or adjacent to steep erodible soils or near other sensitive resources.
- Salt/mineral/supplement blocks – Salt/mineral/supplement block placement locations can be used to control livestock distribution. Avoid salt placement on or adjacent to transportation routes, on steep erodible soils, or near other sensitive resources.

Biological Treatments – Other Management

- Seeding/interseeding – Aerial- or terrestrial-based seeding of grasses, forbs, and shrubs to revegetate disturbed areas. Range drills. Plows. Seed spreaders. Seed rollers and drums.
- Planting – Plant seedlings or cuttings of woody species such as willows or cottonwoods to accelerate the recovery of riparian areas and attain proper functioning condition.
- Biological control – Where appropriate, agents (such as insects, bacteria, or pheromones) that feed, infect, disrupt, or compete with noxious or invasive species to their detriment may be released for management purposes.

Other Tools and Techniques

Structural Tools

- Heavy equipment – Bulldozers, road graders, and other equipment are used to maintain roads, mine minerals, construct campgrounds, etc.
- Light and medium duty equipment – Cars and trucks used to access sites for all types of administrative work or permitted activities.
- Water bars – Constructed mounds typically on closed roads designed to slow overland flow and soil erosion on steep slopes.
- Straw bales – Straw bales are strategically placed and anchored to minimize soil loss on recently disturbed or revegetated sites especially on slopes.
- Stream structures – Logs, gabions, and other stream structures may be used to catch sediment or create fish pools.
- Bat gates – Metal gates are installed at the entrances of caves or abandoned mines to protect important bat habitats, such as maternity roosts, and to protect cave resources from human use.
- Big game crossing passes – Used to facilitate big game crossing at highways and other high traffic zones.
- Water development – Water developments increase the density and availability of water for wildlife and livestock. Developments vary from piped springs to trickle tanks and gallinaceous guzzlers that capture rainwater and store it in cisterns while allowing controlled use. Water pipelines traversing little watered areas are sometimes used to provide water at intervals along their length.
- Water escape ramps – Provide escape ladders or other devices to allow small mammals and herptiles to escape man made waterbodies that may trap them.
- Livestock fencing – Primarily used to control livestock distribution. Protect vulnerable areas such as riparian zones by excluding grazing animals.
- Gates – Gates are installed to control access on a seasonal or permanent basis.

Administrative or Regulatory Tools

- Permits – Permits are provided for personal and commercial use of materials such as gravel, fuelwood, and pinyon pine nuts. Other activities requiring a permit include some special recreation events and collecting materials for research of caves in the planning area.
- Fees – Fees are collected to aid in the tracking and management of various uses of federal lands and resources.
- Visitor signs – Signs are used to instruct or inform visitors to the public lands regarding health and safety issues, unique vistas or resources, land use restrictions, or general interest items. They may be used to direct activities away from sensitive areas and to concentrate impacts in other areas. Signs also may be used for visitor outreach to make visitors aware of recreation opportunities such as trails, roads, and recreation sites.
- Temporary or permanent closure – Close sensitive areas to recreational, development, treatment, and other permitted activities during sensitive periods.

- Road closures – Temporary or permanent road closures in order to facilitate achievement of land health standards.
- Law enforcement – Law enforcement is a tool to monitor public uses on public lands from assistance during hunting season to fuelwood collection.
- Stewardship contracting – In February 2004, the BLM approved guidelines for developing and entering stewardship agreements as part of the Healthy Forests Initiative. Stewardship contracts allow private entities to retain forest products in exchange for services such as thinning trees and cutting brush. Stewardship projects are primarily focused on restoration and expected to benefit fuels, wildlife and fish, forest, rangeland, and riparian resources. As defined in IM 2004-081 (1/16/04), stewardship opportunities are those that would achieve land management goals as well as meet local and rural community needs. Stewardship contracts and agreements are by definition long-term, giving contractors the ability to invest in equipment and infrastructure.
- Wild horse gathers – Gathers may be conducted by horseback or with helicopter. Temporary traps and pens may be constructed for holding animals.
- Wild horse fertility control - Artificial fertility control measures (e.g., implanted or oral contraceptives) may be applied to control population birth rate and recruitment rate.

Research Tools

- Stream gauges – Used to measure stream flows at permanent sites.
- Flow meters – Used to take spot measurements of stream flow.
- Monitoring of wildlife or vegetation species populations – Monitoring is conducted to establish trends in population locations and numbers.
- Telemetry – Telemetry involves the use of radio transmitters and receivers primarily to monitor animal movements.
- Wild horse fertility control measures – Used to reduce the number of new foals born in existing herds.
- Vegetation exclosures – As appropriate for monitoring, existing vegetation exclosures would be maintained and new exclosures would be constructed. Vegetation exclosures exclude livestock, wild horses, and wildlife from reference areas to assess the effects of grazing on vegetation.

APPENDIX G (Continued)
PROGRAMMATIC EMERGENCY STABILIZATION AND REHABILITATION PLAN

Introduction

The purpose and need for the Normal Year Fire Rehabilitation Plan is to create a framework for the Ely Emergency Stabilization and Rehabilitation program that will streamline Emergency Stabilization and Rehabilitation procedures and allow for the completion of on-the-ground treatments within a timeframe consistent with the urgent nature of fire rehabilitation. In addition, this document will enable the Ely Field Office to initiate Emergency Stabilization and Rehabilitation proposals that reduce the adverse effects of wildfire on soil, vegetation, crucial wildlife habitat, property, water quality, and other resources.

Emergency Stabilization and Rehabilitation activities are funded separately. Thus, depending on the conditions of the burned area, an Emergency Stabilization and/or a Rehabilitation Plan may be written following a wildfire. In some instances, neither plan may be written.

Currently, emergency stabilization plans address:

- Minimizing threats to life, property, and critical cultural and natural resources resulting from the effects of a fire;
- Promptly stabilizing and preventing further degradation to affected resources on lands within the fire perimeter or areas affected directly by wind or water erosion from burned areas; and
- Repairing damages caused by fire suppression operations.

Currently, rehabilitation plans address:

- Mitigating actual and potential long-term post-fire impacts to critical cultural and natural resources and treating those areas unlikely to recover naturally from severe wildland fire damage by emulating historic or pre-fire ecosystem structure, function, diversity, and dynamics;
- Restoring or establishing healthy, stable ecosystems in the burned area, even if these ecosystems cannot fully emulate historic or pre-fire conditions; and
- Repairing or replacing fire damage of minor operating facilities.

In the future, Emergency Stabilization and Rehabilitation plans may address different objectives as determined and stated in future department manuals or documents.

As stated in the Department of the Interior 620 Department Manual 3, funding for Emergency Stabilization treatments and activities is provided for no more than one year following containment of a wildland fire, except that Emergency Stabilization funding may be used to repair or replace Emergency Stabilization

structures or treatments for up to three years following containment of a wildland fire where failure to do so would imperil watershed functionality or result in serious loss of downstream values and for monitoring. Funding for rehabilitation treatments is provided in 1-year increments for no more than 3 years following containment of a wildland fire.

Emergency Stabilization and Rehabilitation funds may not be used for prescribed fire projects in which fire behavior was within prescription. Rehabilitation actions may be planned and funded only for projects that were declared wildfires or where fire behavior exceeded prescription. Wildland fires for resource benefits are not eligible for rehabilitation funds. Furthermore, Emergency Stabilization and Rehabilitation funds are not to be used for rehabilitation caused by wildland fire suppression actions. Costs for rehabilitating wildland fire suppression actions will be funded by the appropriate fire suppression subactivity. Nonetheless, in the future, what is allowed under Emergency Stabilization and Rehabilitation funding may change, and the Emergency Stabilization and Rehabilitation program will assign funding dollars accordingly.

The process for implementing emergency fire rehabilitation activities through a site-specific plan development process is described in the following paragraphs. However, the implementation process may be revised as the needs and regulations of the Emergency Stabilization and Rehabilitation program evolve.

1. Prior to fire containment, an interdisciplinary team will determine if Emergency Stabilization and/or Rehabilitation will be needed in a burned area. If Emergency Stabilization and/or Rehabilitation will be needed, an interdisciplinary team assesses the Emergency Stabilization and Rehabilitation needs of the burn and selects the necessary Emergency Stabilization or Rehabilitation prescription from the Normal Year Fire Rehabilitation Plan. (If the necessary prescription does not fall under the scope of this plan, refer to the Department of the Interior 620 Department Manual 3 for guidance.) Generally, rehabilitation efforts not covered in this plan would require an environmental assessment and approval by the State Director unless the action falls under a categorical exclusion.

2. An interdisciplinary team will then proceed to write both an Emergency Stabilization and a Rehabilitation plan that tier to the Normal Year Fire Rehabilitation Plan. As needed and determined appropriate by the interdisciplinary team, the plans may incorporate any or all of the following prescriptions: seed mixture (unless the prescribed seed mixture does not meet unique needs of the burned area), application rates, planting/seeding methods, costs, erosion control structures, protection fencing, and grazing adjustments beyond the normally prescribed minimum two growing seasons rest period.

3. In determining the Emergency Stabilization and/or Rehabilitation needs of a burn, the interdisciplinary team will keep in mind that natural recovery by native plant species is preferable to planting or seeding, either of natives or non-natives. If planting or seeding is necessary, the use of native species is preferable. To the extent permitted by law and Executive Order 13112, Invasive Species, dated February 3, 1999, introduction of exotic species into natural ecosystems will be restricted unless the Secretary of the Interior finds that such introduction will not have an adverse effect on natural ecosystems.

4. Once appropriate treatments are determined, a budget is created that summarizes the Emergency Stabilization and Rehabilitation costs by fiscal year. This budget is sent to the State Director for funding approval, or the Washington Office if the budget is over $100,000.

5. Cultural and threatened and endangered species clearances will be completed prior to project implementation. Known populations of threatened and endangered plants will be marked and that area restricted from heavy equipment use. Emergency Stabilization and/or Rehabilitation activities that involve mechanized surface disturbance greater than 10 centimeters in depth will require a cultural survey. Any archaeological resources discovered will be marked and avoided by ground disturbing equipment or will be relocated.

Rehabilitation actions outlined in the rehabilitation plan may fall under the categorical exclusion for rehabilitation activities for lands and infrastructure impacted by fires or fire suppression. The rehabilitation categorical exclusion does not cover Emergency Stabilization. In order to ensure that public concerns/interests are addressed, "the responsible officials will consider, on a project-by-project basis whether or not any of the Department of the Interior's exceptions apply. [Furthermore], the responsible official will prepare a decision memo that will be available for public review."

The rehabilitation activities eligible for categorical exclusion and the conditions they must be performed under are listed in the following paragraphs as stated in the Notice for the National Environmental Protection Act (NEPA) Determination Needed for Fire Management Activities; Categorical Exclusions:

- Post-fire rehabilitation activities not exceeding 4,200 acres (such as tree planting, fence replacement, habitat restoration, heritage site restoration, repair of roads and trails, and repair of damage to minor facilities such as campgrounds) to repair or improve lands unlikely to recover to a management approved condition from wildland fire damage, or to repair or replace minor facilities damaged by fire.

- Activities (such as reseeding or planting, fence construction, culvert repair, installation of erosion control device and repair of roads and trails) necessary for rehabilitation of habitat, watersheds, historical, archeological, and cultural sites and infrastructure impacted by wildfire and/ wildfire suppression.

The preceding activities shall be conducted consistent with agency and departmental procedures and applicable land and resource management plans; shall not include the use of herbicides or pesticides or the construction of new permanent roads or other new permanent infrastructure; and shall be completed within 3 years following a wildland fire. Categorical exclusions that apply to the Emergency Stabilization and Rehabilitation program may be revised or added to the department manual and/or other government document(s); consequently, the NEPA process for Emergency Stabilization and Rehabilitation plans may change.

In order to facilitate effective Emergency Stabilization and Rehabilitation treatments, one or more of the following treatments should be considered following a wildfire.

Site Protection

1. Grazing Closure

All revegetated areas as well as areas that have been burned but not revegetated may be closed to grazing until resource objectives are achieved or another course of action is determined if objectives are not met. The grazing closure must be initiated the growing season following the season in which the wildfire burned. Monitoring data will determine when a closed area is reopened for grazing. Grazing closures following a wildfire may be necessary in order to allow for vegetation recovery of both seeded and non-seeded species as well as to protect soil, water and other range resources. However, grazing may be allowed and not closed if it is determined that grazing would have beneficial impacts in reducing annual grasses, etc. A site-specific plan would be developed to guide these actions. See Early Livestock Grazing, page G-11. Recovery objectives should be established for each Emergency Stabilization and Rehabilitation Plan. Annual assessments of the burn area should be established when the grazing closure is initiated and an interdisciplinary team should evaluate the burn area at the end of each growing season to determine if recovery objectives have been met. If objectives have not been met, it may be necessary to extend the grazing closure and continue annual evaluations to determine when recovery objectives have been met, at which point normal grazing may resume. The following methods of grazing closures should be evaluated on a case-by-case basis to determine which method, or combination of methods, is/are suitable for an Emergency Stabilization or Rehabilitation Plan.

a. Repair of existing fence(s) for resource protection. Repair to fences damaged in the wildfire may be necessary in order to protect resources from grazing following a wildfire. Fences that may require repair in order to meet recovery objectives include, but are not limited to, exclosures for riparian area protection, designated study sites, wilderness study areas, allotment boundary, and pasture fences.

b. Construction of new fence(s) for resource protection. A new protective fence may be constructed to protect a burned area and its resources from grazing. Protective fences may be either permanent management fences or temporary. Temporary fences should be constructed in rangeland areas that require rest from grazing during the vegetation establishment period following the wildfire, but will not require further grazing management to maintain and protect resources following the rehabilitation process. It should be stated in the Emergency Stabilization or Rehabilitation Plan whether the constructed fence is intended to be permanent or temporary.

c. Grazing deferment without repair or construction of fence(s). In certain cases fencing may not be necessary in order to achieve grazing closure. A grazing deferment may be achieved in some locations by changing water supply for wildlife or changing grazing rotations for livestock. This method should be evaluated on a case-by-case to determine whether or not it will achieve an effective grazing closure and allow for vegetation recovery.

2. Wild Horse Haze

Where grazing by wild horses may affect seedling growth, it is desirable to remove horses from the burn area. Horse hazing may be sufficient to relocate horses on areas that are not fenced. Hazing may also be necessary prior to fencing the burn area so that no horses remain within the fenced area.

3. Wild Horse Gather

A wild horse gather may be required if it is determined that wild horse removal from the burn area is necessary and hazing is not a suitable option. Wild horse removal may be necessary not only by the need to protect establishing seedlings, but also to relieve grazing pressures outside the burn area where there is inadequate forage to support horses and big game wildlife.

Site Stabilization

1. Natural Revegetation

In some cases, natural revegetation may allow for successful establishment of native or previously seeded rangeland species. Natural revegetation may be used following wildfires that do not completely destroy the existing perennial vegetation, where there is a desirable and viable post-fire seedbank, or where there is a desirable root mass present. Natural revegetation may also be used where seeding is not possible due to topography, precipitation, or soil type. To determine if natural revegetation is a feasible treatment, an Emergency Stabilization and Rehabilitation team will assess the burned area and determine whether or not natural revegetation will allow for enough vegetation establishment within the first two post-fire growing seasons to prevent watershed degradation.

2. Seeding

Seeding may be necessary in order to stabilize soils or reestablish a desirable perennial plant community within a reasonable time frame. Seeding may also be used to prevent spread of non-native invasive weeds within the fire area by providing competing vegetation. If seeding is determined as a suitable treatment, the following steps should be evaluated and initiated as needed

a. Site preparation.

- Herbicide use prior to seeding

  Where invasive, non-native plant species become established prior to seeding, herbicides may be used to reduce their cover and density. Reducing invasive species allows for better establishment of seeded species by reducing competition. Direct treatment of invasive species is allowable as part of emergency stabilization plans when action is determined necessary and when standard, validated, treatments are used.

- Disking

Disking may be used prior to seeding to create a suitable seedbed where vegetation and topography allows. Disking breaks up surface debris by lifting and turning over the top layer of soil. This creates germination microclimates for applied seed and also creates small soil pockets that can trap moisture. Disking may also reduce competition from invasive species such as *Bromus tectorum* that may have rapid establishment following a wildfire.

- Early livestock grazing

Early (spring) livestock grazing may be used to reduce the establishment of invasive species such as *Bromus tectorum* that exhibit growth early in the spring. Early grazing can reduce the number of seed heads that reach maturity later in the season as well as allowing for higher levels of establishment of seeded and native perennial species by reducing competition.

b. Seed Mixes.

- Native and introduced species

Seed mixes should be created on a site-specific basis taking into account the pre-fire vegetation community, probability of success, wildlife needs, the presence or absence of invasive species, and site characteristics on a watershed scale. A mixture of native and introduced species may be used for site stabilization or rehabilitation. This mixture is most useful when rapid establishment is necessary for site (soil) stabilization as it is often the perennial grasses that will become established first. For emergency stabilization seed mixes, only species that will be effective within three years should be used.

c. Seeding Techniques.

- Drill

Drill seeding uses a rangeland drill to seed selected species at a desired depth. This method of seeding is successful in both seed application and incorporation and is a preferred method for establishing a post-fire perennial plant community. Rangeland drills cannot be used at sites that are too steep, do not have suitable soil, or have dense, burned, tree stands. Under these circumstances aerial seeding should be considered for seed application.

- Aerial

Aerial seeding involves the spread of seed from a helicopter or fixed-wing aircraft. This method of seeding is most effective for large areas where a rangeland drill cannot be used. Aerial seeding may be more effective if followed by a seed incorporation treatment such as chaining.

- On ground broadcast

For small burn areas requiring seeding, seed mixes may be spread by hand or from an all-terrain vehicle, tractor, or truck-mounted spreader. With the exception of hand spreading, this method can only be used in areas that are easily accessible, with low topographical gradients, and where the presence of rock and trees is minimal to non-existent.

d. Seed incorporation.

- Chain

An Ely chain can be used following an aerial seed application to help incorporate the seed into the soil and create favorable microclimates for germination/establishment. By disturbing the soil surface, chaining also helps create small pockets in which water is trapping, increasing surface soil moisture and further creating favorable conditions for seed germination and establishment. Chaining disturbs the soil surface by direct contact as well as by uprooting and dragging trees for a minimal distance. Both one-way and two-way chaining may be used.

- Roller chop

A roller chopper may also be used for seed incorporation in areas where tree stands are too dense for a rangeland drill. A roller chopper incorporates seed and cuts up organic debris to create a favorable environment for seed germination and reduce erosion on mild slopes or where soil is highly susceptible to erosion. Seeding can be done behind the tractor (in front of the chopper), or can be applied aerially prior to the roller chopper treatment.

- Livestock

Livestock such as cows or goats may be used in smaller treatment areas for seed incorporation. If livestock are kept moving, their hoof action breaks up the soil surface and incorporates seed into the soil. The livestock also add organic matter to the site while they are working the soil.

- Harrow

A harrow device can be used to cover seed at some sites, allowing for better seed germination and establishment. A harrow can only be used where machinery such as a tractor can access a site, where there is minimal slope, acceptable soil, and no dense stands of trees. Harrowing is primarily useable in previously cultivated rangelands, perennial grass communities, or perennial grass-sagebrush communities. A harrow can be used when disking by dragging the harrow behind the disk and using an on-ground-broadcast for the seed mix where the seed is applied between the disk and the harrow. This method allows for site preparation, seed application, and seed incorporation with one pass of a tractor.

- Hand rake

Hand raking may be used for seed incorporation for small areas where it is more cost effective than bringing in machinery or in areas that are inaccessible to machinery due to terrain, soil, or tree density. Hand raking may also be considered in desert scrub communities where the use of machinery might potentially create an unacceptable amount of fugitive dust.

3. Planting

Shrub and tree seedlings can be planted separately or in combination with a seeding treatment. Seedlings are used to reestablish native tree species lost in a wildfire, prevent the establishment of invasive plant species, and restore habitat in crucial wildlife habitat, fish habitat, riparian areas, or wilderness study areas. The planting of seedlings would help mitigate changes in forest, shrub land, or riparian ecosystems and restore them to the natural, pre-fire conditions. The planting of native seedlings is preferred.

4. Initial Overland Flow Erosion Control

Erosion control and sediment trapping features may be necessary on burned areas where there is high risk of erosion, sediment run-off, or flood waters. Erosion control structures are suggested, but not limited to areas requiring immediate short term stabilization. Primary areas of concern are where there is the possibility of damage to property and critical resources. This may include areas where ephemeral or perennial streambeds cannot adequately transport increases in water run-off and bedloads, steep slopes, and areas with hydrophobic or highly erosive soils. If erosion or sediment control structures are determined to be necessary, the following options should be considered.

a. Contour felled logs. Where there is anticipated water and sediment runoff following a wildfire, contour felled logs may be used. The primary function of contour felled logs is to divert and break up high volume water flows, reduce water velocity, and create a rough terrain, thereby reducing the ease of water runoff. Secondarily, contour felled logs retain sediment.

b. Mulch. Organic matter (mulch) may be spread over a burned area in order to reduce rain impact and reduce soil erosion. Mulch also retains moisture creating favorable conditions in hot dry areas for seed germination. However, if mulch is spread too thick, it can inhibit the establishment of seeded as well as non-seeded species. Mulch should primarily be used in areas where high levels of erosion are anticipated. Use of mulch is not recommended in areas with sensitive or rare plants. All mulch should be certified weed free prior to use. The following mulch treatments should be evaluated if mulch is desired following a wildfire.

- Mulch blankets

Mulch blankets are made with materials such as straw or wood fibers and are usually stitched together with photodegradable plastic netting. Mulch blankets provide a uniform cover for vegetation establishment while preventing erosion on moderate to steep slopes. Areas where mulch blankets

should be considered include, but are not limited to, along roads and where erosion from burned slopes may harm critical habitat or physical structures.

- Weed-free straw

Certified weed-free straw can be purchased and spread by hand, mechanically, or in remote areas, by helicopter or fixed-wing aircraft. Straw mulch provides soil stabilization and retains soil moisture, increasing seed germination and establishment.

- Hydromulch

Hydromulch may be applied mechanically on the ground along road sides or at accessible sites, or aerially in more remote areas. Hydromulch aids in site stabilization by reducing soil erosion through providing ground cover. Hydromulch also provides and retains soil moisture, enhancing seedling germination and establishment. Hydromulch may be applied after a burned area is seeded or seed may be incorporated into the hydromulch slurry allowing seed and mulch to be applied in one treatment.

c. Silt fences. Silt fences are primarily useful in swales, small seasonal streambeds, and on hillsides where other sediment traps cannot be used. Silt fences are most affective on shallower slopes where they will not experience high sediment loads. Silt fences must be well anchored and monitored to prevent failure, which could cause a high volume sediment release.

d. Straw bale check dams/other gabions. Dams made out of materials such as straw or rock can be used to reduce sediment in perennial streams following wildfires. The dams detain water long enough for coarse sediment to be deposited on the up-stream side of the dam. Dams also reduce water velocity and can be used to replace woody debris that may have been burned during the wildfire.

e. Sand, soil, and gravel bags. Sand, soil, and gravel bags can be used on slopes and in channels to interrupt overland water flow and reduce soil erosion by trapping sediment runoff. Bags can be placed in rows similar to contour felled logs in order to promote surface water infiltration.

Cultural Resources Site Stabilization and Protection

Under emergency stabilization and rehabilitation funding, assessments of significant heritage and cultural sites in areas affected by treatments may be conducted. Critical heritage resources affected by wildfire may also be stabilized and looting may be prevented by patrolling, camouflaging, or burying significant heritage sites.

Hazardous Waste Stabilization

Hazardous wastes should be assessed on a case-by-case basis when located within a burned area. Proper actions should be taken to treat or remove hazardous wastes in a timely manner.

Invasive and Non-native Weed Control

Seeding may be used to prevent the establishment of invasive species. Direct treatment such as the use of herbicides may also be used to reduce the spread of invasive species. This may be done under emergency stabilization funding when immediate action is required and validated techniques are used. In addition, chemical, manual, and mechanical treatments of invasive species as well as planting of native and non-native species may be accomplished under rehabilitation funding in order to re-establish a functioning ecosystem even where pre-fire conditions cannot be immediately restored.

Road/Facility Repair

Emergency Stabilization treatments include increasing road drainage for post-fire runoff and replacing or repairing minor facilities where they are essential to public health and safety. In addition, treatments allowable under rehabilitation funding include the replacement or repair of minor operating facilities. These facilities could include, but are not limited to, campgrounds, shade shelters, fences, wildlife guzzlers, and interpretive signs. When repair or reconstruction of roads is necessary for Emergency Stabilization purposes, one or more of the following treatments may be implemented.

1. Out Sloping

In some cases surface water control on roads may be accomplished by shaping the road surface to deflect water runoff perpendicular to the direction of travel on the road. This may prevent rilling and gullying caused by concentrated water flow.

2. Culvert Upgrades

Following a wildfire, there is often an increased level of surface water runoff. Existing culverts may be replaced with larger diameter culverts to prevent damage to a road. Upgraded culverts should be installed before the first major rains following a wildfire. Armoring of culvert inlets and outlets should be considered to prevent culvert and road damage.

3. Rolling Dips/Water Bars/Cross Drains/Culvert Overflows/Bypasses

Road repair and upgrade may be necessary following a fire to control high levels of surface water runoff. Most road water control treatments can be completed with a road grader, dozer, rocks, or logs. These treatments are a combination of ditches and berms that run perpendicular or at an angle to a road or trail. They may be used to control and drain surface water on the road or the ditch on the downhill side of the road when culverts are not expected to handle predicted levels of surface water. Depending on site specific purpose, and water control method chosen, some treatments may prevent use of a road.

Wilderness Study Area Guidelines for Emergency Stabilization and Rehabilitation

Emergency Stabilization and Rehabilitation actions following a wildfire in a wilderness study area will be in conformance with the guidelines described in the Interim Management Plan for Lands Under Wilderness Review (H-8550-1). If a fire occurs within both wilderness study area and non-wilderness study area lands the Emergency Stabilization and Rehabilitation actions will follow the Interim Management Plan for the area within the wilderness study area and follow the Normal Year Fire Rehabilitation Plan for lands burned outside the wilderness study area. If the conditions of the fire permit i.e., no mechanical treatments or non-native species seeding, etc., are deemed crucial, the non-wilderness study area land may be treated the same as the wilderness study area land.

Interested parties will be allowed a 30-day comment period on the proposed treatment in wilderness study areas unless it is not possible to do so because of emergency conditions (i.e., the 30-day comment period would result in missing the optimum period for treatment). If a full 30-day period is not allowed due to time constraints, the necessary parties would be contacted for immediate comment, and a follow-up copy of the proposed action would be forwarded.

Any fire suppression activities that are determined to have negatively affected the wilderness values of the wilderness study area will be rehabilitated prior to the release of fire crew support. These suppression rehabilitation activities will be funded by the appropriate suppression subactivity.

All Emergency Stabilization and Rehabilitation actions must maintain or enhance the wilderness values of the area. Thus, the minimum tool concept will be applied to all emergency and rehabilitation activities to ensure the proposed action is necessary and does not damage the area. Hand or aerial seeding and planting of native species may be done to restore natural vegetation. Generally, seed will be aerially applied unless the fire is small and hand application will not harm the area's wilderness suitability. Seedings and plantings will be staggered or irregular so as to avoid a straight-line plantation appearance. Cross-country use of motorized equipment will be minimal. Each wildfire will be evaluated on a case-by-case basis to ensure that species seeded and the methods for seeding are in compliance with the guidelines set forth in the Interim Management Plan.

APPENDIX H
LEGAL DESCRIPTIONS FOR POTENTIAL LAND DISPOSAL

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LEGAL DESCRIPTIONS FOR POTENTIAL LAND DISPOSAL

POTENTIAL LAND DISPOSAL AREAS PROPOSED RMP				
Township	**Range**	**Section**	**Legal Description**	**Acres**
LINCOLN COUNTY POTENTIAL LAND DISPOSAL AREAS				
FEDERAL LAND TRANSACTION FACILITATION ACT LANDS				
None because Lincoln County Conservation Recreation and Development Act supersedes Federal Land Transaction Facilitation Act				
3 S	55 E	26	All Public Lands south of Highway 375	798
		35	SW¼SW¼, N½SW¼, S½SE¼NW¼, NW¼SE¼NW¼, NW¼NE¼SE¼NW¼, SW¼NW¼, N½NW¼, N½NE¼	
		36	S½SE¼, NE¼SE¼, All Public Lands south of Highway 375 in SE¼NE¼	
4 S	55 E	1	LOTS 1-4, S½NW¼, S½NE¼	894
		2	LOT 4, S½NW¼, SE¼NE¼	
3 S	56 E	31	All Public Lands south of Highway 375	107
4 S	56 E	6	LOTS 1-5, SE¼NW¼, S½NE¼	316
6 S	57 E	25	NW¼NW¼	40
3 S	60 E	24	SE¼SW¼ All Public Lands east of Highway 318	330
		25	W½ All Public Lands east of Highway 318	
		35	E½ All Public Lands east of Highway 318	
4 S	60 E	1	SW¼SW¼	560
		2	All Public Lands east of Highway 318	
		11	All Public Lands east of Highway 318	
		14	N½NW¼NE¼, NE¼NE¼	
6 S	61 E	6	Lots 9 and 10	1,859
		7	NE¼, NE¼NW¼, SE¼	
		29	SE¼, N½SW¼, NW¼, NE¼	
		30	LOTS 3 and 4, E½SW¼	
		31	LOTS 1-4, S½SE¼, E½SW¼, E½NW¼	
		32	N½NE¼SE¼, SE¼NE¼, N½NE¼	
		33	SW¼, NW¼	
7 S	61 E	4	ALL	2,662
		5	NE¼SE¼	
		6	LOTS 1 and 2, N½SE¼, SW¼SE¼, S½NE¼	
		7	E½,	
		8	S½SW¼, NW¼SW¼, S½SW¼NW¼	
		9	ALL	
		16	NE¼SE¼, NE¼	
		17	SE¼, NW¼, SW¼NE¼	
3 S	66 E	23	ALL	3,811
		24	ALL	
		25	ALL	
		26	ALL	
		35	ALL	
		36	ALL	
4 S	66 E	1	LOTS 5-12, SW¼, N½SE¼	3,539
		2	ALL	
		11	ALL	
		12	N½NE¼, NW¼, SW¼, SE¼	
		13	NE¼, NW¼, SW¼, NW¼SE¼	
		14	ALL	

POTENTIAL LAND DISPOSAL AREAS PROPOSED RMP				
Township	Range	Section	Legal Description	Acres
2 S	67 E	11	S½	4,160
		12	ALL	
		13	SE¼, NE¼SW¼, N½	
		14	S½NW¼ SW¼ W½SE¼	
		23	SE¼, SW¼, NW¼, W½NE¼, NE¼NE¼	
		24	S½SW¼, NW¼SW¼	
		25	NW¼NW¼	
		26	NW¼SE¼, SW¼, NW¼, NE¼	
		35	W½SW¼, NE¼, NW¼NE¼	
		36	SE, E½SW¼, SW¼SW¼, E½NW¼, S½NE¼, NW¼NE¼	
3 S	67 E	1	ALL	11,995
		4	ALL	
		9	ALL	
		12	ALL	
		13	ALL	
		16	ALL	
		19	ALL	
		20	ALL	
		21	W½NE¼, NW¼, SW¼, N½SW¼SE¼, NW¼SE¼	
		23	ALL	
		24	ALL	
		28	W½NW¼, S½SW¼, SE¼	
		29	NE¼, NW¼, SW¼, N½SE¼	
		30	ALL	
		31	ALL	
		32	E½NE¼, NW¼, N½SW¼, SW¼SW¼, E½SE¼	
		33	ALL	
		34	ALL	
		35	ALL	
		36	ALL	
4 S	67 E	1	ALL	7,253
		2	ALL	
		3	ALL	
		4	ALL	
		5	LOTS 1, 4, SE¼NE¼, SW¼NW¼, SW¼SW¼, NE¼SE¼, S½SE¼	
		6	ALL	
		7	LOTS 1, 2, 5, 6, NE¼NW¼	
		8	S½SE¼	
		9	N½NE¼, N½NW¼, SW¼, W½NE¼SE¼, SW¼SE¼NE¼SE¼, NW¼SE¼, S½SE¼	
		10	N½NE, E½NW¼, NW¼NW¼, SW¼SW¼SW¼NW¼	
		13	ALL	
		14	ALL	
		15	ALL	
		16	ALL	
		17	NE¼	

POTENTIAL LAND DISPOSAL AREAS PROPOSED RMP				
Township	**Range**	**Section**	**Legal Description**	**Acres**
2S	68E	4	E½SE¼	1,716
		6	LOTS 6 and 7, E½SE¼SE¼SW¼, W½SW¼SE¼SW¼, N½SW¼, NE¼SW¼, W½SE¼	
		7	W½N¼	
		9	S½SE¼, NE¼SE¼, SE¼SW¼, E½SE¼NE¼, E½NW¼NE¼, NE¼NE¼	
		10	All Public Lands south of Highway 25	
		16	E½SW¼	
		19	SE¼SE¼	
		20	SE¼NE,	
		21	SE¼, SW¼, S½NW¼, NE¼	
4 S	68 E	6	ALL	1,272
		18	ALL	
11 S	69 E	36	ALL	640
3 S	70 E	25	SE¼, E½SW¼, NW¼, NE¼	2,440
		26	N½NE¼	
		35	S½	
		36	NW¼SW¼, S½SW¼, NE¼NW¼, NE¼	
4 S	70 E	1	LOTS 3 and 4, S½NW¼	480
		2	LOTS 1-4, S½ NW¼, S½NE¼	
3 S	71 E	30	S½	880
		31	SE¼SE¼, N½SE¼, SW¼SW¼, N½SW¼, NW¼, NE¼	
2 N	66 E	24	ALL	1,280
		25	ALL	
1 N	67 E	4	ALL	6,326
		5	ALL	
		6	ALL	
		8	All Public Lands within	
		9	ALL	
		10	W½SW¼, NE¼SW¼, N½	
		11	W½	
		12	N½NW¼SE¼, N½NE¼SE¼, N½SW¼NE¼SW¼, NW¼NE¼SW¼, NE¼NE¼SW¼, W½SW¼, W½NW¼	
		13	S½, S½SW¼NW¼, S½SE¼NW¼, N½N½SE¼NE¼, N½N½SW¼NE¼, S½SW¼NE¼	
		15	N½NW¼	
		16	All Public Lands within	
		17	All Public Lands within	
		20	All Public Lands within NE¼	
		21	All Public Lands within	
		22	SE¼NW¼, SW¼NW¼, NW¼NW¼, SW¼NE¼NW¼, E½NE¼NW¼, All Public Lands within NW¼SW¼	
		23	All Public Lands within	
		26	All Public Lands within N½	
2 N	67 E	19	LOTS 1-4, E½SW¼, E½NW¼, NE¼	2,846
		29	SE¼, SE¼SW¼, N½SW¼, NW¼, NE¼	
		30	LOTS 3, 4, 6, 7, SE¼SE¼SE¼SW¼, W½SE¼SE¼SW¼, W½SE¼SW¼, SW¼NE¼SE¼SW¼, W½SW¼NE¼SW¼	
		31	ALL	
		32	NE¼, NE¼NW¼, S½NW¼, SW¼, S¼	
		33	ALL	
4 N	67 E	3	LOTS 12-19, S½NW¼, S½NE¼	409
5 N	67 E	34	SW¼SE¼, N½SW¼, NW¼, W½NE¼, NE¼NE¼	400
4 N	69 E	3	LOTS 7,8,9,12	26
		10	LOTS 2,4	
			Lincoln County Total	**57,039**

POTENTIAL LAND DISPOSAL AREAS PROPOSED RMP				
Township	**Range**	**Section**	**Legal Description**	**Acres**
WHITE PINE COUNTY POTENTIAL LAND DISPOSAL AREAS				
FEDERAL LAND TRANSACTION FACILITATION ACT LANDS				
None because Lincoln County Conservation Recreation and Development Act supersedes Federal Land Transaction Facilitation Act				
17 N	55 E	6	LOTS 12, 13	10
23 N	55 E	13	SE¼SW¼, S½SE¼	120
13 N	61 E	9	E½E½SW¼NE¼SW¼	3
17 N	61 E	23	SE¼SE¼, NE¼SE¼, SE¼NE¼	480
		24	SW¼, SW¼NW¼, SE¼NW¼, SW¼NE¼	
11 N	62 E	3	LOT 6	43
12 N	62 E	27	W½W½	380
		34	N½NW¼NW¼, SW¼NW¼, SW¼	
15 N	63 E	12	W½SE¼SW¼, SW¼SW¼, NW¼SW¼, W½NW¼SW¼, W½SE¼NW¼, SW¼NW¼, NW¼NW¼, W½NE¼NW¼	400
		13	N½NE¼, N½NW¼	
16 N	63 E	1	LOTS 1-12, S½SE¼, S½NE¼	2,215
		12	SE¼, NE¼	
		13	SE¼SE¼, NE¼SE¼, NW¼SW¼, SW¼NW¼	
		23	E½SW¼, SE¼	
		24	W½SW¼, W½NW¼	
		25	W½NW¼, NW¼SW¼	
		26	NE¼, NW¼, N½SE¼, Public Lands in SW¼	
		27	E½SE¼NE¼, Public Lands in E½SE¼	
		34	W½NE¼, W½E½NE¼, SE¼	
		35	Public Lands in N½	
		36	SW¼, SE¼NW¼	
17 N	63 E	15	SE¼SE¼SE¼	1,344
		22	E½SE, W½SW, E½NE	
		23	ALL	
		24	ALL	
		25	W½NW¼SE¼SW¼SE¼, SW¼SW¼SE¼, NW¼SW¼SE¼, SW¼NE4SW4SE¼, N½NE¼SW¼SE¼, N½NE4SW¼SE¼, N½SE¼NW¼SE¼, SW¼NW¼SE¼, NW¼NW¼SE¼, NE¼NW¼SE¼, NW¼SW¼NE¼SE¼, SW¼NW¼NE¼SE¼, SE¼SE¼NE¼, SW¼SE¼NE¼, NW¼SE¼NE¼, SW¼NE¼SE¼NE¼, N½NE¼NE¼, NE¼NE¼	
		26	NW¼, NE¼	
		27	SW¼, NW¼, NE¼	
		34	LOTS 1-4, E½E½SW¼NW¼, N½NW¼NW¼NW¼, E½NW¼NW¼, SE¼NW¼, NE¼NW¼	
24 N	63 E	12	S½SE¼	2,040
		13	SE¼, SW¼, E½NW¼, NE¼	
		23	E½E½	
		24	W½SE¼, SW¼, NW¼, W½NE¼	
		25	SW¼, NW¼	
		26	SE¼, NE¼	
		35	N½NE¼	
		36	NW¼, NW¼	
15 N	64 E	18	LOT 1, NE¼NW¼ (Public Lands Within)	64
16 N	64 E	6	LOTS 3-7, SE¼SW¼, NE¼SW¼, SE¼NW4	634
		7	LOTS 1-4, E½NW¼, E½SW¼	

POTENTIAL LAND DISPOSAL AREAS PROPOSED RMP				
Township	**Range**	**Section**	**Legal Description**	**Acres**
17 N	64 E	5	SE¼	935
		7	E½SW¼, SE¼	
		8	Lots 1-8, NW¼SW¼, SE¼SW¼	
18 N	64 E	10	ALL	320
		15	NW, N½SW¼, SE¼SW¼	
		22	NE¼NW¼	
21 N	64 E	19	LOTS 3 and 4, SE¼SW¼, S½SE¼	279
		20	S½SW¼	
12 N	67 E	12	Lands south of SR 744 in N¼, NW¼, N½SE¼, and S½SE¼	160
13 N	70 E	1	LOTS 1, 2, SW¼, SE¼, S½NW¼, S½NE¼	560
		2	SE¼SE¼, NE¼SE¼, SE¼ NE¼	
		21	N½NE¼	
14 N	70 E	25	ALL	3,200
		26	ALL	
		27	ALL	
		28	ALL	
		36	ALL	
13 N	71 E	6	ALL	303
14 N	71 E	30	LOTS 1-3, 5-7, W½SE¼SW¼, W½SW¼, W½NW¼, W½NE¼NW¼	553
		31	ALL	
			White Pine County Energy Projects	4,500
			White Pine County Total	**18,543**
			Total	**75,582**

APPENDIX I
COMMENTS AND RESPONSES ON THE DRAFT RMP/EIS

Introduction to Appendix I

As discussed in Section 5.1.6 of the Proposed RMP/Final EIS, 650 comment letters and emails were received on the Draft RMP/EIS. Six public meetings on the Draft also were held (see Section 5.1.7), and members of the public chose to speak on the record at four of the six. Appendix I includes verbatim copies of the comment letters and emails, as well as transcripts from the four public meetings during which comments were provided. The comments on the Draft RMP/EIS contained within each document have been identified, numbered, and highlighted with brackets. BLM's response is presented opposite each comment.

Comment letters have been organized based on the entity that submitted the letter. For example, letters from federal, state, local, and tribal agencies have been separated into four groups. Each letter has been given a unique identifier that is based on the group prefix and the individual letter number. Letter F6 is the sixth letter from a federal agency, in this case the National Park Service. Within each letter, comments also have been assigned unique numbers. Comment F6-1 would be the first comment from the National Park Service. All comment letters and public meetings are identified on the index that follows. In order to access a specific comment letter, please find it on the following list and then "click" on the letter you wish to review. Hyperlinks from individual entries in the list to the appropriate file will open the letter you have selected.

Business/Industrial			
Letter Number	**Last Name**	**First Name**	**Affiliation**
B-1	Lloyd	Brad	7L Outfitters
B-2	Folks	Casey	Best in the Desert
B-3	Folks	Casey	Best in the Desert
B-4	Carter	Steven	Carter Cattle Company
B-5	Johnson	Fred	Industrial Mineral Developments, Inc.
B-6	Crawford	Eric	LS Power Development
B-7	Dart	Bill	ORBA
B-8	McLain	John	Resource Concepts, Inc.
B-9	Albright	Kenneth	Southern Nevada Water Authority
B-10	Albright	Kenneth	Southern Nevada Water Authority
B-11	Wright	Edward	Tillies, TKO Outfitters
B-12	Brunson	Thomas	Timberline Outfitters Guide Service
B-13	Folks	Daryl	Trac-on
B-14	Folks	Daryl	Trac-on
B-15	Uhalde	John	Uhalde & Company
B-16	Lytle	Shawn	White Rock Outfitters
Federal Government			
Letter Number	**Last Name**	**First Name**	**Affiliation**
F-1	Potts	James	Natural Resource Conservation Service
F-2	Hopper	Eliose	Nellis AFB
F-3	James	Duane	USEPA
F-4	Lanthrum	J. Gary	USDOE
F-5	Williams	Robert	USFWS
F-6	Nielson	Cindy	National Park Service

Individual			
Letter Number	**Last Name**	**First Name**	**Affiliation**
I-1	Anderson	Paul	
I-2	Anonymous	"Fast Freddy"	
I-3	Baker	Gretchen	
I-4	Boeger	Karen	
I-5	Ehly	Ray, Jr.	
I-6	Gilbert	Sue	
I-7	Heinz	Dan	
I-8	Heizer	Michael & Mary	
I-9	Huggins	William	
I-10	Hughes	Arlin	
I-11	Larrick	Don	
I-12	Livreri	Anthony Z	
I-13	Martinez	Robert	
I-14	Mullen	Karen	
I-15	Nappe	Tina	
I-16	Roddin	Marc	
I-17	Rollins	Luke	
I-18	Sachau	B.	
I-19	Sachau	B.	
I-20	Sherratt	Russell	
I-21	Spear	Julie	
I-22	Stevenson	Craig and Gretchen	
I-23	Stever	Lyle Shane	
I-24	Vogt	Tim	
I-25	Wade	Darrell	
I-26	Weaver	Mark	
I-27	Williams	Stephen	
I-28	Livreri	Anthony Z	

Local Government			
Letter Number	**Last Name**	**First Name**	**Affiliation**
L-1	Gloeckner	Pat	Lincoln County Advisory Board of Manage Wildlife
L-2	Miller	Willliam	White Pine County
L-3	Chachas	John	White Pine County Board of County Commissioners
L-4	Rowe	George T.	Lincoln County Commissioners

Non Governmental Organization			
Letter Number	**Last Name**	**First Name**	**Affiliation**
N-1	Garrett	Jo Anne	Baker Area Citizen Adv. Board
N-2	Wilson	Scott	Bushwhacker Motorcycle Club of MRAN
N-3	Govan	Michael & Mary	DIA Art Foundation
N-4	Netherton	Shaaron	Friends of Nevada Wilderness
N-5	Jensen	Eva	Nevada Archaeological Association
N-6	Watson	Charles	NORA
N-7	McAllister	Elise	Partners in Conservation
N-8	Hiatt	John	Red Rock Audubon Society
N-9	Simon	Mike	Rocky Mountain Elk Foundation
N-10	Bair	Janet	The Nature Conservancy
N-11	Strickland	Rose	Toiyabe Sierra Club
N-12	Meece	Rick	Vegas Valley 4-Wheelers
N-13	Fite	Katie	Western Watersheds Project
N-14	Fite	Katie	Western Watersheds Project
N-15	Fite	Katie	Western Watersheds Project
N-16	Fite	Katie	Western Watersheds Project
N-17	Fite	Katie	Western Watersheds Project
N-18	Belenky	Lisa	Center for Biological Diversity
N-19	Mellington	Steve	Mojave-Southern Great Basin Resource Advisory Council
N-20	Fite	Katie	Western Watersheds Project
N-21	Fite	Katie	Western Watersheds Project
State Government			
Letter Number	**Last Name**	**First Name**	**Affiliation**
S-1	Canfield	Dan	Division of State Lands
S-2	Kane	Nevan	NDEP
S-3	Lamp	Rory	NDOW
S-4	Loux	Robert	Office of the Governor - Agency for Nuclear Projects
S-5	Rask	Holly	University of Nevada Cooperative Extension
S-6	McCuin	Gary	Department of Agriculture
Tribal Government			
Letter Number	**Last Name**	**First Name**	**Affiliation**
T-1	Buckner	Diane	Ely Shoshone Tribe
Form Letters			
Letter Number	**Last Name**	**First Name**	**Topic**
Form 1	Abrams, et al		Wilderness Protection
Form 2	Moore, et al		
Form 3	Stephens, et al		Off-highway Vehicle Use
Form 4	Jackson, et al		Wildlife

Public Meetings			
Transcript/Comment Number	**Last Name**	**First Name**	**Affiliation**
PM-1—1, 2, 4	Rowe	Tommy	Lincoln County Commissioner
PM-1—3	Clifton	Jack	
PM-2—1-7, 13	Owens	Jim	
PM-2—8	Clay	Don	
PM-2—9	Johnson	Fred	
PM-3—1-3	Hutchings	John	
PM-3—4-9	Freeman	Ken	
PM-3—10-14, PM-3—30-32	Vasconi	Bill	Fraternity of the Desert Bighorn
PM-3—15-23	Livreri	Anthony	Motorcycle Racing Association of Nevada
PM-3—24-26	Wilson	M.	Motorcycle Racing Association of Nevada
PM-3—27-29	Dunn	David	Motorcycle Racing Association of Nevada
PM-3—30-32	Vasconi	Bill	Fraternity of the Desert Bighorn
PM-3—33-35	Albrecht	Michael	Dunes and Trails
PM-4—1-7	Sill	Marjorie	
PM-4—8-9	Nappe	Tina	Sierra Club

Letter B1

November 22, 2005

Bureau of Land Management
Attention Gene Drais
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301

Dear Mr. Drais:

B1-1 In regards to the Resource Management Plan, I have concerns pertaining to the special recreation permit 2.5.15.2. Of the four alternatives proposed, I'm in favor of a revised version of Alternative E. I would like the wording to read as follows: "For the first three years following plan implementation, outfitter and guide permits for hunting would be limited to parties who have had a permit for the past 3 years. This permit would then remain with the outfitter until it is not renewed or until it is forfeited. The present number of outfitters who have had a permit for the past 3 years would serve as the cap. For any open permit that occurs, non-permitted outfitters would then be placed into a draw procedure to fill the position. Permits would limit the number of sub-guides that could operate. Any one outfitter would be eligible to obtain only one permit at a time."

B1-2 I am currently a small local outfitter who holds a permit. I definitely feel that we need to put a cap on the number of outfitters. Most importantly, however, I feel that it would be unfair to place the permits on a competitive bid process. It would make it very difficult for a small local business to compete against the huge nation-wide outfitters who currently guide or may desire to guide in the area.

Thank you very much for your consideration of this matter.

Sincerely,

Brad Lloyd
7L Outfitters

Responses to Letter B1

B1-1 In response to this and similar comments, the text in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised regarding the issuance of outfitter and guide permits. Monitoring of outfitter and guide use would still occur for three years; however, outfitter and guide permits would not be limited during that three year study. Should the study show resource impacts, including user conflicts as a result of outfitter and guide actions, the Ely Field Office may address those problems by issuing outfitter and guide permits with special stipulations and conditions. No allocation system, including a competitive bid process, is included in the Proposed RMP and Final EIS.

B1-2 Please refer to Response to Comment B1-1.

Letter B2

BEST IN THE DESERT
RACING ASSOCIATION
Promoters of "VEGAS TO RENO" – "The Longest Off-Road Race In The United States"

Life Is An Adventure
Come live your adventure with
BEST IN THE DESERT

NOV 25

November 25, 2005

Re: Public Comments on Ely BLM EIS RMP

To Whom It May Concern:

B2-1 On behalf of Best In The Desert Racing Association, I have enclosed two (2) maps with yellow highlighting in the N Pahroc Range up to the Schell Creek Range. Best In The Desert is proposing that the yellow area remain open to Non-Competitive SRP's only. In 1990 and 1991 this particular area was permitted for two consecutive race events promoted by Best In The Desert. Taking a more conservative approach in this area will help maintain OHV access but yet provide a low impact effect.

I appreciate your consideration to the very important matter.

Sincerely,

Casey Folks, Director
Best In The Desert

3475 Boulder Highway • Las Vegas, Nevada 89121 • (702) 457-5775 • Fax: (702) 641-2431 • www.bitd.com

Responses to Letter B2

B2-1 In response to your comment, the text in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised to clarify special recreation permits for non-competitive off-highway vehicle events. Those events would be permitted on a case-by-case basis outside of desert tortoise ACECs.

Letter B3

BEST IN THE DESERT
RACING ASSOCIATION
Promoters of "VEGAS TO RENO" – "The Longest Off-Road Race In The United States"

Life Is An Adventure
Come live your adventure with
BEST IN THE DESERT

NOV

November 25, 2005

Re: Public Comments on Ely BLM EIS RMP

To Whom It May Concern:

On behalf of Best In The Desert Racing Association we would like to offer our comments on the new RMP within the Ely Bureau of Land Management Field Office. Best In The Desert Racing Association represents over 4,000 individuals on the mailing list, we reach a great deal of off-road enthusiasts.

B3-1 Regarding the Ely RMP, Best In The Desert's position and choice would be Alternative A. We recognize that Alternative A would better suit the OHV community. Further more, Alternative A follows the philosophy of other Nevada BLM field offices. That philosophy is not net land loss to OHV opportunities. All other alternatives show net land loss in upwards to two-thirds of current available land for OHV use. Best In The Desert also has the opinion that with the population growth in the Las Vegas area available land for OHV opportunities in the Ely District will become more viable in the future.

I appreciate the opportunity to write an opinion on this very important decision.

Sincerely,

Casey Folks, Director
Best In The Desert

3475 Boulder Highway • Las Vegas, Nevada 89121 • (702) 457-5775 • Fax: (702) 641-2431 • www.bitd.com

Responses to Letter B3

B3-1 The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. Areas are designated as "open" for cross country vehicle use where there are no compelling resource protection needs, user conflicts, or public safety issues. No areas managed by the Ely Field Office were determined to meet those criteria. The Ely Field Office is designating a majority of the planning area as "limited" in the Proposed RMP. The "limited" designation would still provide for off-highway vehicle opportunities, including potential new off-highway vehicle trails, while managing for public safety and resource protection needs. The only areas designated as "closed" to off-highway vehicle travel correspond to currently designated wilderness and wilderness study areas. Please note that the Nevada BLM has no policy regarding "no net land loss to off-highway vehicle opportunities".

Letter B4

Carter Cattle Co.
P. O. Box 27
Lund, Nevada
89317

Bureau of Land Management
Gene Drais,
RMP Project Manager,
HC 33 Box 33500
Ely, Nevada 89301-9408

RE:1 Comments on Draft RMP/EIS Ely District

To Gene Drais,

B4-1 I do realize the need to make changes to facilitate the Great Basin initiative of improving and restoring range lands but I do have some very real concerns which I shall list below.

B4-2 1. It is almost impossible to comment on the entire plan because of the multiple alternatives. What is most disturbing is that many of the alternatives do not even allow for 'Public' use. Grazing on these lands is historic. The very idea that such a profoundly useful, sustainable and productive activity be removed from 'Public' lands would be outrageous! Thus, those alternatives are absolutely not acceptable to us.

B4-3 2. We are very much in favor of performance based grazing, or grazing that is based upon the livestock operator's past, present and future willingness to commit to the extra effort required to practice performance-based grazing. This should include the capability to mange the livestock, haul water, monitor the resources and to make necessary adjustments needed to change any negative results and to sustain the recourses. Livestock management would require flexibility in numbers, use and timing, depending on information acquired from monitoring. Such practices are imperative in achieving the desired ecological conditions.

B4-4 3. We would like very much to be able to continue to practice Holistic Management with the team approach. We have been trying to manage holistically since 1993. We have been successful in maintaining a healthy resource and to remain in the cattle business. Our allotments continue to improve, even with the strain of a six-year drought.

B4-5 4. We object strongly to the act of creating special-use-only areas which can ultimately exclude and impede management of the land and resources. These would include those areas such as wilderness areas, ACEC's, ect.

B4-6 5. Eloquent and lengthy-written documents can easily be used as a detriment to proper management of natural resources. Such monstrosities can often cater to special interests groups which have a very narrow, one sided view of the real picture. Mother

Responses to Letter B4

B4-1 Comment noted.

B4-2 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes.

B4-3 Reference to Performance Based Grazing has been removed as a Parameter or a management action in the Proposed RMP. Flexibility associated with livestock grazing is allowed in the current grazing regulations at 43 CFR Part 4100 and is specifically addressed under allotment management plans.

B4-4 Holistic management is a grazing management practice that can be authorized and could be associated with allotment management plans, as cited in the current grazing regulations at 43 CFR 4120.1. The management direction contained in the Proposed RMP does not preclude the use of Holistic management for grazing.

B4-5 The Federal Land Policy and Management Act, Section 202 (c) (3) mandates that the BLM give priority to the designation and protection of areas of critical environmental concern in the development of land use plans. The Ely Field Office is proposing to designate 17 new areas of critical environmental concern to protect and prevent irreparable damage to the significant values present in those 17 areas. The BLM does not designate Wilderness or Wilderness Study Areas as a part of the land use planning process.

B4-6 The goals that you express are the same that the Ely Field Office holds for the Proposed RMP.

Letter B4 Continued

B4-6 Nature has her own way of sustaining herself. We must simply work with her to keep nature healthy. It is done by carefully watching and managing those activities that have been present on the land since the beginning of time. We cannot simply make decisions to fit others whims or selfish desires, for we may find that we might have to spend the rest of our lives just trying to get back to what we now have and need to appreciate - a healthy, viable and sustainable, multiuse resource.

B4-7 6. Livestock operations have been on these public lands years before they were called 'Public Lands". It would only make sense that livestock operators should be allowed to have more of an influence or say in the management of the land. What we find however, with the formulation of such documents as this resource plan, is that such valuable, productive, long standing, proud, nation building institutions like that of ranching and the running of livestock, are almost eradicated for less productive and actually more resource-threatening institutions. It should be mentioned here that in this day and age, when there are such frightening threats from other nations that would bring this country to its knees, that we would allow in such documents the process of decreasing the nation's ability to produce a very vital food source.

B4-8 7. Speaking in a legal sense, grazing rights in this country have been purchased or handed down from generation to generation from those who have paid their dues and earned their right to be on these lands. We strongly oppose anything in this said document that would diminish, hinder, obstruct, weaken or eliminate those given rights, without the due process of law.

B4-9 8. We are concerned about the quality of information in this document. We refer to a chart in the document that shows that the population of White Pine County is decreasing over the next 10-15 years. However, there are other entities in the county, such as the local power company, that has like wise produced a projection which shows an increase of population in this county. There are direct conflicts here. It is frightening that something like this one-sided document can have so much control and impact on an area and its people when its information is apparently tainted or at least unqualified.

B4-10 9. We are totally, against the further purchase of Nevada lands by the Bureau of Land Management or any other government agencies. Private ownership of land is what has made this country greater than any country on earth. Private ownership of land is directly connected with the sustaining of our national freedoms.

B4-11 10. We do not prefer land sales for large American developers but we consider those most favorable sales to be those land sales for small business expansion, primarily those which are agricultural and ranched based entities.

B4-12 11. We see no problem with the designation of addition forage for livestock. This would be most helpful to our operation as we have experienced a 70% reduction in AUM's since the 1960's. Actually, we have previously received from the BLM a promise that any such increased forage would be returned to us.

Responses to Letter B4

B4-7 Management actions as presented for the Proposed RMP include and address lands available and not available for livestock grazing. Management actions recognize the current amount of existing forage available for livestock grazing. Coordination and consultation associated with the evaluation of livestock grazing use will continue with the affected permittee and interested publics as required under current regulation and BLM policy.

B4-8 The Proposed RMP recognizes livestock grazing as a privilege and as a multiple use on the public lands. Comments and input to site-specific actions or plans for grazing management will be provided for through the coordination and consultation process.

B4-9 The population projections presented in Table 4.23-1 were prepared by the State of Nevada Demographer and generally reflect continuation of long-term demographic trends, absent any major new developments. Reference to those projections was appropriate given that insufficient information was available regarding the timing, level of development, likelihood, and other characteristics about other new projects to develop an independent set of long-term population projections. More current projections are now available, and Table 4.23-1 has been modified. However, the new projections do not alter the fundamental conclusions associated with the RMP alternatives.

B4-10 Please refer to Section 2.4.12.3 in the Proposed RMP and Final EIS for a discussion of land acquisition.

B4-11 Please refer to Section 2.4.12.2 in the Proposed RMP and Final EIS for a discussion of land disposal. A certain amount of land disposal within the Ely RMP decision area has been mandated by Acts of Congress. Refer to Chapter 1 of the Proposed RMP and Final EIS for a discussion of these legislative mandates.

B4-12 Please refer to Section 2.4.16 in the Proposed RMP and Final EIS for a discussion of allocation of additional forage, which varies by alternative. Allocation will be based on a multiple use decision process.

Letter B4 Continued

B4-13 12. It is interesting to see how agencies and other groups will bend over backwards to deter a useful tool such as livestock grazing and do it in the name of protection for the public lands and roads. This desire for protection fades quickly when the fun of a motor-cross race is presented. It is very hard to maintain mountain roads to keep the dust down and to keep them travelable. We are warned time after time to be careful with these public dirt roads. We object to the use of main, highly traveled roads to be used as a race track. Such activities beat the roads terribly! It is costly and difficult to maintain such roads after a race. We do not object to the races, we do object to races upon main, vital roads which support the maintenance of livestock grazing and hunting.

B4-14 We hope that our comments will be seriously taken into consideration because such documents and decisions can affect so many in either a positive or seriously, negative way. We take a great deal of pride in the way in which we conduct our operation on the public lands. The sustainability of the resources is our main concern and we face this concern on a daily basis. We look to the federal agencies to listen to those of us who depend on public lands for our quality of life, especially those of us who care so deeply and work so hard to maintain them as lands of multiple-use for all.

Thank You,

Steven Carter
Carter Cattle Co.

cc: Gene Drais Email and hardcopy enroute

Responses to Letter B4

B4-13 Thank you for expressing your concern. Special Recreation Permits for off-highway vehicle events are issued following site-specific environmental analysis and may contain special stipulations, such as a requirement to notify other permittees or a requirement to rehabilitate damaged roads in a timely manner.

B4-14 All comments on the Draft RMP and EIS have been taken seriously. The Ely Field Office appreciates your concern with the public lands. While statements of opinion (including agreement or opposition) do not require specific responses or text revisions under the NEPA regulations, they have been considered by the Ely Field Office and Nevada State Office and documented in the administrative record associated with the Ely RMP.

Letter B5

Dear Sirs:

B5-1 I have only had 30 days from the public hearings to just barely look at the mass of papers and the CD that I received at the Mesquite, NV Public hearing. The extremely poor turn out at the hearings (about 10 people at the one in Mesquite) is a testament to the poor outreach that is attained with publication in the Federal Register. Although published in the Register July, 29, the Newsletter from the Ely Field Office notifying the public of Meeting is dated October, 2005 and your closure for comments is today Nov. 28, 2005. I know that this is your procedure, but it is our public lands and the first real outreach was the public meetings only 1 (one month) ago (Mesquite, NV on October 19, 2005).

B5-2 You state that there is a 120 day public comment period, but many people never knew that you had an RMP Draft until you announced public hearings. The BLM should extend the comment period to 120 days from the public comments so that people have adequate opportunity to have knowledgeable comment on something as important as your proported shift to an eco-system type of management with 18 new Areas of Environmental Concern that can be withdrawn from any use (de-facto Wilderness) with a stroke of the Congressional pen.

B5-3 Alternatives to managing lands with Fire and its extremely high atmospheric pollution and animal mortalities should be considered. Better biological approaches to range and forest land management should include grazing with sheep and or goats as well as cattle. This type of management increases biodiversity. The fire tool invariably decreases biodiversity.

B5-4 The BLM proposed approachs and preferred alternative should be assessed thoroughly by the public and by Congressional representatives that may be concerned with and involved in tackling economic issues presented by the present energy crisis. The constrictive management of the public lands is not only becoming dangerous to our country in an economic sense, it is also destructive to our lands in an environmental sense. The BLM's proposed alternative does not seem balanced and needs careful review from people outside of the Bureaucratic "preserve a job" loop. Considering the late public meetings, more time for comment is needed.

I am a self employed Professional Geologist, and NO, I have not had time to peruse the massive draft documentation like your team of experts have. I will make sensible, direct, and hopefully relative comments to the plan if given time to study the issue. I have over 30 years experience in the Industrial Minerals field and have input on RMP's and Plans since working on the California Desert Plan from 1976 through the 1980's.

For all of the above reasons and many more, I am copying this letter to several honorable public officials and some friends who may be concerned.

B5-5 I will continue to review the data and will input, but I respectfully request that my comments be considered due to the unreasonable time constraints put upon such an important document that covers over 11 million public land acres.

Sincerely,

Frederic C. Johnson

Responses to Letter B5

B5-1 In addition to the Federal Register notice and the Newsletter that was sent to approximately 3,000 recipients on the mailing list, press releases were sent to local media outlets and advertisements were placed in local newspapers to inform the public for all the public meetings on the Draft RMP and EIS.

B5-2 The required comment period on a Draft RMP and EIS is 90 days. BLM elected to set a 120-day comment period for the Ely Draft RMP and EIS and did not formally extend this period. Although the BLM did not elect to extend the official comment period for this document, comments received after the end of the comment period were considered as late as practicable within the overall document revision and publication process. Comments that were received after the close of the comment period have been accepted and considered in the preparation of the Proposed RMP and Final EIS. Please note that ACECs are not withdrawn from multiple use and that ACECs are not designated by Congress.

B5-3 In the development of projects, several techniques and alternatives are analyzed to determine which one will achieve the goals and objectives of the project. These include, but are not limited to, fire, mechanical treatment, and biological treatment (e.g. grazing). Please refer to Appendix H, which outlines examples of tools and techniques that could be used. When fire is determined to be the appropriate tool needed to achieve the projects objectives, a Smoke Variance permit is obtained from the Nevada Division of Environmental Protection to ensure that smoke levels are appropriate. In the long term, the use of fire as a tool is expected to increase biological diversity.

B5-4 Please refer to Section 4.36 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of adverse energy impact from the management direction contained in the Proposed RMP. Also see Section 4.23 for a discussion of the overall economic impacts associated with the alternatives analyzed in the Proposed RMP and Final EIS. The management actions presented in the Proposed RMP are balanced and benefit a wide range of users of the Ely RMP decision area.

B5-5 Your comments on the Draft RMP and EIS have been considered.

Letter B5 Continued

Fred Johnson
Industrial Mineral Developments, Inc.
President/ Geologist
Field Office: 435-635-2026
Office: 1000 Garces Street
Las Vegas, NV

Letter B6

LS Power Development, LLC
400 Chesterfield Center, Suite 110
St. Louis, MO 63017
(636) 532-2200 • Fax (636) 532-2250

November 28, 2005

VIA EMAIL (elyrmp@blm.gov) AND US MAIL

Mr. Gene Drais, Project Manager
U.S. Department of the Interior
Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301

RE: Draft Resource Management Plan and Environmental Impact Statement ("Draft RMP/EIS")

Dear Mr. Drais:

As you are aware, LS Power Development, LLC ("LS Power"), through its affiliates, is developing a number of energy projects in the Ely BLM District which include:

- A 500 kV transmission line and associated facilities commonly known as the Southwest Intertie Project ("SWIP");
- An up to 1,600 MW coal-fired electric generation facility and associated facilities commonly known as the White Pine Energy Station ("WPES"); and
- In partnership with Nevada Wind, LLC, wind generation facilities and associated facilities located in the Egan Range ("Egan Wind Project").

Upon review of the Draft RMP/EIS, LS Power is pleased to submit the following comments:

Section 2.5.12.5 Parameters – Corridors:

B6-1 **Item #1:** Item 3 under *Management Common to All Alternatives* on page 2.5-124 states that "A corridor 2,640 feet wide extending northerly from the north end of the Aeroject designated corridor following the centerline of the approved Southwest Intertie Power Project right-of-away alignment would be maintained."

Comment #1: As a point of clarification the SWIP right-of-away alignment was modified pursuant to the Lincoln County Conservation, Recreation, and Development Act ("LCCRDA") such that SWIP alignment from the north end of the Aerojet property has been relocated to the new designated corridor on the west side

Responses to Letter B6

B6-1 The modified SWIP corridor to which this comment refers was shown on the maps in the Draft RMP and EIS and is also shown on the maps in the Proposed RMP and Final EIS.

Letter B6 Continued

B6-1 of Highway 93 and west of private property for a distance of approximately seven miles and then transitions back to the original SWIP alignment. Given the scale of the maps and the text in Draft RMP/EIS it is unclear if this change to the alignment is reflected in the Draft RMP/EIS.

B6-2 **Item #2:** Under Alternative B, on page 2.5-125, it is stated that "All linear rights-of way for electrical transmission lines greater than 69 kilovolts, all mainline fiber optics facilities, and all pipelines greater than 10 inches in diameter would (emphasis added) be located within designated corridors."

Comment #2: While it is understood the Alternative B is not the agency preferred alternative, if selected we believe that the language should include "....would *be encouraged* to be located within the designated corridors." The basis for this comment is that in many circumstances the origination and termination of such infrastructure facilities will be outside the designated corridors and requiring these facilities to be located entirely within the designated corridors would be too restrictive and impractical. As a real example, the WPES will have transmission line(s) greater than 69 kV that will be approximately 2.5 miles in length outside the designated corridor if the proponent's preferred site is selected or 6 miles in length if the alternative site is selected. While the lines from the WPES will utilize the designated corridors to the greatest extent practical the site location for the WPES is not directly adjacent to designated corridor due to other infrastructure requirements and environmental considerations. Similar issues could arise for other energy and infrastructure projects in the Ely District.

B6-3 **Item #3:** Alternative D on page 2.5-125 states "No additional corridors would be designated. All rights-of-way would be located within designated corridors."

Comment #3: LS Power does not support Alternative D approach to rights-of-way management. This is far too restrictive as it appears to prohibit any type or size of right-of-way to be located outside a designated corridor. This could effectively prohibit or unreasonably limit economic growth in the Ely District. Also see comments made in Comment #2.

B6-4 **Item #4:** Pipelines greater than 10" in diameter are encouraged to be in designated corridors.

Comment #4: LS Power proposes that (i) the size of pipeline be increased to be greater than 20" in diameter, (ii) intra-basin underground water pipelines be excluded from the designated corridor limitation or (iii) the RMP acknowledges that the water system for the WPES will not be within the designated corridors. The purpose of a clarification or exemption is to acknowledge that it is not practical for the water system for the WPES to be located in one of the designated corridors given that the points of diversions are spread over a large distance in Steptoe

Responses to Letter B6

B6-2 Thank you for expressing your concerns. Alternative B is included so that a range of alternatives could be analyzed. Your expressed concern is specifically addressed in the Proposed RMP in Section 2.4.12.5, where use of designated corridors is not a requirement.

B6-3 Thank you for expressing your concerns. Alternative D is included so that a range of alternatives could be analyzed. The Ely Field Office has not selected Alternative D for incorporation into the Proposed RMP.

B6-4 Pipelines greater than 10 inches in diameter are not required to be located within the designated corridors. Section 2.7.12.5 in the Proposed RMP and Final EIS states that water pipelines are encouraged to be within designated corridors. Alignments outside of the corridors could be authorized through the right-of-way process.

Letter B6 Continued

B6-4 Valley. Any attempt to locate all WPES water pipelines over 10" in diameter in a designated corridor would result in increased environmental impacts and an unreasonable increase in costs. Alternatively, the RMP should designate corridors for such facilities.

B6-5 **Item #5:** Add designated corridors to the selected alternative to account for transmission lines from the WPES to the SWIP Corridor. Refer to Section 2.5.12.5 and Maps 2.4-22 and 2.4-23.

Comment #5: As stated in Comment #2, transmission line(s) greater than 69 kilovolts will need to be constructed from the WPES site location to the designated SWIP corridor. Depending on the alternative selected, the length of these lines from the SWIP corridor would be approximately 2.5 miles or 6 miles. LS Power requests that these potential line segments be expressly accommodated in the RMP/EIS, either by corridor designation or other means.

B6-6 **Item #6:** Location of SWIP corridor on Map 2.4-22 and Map 2.4-23.

Comment #6: LS Power is actively developing the SWIP transmission line. As such we have performed reviews of the SWIP right-of-way grant and other documentation and have prepared a centerline of the SWIP corridor based on the review of this information and the changes enacted through LCCRDA. It appears that the maps included in the Draft RMP/EIS are using GIS information from the early 1990's for the SWIP corridor which do not match precisely with the information we have gathered. While the discrepancies for the most part are minor, we would be happy to provide GIS data for the corridor based on our review of the available information. In addition, we suggest that the RMP/EIS recognize in advance the possibility of minor deviations from the corridor maps due to updated GIS information, field adjustments etc., that may occur during permitting and construction of the SWIP transmission line, to avoid the potential need to amend the RMP to reflect such minor changes should they occur.

Section 2.5.11 Visual Resources:

B6-7 **Item #7:** Alternatives B, C, D, and E designate the land area on top of the Egan Range to be managed as a Class II Objective (see Maps 2.4-5, 2.4-6 and 2.4-7). Portions of this area are also designated as Potential Wind Development Areas (see Maps 2.4-24 and 2.4-25).

Comment #7a: LS Power requests that BLM evaluate whether a Class II Objective can be met while maintaining the potential for wind development in this area. If not LS Power requests that an appropriate Visual Resources class be assigned to maintain compatibility with the potential wind development.

Responses to Letter B6

B6-5 Rights-of-way for electrical transmission lines greater than 69 kilovolts are encouraged to be located within designated corridors. WPES lines would be authorized through the right-of-way process. They would not be required to be within designated corridors.

B6-6 In response to your comments, Map 2.4.12-5 in the Proposed RMP and Final EIS have been revised to more accurately present the SWIP corridor. Alignments outside of the designated corridor could be authorized through the right-of-way process.

B6-7 The section of the Egan Range that your letter refers to was designated as Visual Resource Management Class II, because it lies within the view shed of the Pony Express National Historic Trail. And while the Proposed RMP identifies areas with high wind energy resources, it does not designate potential wind development areas. The Visual Resource Management Class II objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. It may be difficult for a wind energy project to meet these objectives, and a higher level of mitigation may be required by the Ely Field Manager. However, these decisions would be project-specific and are not made at the land use planning level.

Letter B6 Continued

B6-8 **Comment #7b:** In support of Comment #7a, LS Power believes that a number of locations in the Egan Range have a high potential for wind development based on wind speeds, terrain, access and ability to minimize impacts to environmental resources in this area. Further, the Egan Range location is in close proximity to the SWIP designated corridor and the WPES preferred site which should help to minimize infrastructure impacts by utilizing common infrastructure facilities (to the extent practicable) and utilizing designated corridors to the maximum extent possible.

B6-9 **Comment #7c:** Maintaining the ability and promoting wind development is consistent with the President's Executive Order 13212, "Actions to Expedite Energy-Related Projects" issued May 2001, establishing policy that federal agencies should take appropriate actions to expedite projects to increase the production, transmission, or conservation of energy.

B6-10 **Item #8:** Alternatives B, C, and E appear to designate the land area for the preferred and alternative WPES site as primarily Class III with the northern portion of the preferred site potentially being Class II (see Maps 2.4-5, and 2.4-6). Alternative D designates entire area as Class II (see Map 2.4-7).

Comment #8a: LS Power does not support Alternative D for Visual Resources.

B6-11 **Comment #8b:** LS Power requests that BLM confirm that the classifications selected would be compatible with the proposed WPES, including analyzing if the Class II area overlaps with any portion of the preferred power plant site and make appropriate changes to these classifications, if necessary. LS Power intends to minimize visual impacts to the extent practical, however, the WPES will include structures of notable heights.

B6-12 **Comment #8c:** In support of Comment #8b, LS Power believes the sites being evaluated for the WPES are the best locations for the facility and will result in the least environmental impact on a cumulative basis when evaluating all resources. Further, the completion of energy projects on federal lands, such as the WPES, is consistent with the President's Executive Order 13212.

Section 2.5.15.1 Special Recreation Management Areas:

B6-13 **Item #9:** Table 2.5-11 on page 2.5-137 identifies a Special Recreation Management Area ("SRMA") as "Telegraph". This area is shown on Maps 2.4-33 & 2.4-35 as "Telegraph Peak". This area's primary values for recreation are stated to include non-motorized recreation, equestrian, hiking and mountain biking. Portions of the Telegraph SRMA are also identified for potential wind development areas.

Responses to Letter B6

B6-8 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. All applications will be subject to NEPA analysis and the Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS (Appendix F, Section 3 of the Ely Proposed RMP and Final EIS).

B6-9 Thank you for your comment. The Proposed RMP is consistent with the Executive Order, and the Ely Field Office recognized the value of developing wind energy.

B6-10 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes.

B6-11 The LS Power preferred power plant site lies within a proposed Visual Resource Management Class III area. The Class III objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Actions may attract the attention but should not dominate the view of the casual observer. It may be difficult for a power plant to meet these objectives, and a higher level of mitigation may be required by the Authorized Officer. However, these decisions would be project-specific and are not made at the land use planning level.

B6-12 Thank you for your comment.

B6-13 In response to this and similar comments, the text in Section 2.4.15.1 of the Proposed RMP and Final EIS has been revised regarding special recreation management areas. The Telegraph special recreation management area proposal is not being carried forward in the Proposed RMP.

Letter B6 Continued

B6-13 **Comment #9:** The Final Programmatic EIS on Wind Energy Development (June 2005) acknowledges that recreation and wind energy development can co-exist, with both positive and negative impacts to recreation. BLM should note that, as stated in the various portions of Comment #7 above, there is a high potential for wind energy development in the Egan Range. LS Power believes that the impacts to recreation will be minor due to the small land area required by wind development as compared to the large area proposed to be designated as the Telegraph SRMA, and due to the fact that impacts from the wind development can also be positive (e.g. improved access to the Telegraph Area). LS Power requests that if the Telegraph area is designated as an SRMA, the RMP/EIS expressly acknowledges that that designation is not inconsistent with and does not preclude wind energy development.

Section 4.28 Cumulative Impacts:

B6-14 **Item #10:** Page 4.28-1 discusses assumptions for the White Pine Energy Station.

Comment #10: The assumptions for the new surface disturbance associated with the White Pine Energy Station, while on the right order of magnitude, appear to be understated. To connect all of the 22 wells anticipated for the WPES water system, it would require approximately 55 miles of right-of-way having a permanent width of 30 feet and a temporary construction disturbance of an additional 30 foot versus the stated assumption of 12 miles at 75 feet in width. The requested right-of-way for the transmission line is approximately 34 miles long and 200 feet in width versus the stated assumption of 20 miles at 160 feet in width. There is the potential for additional disturbance due to the need for permanent access roads, electric distribution lines to wells, construction staging areas and construction access, which should also be recognized.

B6-15 **Item #11:** Table 4.28-1, pages 4.28-5 and 4.28-6, states assumptions for the White Pine Energy Station.

Comment #11: See comment #10. The maximum water usage is limited by White Pine County permits of 25,000 acre-feet/year versus the stated assumption of 26,000 acre-feet/year.

Thank you for the opportunity to provide these comments. Combined, the LS Power projects proposed in Nevada represent a capital investment of approximately $3.0 billion dollars, would result in the creation of hundreds of construction jobs over five years and would create approximately 150 full-time, permanent jobs. In addition, these projects will become vital resources to the electric grid in Nevada and the Western US.

Please do not hesitate to contact me with any questions or data needs.

Responses to Letter B6

B6-14 In response to your comment, the text in Section 4.28.1.1 of the Proposed RMP and Final EIS has been revised to clarify the amount of surface disturbance associated with the White Pine Energy Station. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

B6-15 In response to your comment, data for water usage for the White Pine Energy Station on Table 4.28-1 in the Proposed RMP and Final EIS has been updated. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

Letter B6 Continued

Sincerely,

Eric W. Crawford
Director, Project Development

cc: White Pine County Commission

Letter B7

MEMBER

OFF-ROAD BUSINESS ASSOCIATION, Inc.

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November 28, 2005

RE: Draft Resource Management Plan

To Whom it May Concern

I am writing today on the behalf of the Off-Road Business Association (ORBA) in regards to the Draft Resource Management Plan for the Ely Field office. ORBA is a national, non-profit trade association representing all aspects of the Off-Highway Vehicle industry, including vehicle manufacturers, aftermarket manufacturers and distributors and local retail dealers. Our interests are to preserve and enhance motorized recreation opportunities and access while simultaneously protecting our valuable natural and cultural resources.

B7-1 After reviewing the Draft RMP, we feel that overall you have done an excellent job, and we are generally supportive of the Preferred Alternative E. We do have some specific concerns though related specifically to how vehicle travel is restricted in Limited areas. We strongly recommend that rather than restricting travel to DESIGNATED routes, travel should generally be restricted to EXISTING routes. It has been our experience that when agencies mandate vehicle use on designated routes, they are setting themselves up for a huge allocation of resources to do the through analysis required to designate a route. We have watched many offices spend a decade or more and still not be able to complete the process. This exposes the agency to litigation and almost always the agency loses these lawsuits. We have watched other offices short cut the process to get the job done quickly, at the expense of the recreating public, as this usually results in significant, if not massive, loss of opportunities.

B7-2 The alternative of restricting travel to existing roads, trails and washes is much more achievable and would not result in a massive loss of currently open routes. Of course, the BLM always has the ability to close any routes that have documented significant adverse impacts attributable to vehicle travel and where there are no feasible mitigation measures. We strongly feel that the very limited resources available to the BLM in Nevada are better spent in addressing problem areas rather than spending vast amounts of money to analyze all routes. Areas with specific resource concerns are already identified, and currently mandated monitoring processes should have already identified any routes with specific concerns.

B7-3 While it is our understanding that the Ely Field Office has inventoried many of the existing routes, it is also our understanding that this inventory was done with either 4 wheel ATV's or full size vehicles. There are also many, many single track routes in the Ely District that are not passable on an ATV. These single track routes are highly desirable to the motorcycle and mountain bike communities, and we feel they must be

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Responses to Letter B7

B7-1 The Ely Field Office recognizes the massive undertaking necessary to designate routes in such a large planning area. Please refer to Section 2.4.14.1 in the Proposed RMP and Final EIS for clarification of comprehensive travel management planning.

B7-2 Please refer to Response to Comment B7-1.

B7-3 In addition to four-wheel all-terrain vehicles and four-wheel-drive trucks, the Ely Field Office has also utilized motorcycles in accomplishing the inventory of existing routes and ways. During site-specific transportation planning, the Ely Field Office will hold public scoping meetings to address completeness of the route inventory and public issues, concerns, and access needs, such as single-track route management.

Letter B7 Continued

B7-3 analyzed and designated unless there are compelling reasons to support not designating them. Any resource concerns that can be mitigated should be mitigated whenever feasible. We understand that there are many single track routes especially in areas that have historic motorcycle race routes. These areas include, but are not limited to, the area south of Mail Summit, the area west of Caliente towards Chief Mountain, the area around Alamo, the area between Panaca and Caliente, the area between Robinson Summit and Squaw Peak, and the area in the vicinity of Jakes Wash.

The management strategy of restricting vehicle use to existing roads and trails is not new or untested. As a good example, a few years ago the BLM and US Forest Service prepared a join Environmental Impact Statement for the states of Montana, North Dakota and South Dakota (Tri State EIS) that restricted travel to existing roads and trails. The public information materials for the implementation of this EIS included photo and descriptive narratives of what an existing route looked like and how the vehicle type should not be any larger than the existing route, such as restricting full size vehicle to two track roads, ATV's to ATV width and wider routes, and motorcycles to single track width and wider routes. Some have raised the concern that allowing use on existing routes allows new routes to be created. Our response to that concern is that besides already existing inventories, aerial photo data is available to document what exists today and determine if a route is newly created.

B7-4 We also strongly urge the BLM to use the Tri State EIS model for restricting vehicle use to routes no wider than the vehicle. As an example, ATV's should not be allowed to convert single track trails into ATV's and full size vehicle should not be allowed to convert ATV trails into full-size vehicle routes.

B7-5 We do have a concern about cross country vehicle travel for hunting purposes. It has been our experience that the explosion of the use of ATV's for hunting has created the biggest problem regarding creation of new routes, at least outside of urban interface areas where route proliferation can be a localized issue. If vehicle use is restricted to existing or designated routes, we feel that this should also include any hunting uses, including game retrieval. One new track often encourages more tracks and can result in the creation of a new route.

B7-6 We do feel that restricting use to Designated routes may be appropriate in heavily used areas and urban interface areas. Limiting use of the Designated route strategy to specific local areas is much more manageable and feasible than using the strategy district-wide.

B7-7 Regarding Special Recreation Permits, and specifically permits for competitive events, we feel that these types of events should be somewhat restricted in where they are allowed. These competitive events do have a higher impact on routes than causal use and even non-competitive events. However, these competitive events should not be restricted to just small areas either, and they should have areas available to them that would allow rotation/rest cycles to allow the routes to heal themselves with time.

Responses to Letter B7

B7-4 In response to your comment, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to ensure that route designations may incorporate vehicle width limitations to prevent expansion of single-track and ATV-width trails.

B7-5 The Proposed RMP and Final EIS (Section 2.4.14.1) retains a management action to allow cross country travel for retrieval of downed big game. The Ely Field Office considers the use of motorized vehicles off of designated roads and trails specifically for retrieving downed game (as opposed to general hunting access or activities) to be an allowable one-time use that would only occur during hunting season.

B7-6 Please refer to Response to Comment B7-1.

B7-7 The Proposed RMP includes four geographic areas where motorcycle special recreation permit events have historically been held. These areas would allow for continuing opportunities for motorized special recreation permit events and race course rest and rotation to occur.

Letter B7 Continued

B7-8 In closing, our remarks are intended to be in the direction of making the RMP feasible and implementable. We are VERY concerned that the Designated route strategy used on a broad scale would set the Ely Field Office up to fail as well as possibly causing the loss of significant amounts of currently used routes of travel. We want the RMP to succeed in meeting your legal mandates as well as preserve our existing opportunities. Demand for motorized recreation opportunities on public land is growing everyday, while those opportunities are being diminished on much of our public lands across the west, particularly the closer you get to population centers. Much of the lost opportunities has been the result of litigation, and often that litigation was successful because the agency plan made commitments that could not be delivered with available resources.

Thank You for the opportunity to comment. Please include ORBA on your mailing list for the Final RMP EIS and Record of Decision, as well as any other planning processes dealing with access and motorized recreation.

Respectfully,

Bill Dart,
Director of Land Use
Off_Road Business Association
Western States Office
7703 West Buckskin Road
Pocatello, Idaho 83201

Responses to Letter B7

B7-8 Please refer to Response to Comment B7-1.

Letter B8

B8a

ENGINEERING • SURVEYING • RESOURCES & ENVIRONMENTAL SERVICES

RESOURCE CONCEPTS, INC.

November 22, 2005

NOV 2005 RECEIVED

Mr. Gene Drais, Project Manager
BUREAU OF LAND MANAGEMENT
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301

Dear Mr. Drais:

Resource Concepts, Inc. (RCI) is submitting the enclosed comments regarding the DRAFT Resource Management Plan/Environmental Impact Statement for the Ely District on behalf of the N-4 State Grazing Board. It is our hope that the Ely BLM EIS preparation team will consider these comments when revising the RMP/EIS for final publication.

The N-4 State Grazing Board has interest in the RMP/EIS and the subsequent results of the Record of Decision on public land livestock grazing programs and procedures for the Ely BLM District. The following is a list of comments regarding the DRAFT RMP/EIS for the Ely District. Page numbers are included with each comment for ease of reference to specific points in the document. In general, Resource Concepts Inc. supports the preferred alternative and we commend the BLM Ely Field Office for planning and proceeding with a document that allows for the long-term stability of vegetation communities throughout the Ely District. B8-1

Comments:

B8-2 (1) Pg. 2.2-2 Alternative D excludes the permitted discretionary uses that are central to the multiple use and sustained yield principles referred to on page 1.5-3 that the RMP/EIS will adhere to. Therefore, Alternative D should not have been included in the analysis as an alternative. None of the livestock grazing actions specific to Alternative D should be incorporated in the final decision. Additionally as stated in the Carico Lake Allotment Rangeland Health Assessment EA NV-062-EA05-61 "...FLPMA and the Taylor Grazing Act recognize grazing as a valid use of the public lands and require BLM to manage livestock grazing in the context of multiple use."

B8-3 (2) Pg 2.5-3 The goal for managing water resources on BLM-administered lands in the Ely District does not state the level or standard which the BLM will use to determine if the chemical, physical, and biological integrity of waters within the district are being maintained. The Nevada Department of Environmental Protection (NDEP) is the regulatory authority for Nevada water quality, and only the State Environmental Commission has authority to establish water quality standards.

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Responses to Letter B8

B8-1 Thank you for your comment.

B8-2 Thank you for expressing your concerns. As stated in Section 2.8.1 of the Proposed RMP and Final EIS, "Some components of Alternative D could be implemented through the discretionary authority of the Ely Field Manager or the Nevada State Director, while others would require action by the Secretary of the Interior or new legislation by Congress. Thus, the alternative has been included to be responsive to scoping comments and to allow the analysis of a range of management actions in the EIS." Further, Question 2b of the Council on Environmental Quality's "Forty Questions" states that "An alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable"

B8-3 Please refer to Section 2.4.3 in the Proposed RMP and Final EIS for a list of water resources management actions that specifically address water quality considerations. The Memorandum of Understanding between Nevada Department of Environmental Protection and BLM is mentioned in Management Action WR-1. Further mention of this MOU is made in the water resources sections of Chapters 3 and 4, clarifying the relationship between BLM water quality considerations and state and federal regulatory authorities. BLM monitoring activities for water resources are described in Section 2.4.23.

Letter B8 Continued

B8-3 NDEP also determines the association between water quality and quantity affecting the regulatory status of each stream. Water quality standards enacted through the Nevada Administrative Code (NAC) should be the basis for determining maintenance of chemical and physical integrity associated with water quality.

B8-4 (3) Pg 2.5-9 The first paragraph of the parameter description for pinyon-juniper woodlands indicates that the Ely District would use the Natural Resources Conservation Service (NRCS) key to classify pinyon-juniper sites from rangeland ecological sites. Then in the second paragraph, an acreage is provided for pinyon-juniper woodlands in the District. It is assumed that inventories and classification have not yet occurred within the District according to the NRCS 2003 publication referred to in this section. Section 3 of the RMP states that the acreages for each vegetation type are projected using three watersheds. Due to the scaling up of the information to the entire district, there should be a statement added reflecting that a portion of the total acreage is likely to be classified as rangeland instead of woodland throughout the watershed assessment process. Greater emphasis needs to be placed on defining pinyon–juniper woodlands in this section, as it will help the reader understand the percentages explained in Table 2.5-1. It should be made clear that rangeland ecological sites with minor components of pinyon or in most cases juniper (often 5 to 10% cover of juniper allowed) ***are not*** pinyon-juniper woodlands. In some cases areas with very high cover (>25%) of pinyon-juniper are classified as rangeland within the Ely District.

B8-5 As a side note, the 2003 NRCS publication referred to in this section of the document is listed in the references as the MLRA 28B Nevada Ecological Site Descriptions. See the USDA-NRCS 1997a reference below for an actual key to dividing pinyon-juniper woodlands from rangeland ecological sites.

B8-6 (4) Pg 2.5-19 Alternatives B and C briefly cover protection of aspen regeneration from grazing. Alternative C mentions protecting aspen by limiting grazing to periods outside the grazing season. Alternative B only mentions protection methods with no examples given. For both alternatives, protection from grazing should by limited to areas where site potential allows for regeneration to occur, and should be considered on a site-by-site basis. Fencing, water development, or other allotment improvements may be necessary for protection from grazing. AUM reductions and allotment closures should not be utilized as protection measures unless other measures have been tried unsuccessfully, and it is clearly a problem with overstocking. Also, limiting grazing to periods outside the growing season (Alternative C) may completely eliminate grazing in more alpine areas where the growing season begins once the snow melts, and ends when the snow flies again. During winters with heavy snow packs, grazing would be completely eliminated. This elimination of grazing may not be necessary for protecting or managing for aspen regeneration. Site by site (not District wide) analysis of grazing prescriptions and any protection measures should occur and be written into the individual allotment management plans. In addition, the overall economic impacts to the local economy and ranching viability must be considered.

Responses to Letter B8

B8-4 The vegetation sections in Chapter 2 are separate and distinct in reference to each vegetation type. The pinyon /juniper type refers to true woodlands as described by NRCS Order III soil surveys and associated Ecological Site Descriptions, 2003 Edition, and can be identified on a watershed or site-specific basis. In referring to the NRCS Order III inventories in each vegetation section, reference was made to the latest Ecological Site Descriptions. To further update the vegetation section, LANDFIRE biophysical setting models were referenced to the desired range of conditions. Refer to revised Chapter 2 vegetation sections. The text in the Proposed RMP and Final EIS has been revised to emphasize that the acreages presented in the various vegetation tables are based on extrapolation from a few watersheds rather than on inventory data from the entire planning area. During the watershed analysis process, rangeland sites occupied by pinyons and/or junipers will be distinguished from pinyon/juniper woodland sites.

B8-5 The reference citation to NRCS 2003 is correct for the determinations made by the Ely Field Office with regard to identification of woodland sites. The key for dividing woodland from rangeland ecological sites was updated in 2003.

B8-6 In response to your comment, the text in Section 2.4.5.3 of the Proposed RMP and Final EIS has been revised to clarify that the protection methods for encouraging aspen regeneration would be applied on a site-specific basis. Please note that given the extremely limited distribution of aspen in the decision area (about 7,000 acres total), any changes in grazing management to encourage aspen regeneration would have a very limited effect on livestock grazing operations and economics.

Letter B8 Continued

B8-7 (5) Pg 2.5-28 Alternative B describes using changing season of use or type of livestock as passive management actions for treating the salt desert shrub vegetation type. It should be noted that in some circumstances (certain phases or states) changes in livestock grazing will not and are not appropriate management choices for causing a transition from the shrub state to the herbaceous state (i.e. elimination of cattle grazing will not cause a transition to the herbaceous state when there is no seed source, or insignificant seed source present from perennial grass species).

B8-8 (6) Pg 2.5-31 Similar comment to (3). There are no footnotes describing how acreage estimates were obtained for any of the vegetation types, nor the states present for each one. Add footnotes referring to section 3 assumptions or explain how the data was derived and source as it is presented.

B8-9 (7) Pg 2.5-33 Under the description of the Shrub State in Table 2.5-6, the verbiage describes the "herbaceous perennial understory [as] lost or has become weak....". Consider changing verbiage about a weak understory to rather reflect a reduction in perennial understory vigor and decreased capacity to produce seed.

B8-10 (8) Pg 2.5-35 In the second paragraph of the description under Alternative B the document states that 45% of the sagebrush acreage in the District would be "maintained to achieve the desired range of conditions identified for Alternative B." This maintenance would occur on the untreated areas (areas not mechanically treated or prescribed burned), however no description of how maintenance would occur is included in this section. Does maintenance consist of following status quo management or will maintenance consist of other management techniques to reduce the likelihood of a site currently in the herbaceous state (17% of the sagebrush type) from crossing a threshold into the shrub state? This comment pertains to all of the vegetation communities described in Section 2.5.

B8-11 (9) Pg 2.5-38 In the sections of each vegetation community one of the factors listed as an indicator that a community is no longer resistant and resilient to disturbance is the presence of noxious weeds or "highly competitive unknown invasive weed." If the weed is unknown, how is it known that it is invasive, or how to adequately treat the invasion? It is suggested that the word unknown be stricken.

B8-12 (10) Pg. 2.5-45 In the preferred alternative, management actions are to be focused on uses and activities that allow for protection, maintenance, and restoration of riparian habitat. Does protection of riparian habitat affect current livestock grazing management plans? Discuss appropriate management actions in greater detail in this section. Alternative A discusses constructing, maintaining, or improving exclosures. Would this also occur in Alternative B? If so, additional offsite waters sources may need to be developed for livestock grazing. In fact, providing additional offsite water sources can increase grazing distribution and reduce grazing use in riparian areas (Clawson 1993, Howery et al. 1996, and Sheffield et al. 1997). Proper livestock grazing use can be an effective

Responses to Letter B8

B8-7 In response to your comment, the text in Section 2.4.5.4 in the Proposed RMP and Final EIS has been revised to emphasize that changes in livestock management would be used where sufficient native understory species exist to provide an effective seed source.

B8-8 Please refer to Section 4.1.4.1 in the Proposed RMP and Final EIS for an explanation of how the acreage estimates for vegetation types and treatment areas were derived.

B8-9 In response to your comment, the text in Table 2.5-6 of the Proposed RMP and Final EIS has been revised.

B8-10 In response to your comment, the text in Section 2.4.5.1 has been revised to discuss the application of tools described in Appendix H for achieving the maintenance of the desired range of conditions. Integrated treatment actions are further described for each parameter.

B8-11 In response to your comment, the text in Sections 2.4.5, 2.4.21 and 2.4.23 of the Proposed RMP and Final EIS has been revised to clarify the discussion of invasive species.

B8-12 As you have indicated in your comment, a wide variety of management options exist for promoting vegetation health, structure, and diversity in the riparian communities. Selection of such approaches is appropriate on a site-specific basis as watershed analyses are conducted and treatment plans are implemented. The management actions in Section 2.4.5.9 of the Proposed RMP and Final EIS (for the Proposed RMP and by extension to Alternative B) have been worded to provide the necessary latitude for selecting treatment methods appropriate to the individual riparian situation.

Letter B8 Continued

B8-12 management strategy in riparian areas. It is suggested that livestock grazing not be excluded from riparian areas including those areas not yet meeting proper functioning condition. Rather, altering the grazing system, changing season of use, and changing duration in the pasture should be considered as management alternatives for riparian area grazing. The description of Alternatives B and E are too general and do not adequately address the actions, management, and treatments. If the point of this alternative is to be extremely general so that each riparian system can be treated on a site-by-site basis, then this type of management style should be described. Adaptive management of resource uses should also be incorporated into the decision making process with regard to actions and treatments.

B8-13 (11) Pg. 2.5-49 There is concern that very often Resource Management Plan actions are not adequately monitored nor are the monitoring results adequately reported to the public. It is recommended that an in-depth monitoring plan be developed for these purposes, including the use of an open science team review approach. Quantitative baseline information should be collected before treatment and should include photo monitoring of landscapes and individual plots. Installation and utilization of small exclosures (generally between 0.5 and 5 acres) are recommended as monitoring tools and aids for determining not only changes from upland restoration treatments (with and without grazing), but also for determining stream potential in riparian areas to support desired plant communities and channel bank conditions.

B8-14 (12) Section 2.5.5 This section provides a great deal of detail about each vegetation community and the number of acres estimated for treatment in the next 20 to 50 years. In fact, under the preferred alternative 6,230,270 acres are proposed for treatment. Over the last 13 years the Ely District has treated 164,966 acres. At current rates of treatment (approx 12,689 acres/year) and funding, it would take approximately 490 years to complete the proposed projects. The District would have to increase the rate of treatment to 124,605 acres/year to implement treatments in the next 50 years. It is very likely in some years funding and staff time will limit the District from treating the minimum acreage each year. The DEIS is missing criteria for prioritizing which vegetation types and which of the 61 watersheds will be treated first. A description of how treatments will be prioritized over the short and long terms should be included.

B8-15 (13) Pg. 2.5-52 There is a statement in Alternative E about using Rangeland Health Standards Assessments to determine if livestock grazing is a causal factor for nonattainment of objectives. Completion of the Rangeland Health Standard Assessments worksheets does not in itself allow for determination of livestock grazing as a causal factor for nonattainment of objectives. Also, stratified random sampling of major vegetation types (Ely BLM watershed analysis procedure) does not provide an adequate measure of the most typical areas where grazing use is managed and consistently similar across the landscape. Key areas are areas of one ecological site with similar topography and landscape features that represent a larger area in an allotment from which impacts of

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B8-13 In response to your comment and similar comments, the discussion of adaptive management and monitoring incorporating these aspects has been revised and expanded in the Proposed RMP and Final EIS (see Section 1.7.1 and 2.4.23). A detailed monitoring plan will be developed subsequent to issuance of the Record of Decision. The details you suggest would be more appropriate within that document.

B8-14 The Ely RMP makes the assumption that funding would be available for implementation of the plan. Funding could come through the BLM's budget or from other partners. Criteria for emphasizing treatment is provided in Section 2.4.5.1 Parameter - General Vegetation Management. "Treatments would be emphasized in areas that have the best potential to respond and return to the desired range of conditions". Priorities within individual vegetative types are identified in sections 2.4.5.2 through 2.4.5.10. Criteria for prioritizing watershed analyses are identified in Section 2.4.19, Watershed Management.

B8-15 The information sources presented in this comment are indeed the appropriate kinds and sources of information for assessing livestock grazing relative to the achievement of the standards for rangeland health. These would be reviewed and assessed during the evaluation process.

Letter B8 Continued

B8-15 grazing should be monitored. For additional info on key areas refer to the NRCS Pasture and Range Handbook. Key area monitoring, paired with watershed assessments, quantitative data from monitoring and inventories, qualitative information, professional knowledge, and information provided by State agencies, public land users and others (BLM Manual H4180-1) are the appropriate monitoring locations for assessing the impacts of livestock grazing on attainment of Rangeland Health Standards.

B8-16 (14) Pg. 2.5-58 Alternative B indicates that through watershed analysis livestock grazing will be assessed to determine if the action is a causal factor for nonattainment of standards. What standards have been developed and approved in the Ely District for meeting migratory bird habitat needs? If they haven't been developed, who will develop them? The Alternative mentions the BLM Nevada Migratory Bird Best Management Practices. Will these be the standards?

B8-17 Secondly, why is livestock grazing listed as the only parameter that will be assessed as a potential causal factor? There are several other activities that may be causal factors in not meeting habitat needs, including ORV disturbances, right-of-way and road construction, weed invasions, human-caused fires, wildfires, and other activities that may fragment habitat. Cumulative affects of all habitat impacts should be assessed for all potential causative factors.

B8-18 (15) Pg. 2.5-62 Alternative E states that "big game species habitats would be managed to meet the public demand for increased game species distribution, density, and increased recreational opportunity, beyond what natural habitats and water sources would support." The way the statement is written it seems impossible to sustainably support game species numbers at this increased level. It should be stated that under the preferred alternative, big game species habitats will be altered according to the vegetation management section. Alteration of the habitats will potentially allow for sustainable increases in big game species distribution and density.

B8-19 (16) Pg. 2.5-62 Similar to comment #13. What standards are approved for crucial mule deer, pronghorn, and bighorn sheep habitats? If none are yet approved, who is responsible for determining crucial habitat standards? Why is livestock grazing the only resource use listed as a potential causal factor for nonattainment of standards? Please list all other potential causal factors for not meeting standards, and how they will be evaluated.

B8-20 (17) Pg. 2.5-63 Alternative E refers the reader to Alternative B for a description of how wildfire emergency stabilization projects would indirectly restore high and low elevation bighorn sheep habitat, however no description exists in Alternative B. Please describe further.

B8-21 (18) Pg. 2.5-64 When monitoring fish and game and conducting watershed assessments, conflicts between livestock, wild horses, and wildlife are to be resolved during the watershed assessments and grazing permit renewals. Revisions to AMLs may

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B8-16 In response to your comment, the text in Section 2.6.6.4 of the Proposed RMP and Final EIS has been revised to note management actions are the same for Alternative B as the Proposed Plan (see 2.4.6.4).

B8-17 The BLM is required by regulation (Title 43 § 4180) to conduct local-level assessments for ascertaining rangeland health standards. These assessments determine if areas are meeting the Resource Advisory Council standards, and determine specifically whether livestock grazing is a significant factor in failing to achieve the standards. BLM has worked with the Resource Advisory Councils to expand these rangeland health standards so that there are public land health standards relevant to all ecosystems, not just rangelands, and that they apply to all actions, not just livestock grazing. In response to your comment, the Proposed RMP and Final EIS has been modified to more clearly present the 4180 rangeland health standards assessments as they relate to wildlife.

B8-18 In response to your comment, the text in Section 2.5.6.6 of the Proposed RMP and Final EIS has been revised to clarify the discussion of big game habitat management for increased game species distribution and densities.

B8-19 In response to your comment, the text in Section 2.4.6 of the Proposed RMP and Final EIS has been revised to clarify grazing standards for big game species.

B8-20 Emergency stabilization and rehabilitation would establish vegetation to meet ecological site guides. Refer to text in Section 3.6.2 of the Proposed RMP and Final EIS.

B8-21 In response to your comment, the wording in this portion of Section 2.4.23 (wildlife) of the Proposed RMP and Final EIS has been revised to clarify that conflict resolution would involve potential adjustments to wildlife habitat management and AML as well as livestock permits.

Letter B8 Continued

B8-21 also be necessary. Also, these conflicts should be resolved using a consensus type approach working closely with the permittee, wildlife groups, and other stakeholders.

B8-22 (19) Pg. 2.5-66 #12 – Caution should be exercised in implementation of the guidelines in Connelly et al. 2000, especially the grass and forb heights included in Appendix M Tables M-1 and M-4. The scientific literature summarized in (Connelly et al. 2000) indicates that sagebrush canopy cover and composition, as well as the cover and diversity of perennial herbaceous species in the understory are significantly important to sage grouse nesting success (NDOW 2002). Furthermore, in a recent review of the 13 studies that were cited in the Western Association of Fish and Wildlife Agencies (WAFWA) guidelines (Connelly et al. 2000) for sage grouse habitat, there were no statistically significant relationships found between nest success and grass height alone. There was, in fact, a slight negative correlation that should not be over interpreted. Results from simple linear and multiple regressions performed on grass height and nest success suggest that grass height as a single parameter is a poor indicator and should not be used individually or exclusively to assess or monitor sage grouse habitat quality (Schultz 2004).

B8-23 The Sage Grouse BMPs in Appendix K state that changes in livestock management (including the possibility of permanent exclusion) shall occur at the start of the next grazing season where grazing results in a level of forage uses determined detrimental to habitat quality. Using Connelly et al. guidelines as standards may be spatially or temporally inappropriate. Ecological site potentials vary considerably in eastern Nevada sagebrush communities, and it must be considered that understory (excluding seed stalks) height characteristics of seven-inches or more may not be possible or practicable in all ecological sites or habitat areas. Broad application of understory height objectives is not recommended across all sites and areas where sagebrush once grew (NDOW 2002). Due to the findings of Schultz 2004, it is recommended that the height parameters in Tables M-1 and M-4 ***not*** be used to determine whether or not forage use (utilization levels) has detrimentally affected habitat quality.

B8-24 (20) Pg. 2.5-71 Approximately 9.8 miles of vegetation along lower Meadow Valley Wash burned during the Meadow Valley Fire in 2005. The affected area occurs in the Henrie Complex Allotment. Approximately 52 percent (or 89,000 acres) of the allotment burned in 2005 between the Meadow Valley and the Duzack fires. A considerable amount of the burned acreage occurred in desert tortoise habitat. Removing livestock grazing as a vegetation management tool in desert tortoise habitat limits the ability of land managers to quickly break up the continuity or reduce fuel loads in years of excessive or high production of annual grasses (e.g. cheatgrass, red brome) and weeds (e.g. mustards). Failing to remove fuel loads creates conditions susceptible to large-scale fires and removal of the native vegetation species. Instead of exclusion of all grazing, change management of affected allotments to allow for annually assessed Temporary Non-Renewable Resource (TNR) grazing permits.

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B8-22 In response to your comment, the text in item 12 of Section 2.4.7.6 in the Proposed RMP and Final EIS has been revised to clarify that the management of greater sage-grouse habitat will be in accordance with current guidelines and that such guidelines are subject to periodic revision based on additional scientific information. The Ely Field Office will continue to manage sage-grouse habitat based on the latest BLM policy and scientific evidence.

B8-23 Please refer to Response to Comment B8-22. Also, please refer to Appendix F in the Proposed RMP and Final EIS where a similar text revision has been made.

B8-24 As outlined for the Proposed RMP in the Proposed RMP and Final EIS, the Ely Field Office proposes to implement short-term closures or restrictions for the 598,071 acres recovering from wildfires within the Mojave Desert. In the short-term, Mojave grazing allotments or portions of allotments affected by the South Desert Complex Fires will remain closed and/or operating under the management strategies established through the South Desert Complex Emergency Stabilization Plan. These closures and restrictions would remain in place until short-term Emergency Stabilization objectives were achieved.

Letter B8 Continued

B8-25 (21) Pg. 2.5 –71 Alternative E- Grazing should not be excluded from southwestern willow flycatcher potential habitat that is classified as either type A or C. Type A is very limited in distribution and is most affected by lack of surface water. Type C habitat does not have the canopy or interior vegetation density necessary for suitable habitat and may not have the land capability or potential to meet suitable habitat criterion even if all threats/stressors are removed and restoration is attempted (Bio-West 2005). Fencing to exclude grazing from occupied suitable habitat or potential habitat stressed by grazing should also be paired with development of offsite water sources. Failure to do so may in some cases limit livestock grazing distribution throughout affected allotments.

B8-26 (22) Pg. 2.5-72 Alternatives B and E. See comment #20.

B8-27 (23) Pg. 2.5-81 Alternative B should also manage horses in a similar fashion to Alternative A, such that the "population range would ensure that a thriving natural ecological balance is obtained...."

B8-28 (24) Pg. 2.5-140 No mention of what other resource uses would continue or be excluded following the establishment of four special recreation permit areas totaling 1.36 million acres. Please describe the compatibility of these special recreation permit areas with other resource uses. Secondly, ORV use can significantly damage soil resources, especially when concentrated. Are soil surveys completed for all of the proposed areas? If not, adequate knowledge of soil capability to withstand such a use is not available. Where soil survey information is not available, no special recreation permit areas should be designated. Where soil survey data is available, designated routes should avoid highly erodible soils or soils that will rapidly erode once the surface soils have been lost. No increase in PM_{10} or decrease in air quality is listed as a potential cumulative impact from concentrated ORV recreation.

B8-29 (25) Pg. 2.5-141 Appendix C describes the phases of the watershed analysis process, however it does not list or describe which vegetation, structural, or functional attributes will be monitored during the process. Management common to all alternatives includes adjusting stocking rates based on watershed analysis. The NRCS Pasture and Rangeland Handbook provides a method for adjusting current stocking rates, involving studies of trend, plant community health, and utilization of key species. Appendix C does not indicate the type of measurements and quantitative (or qualitative) data that will be collected during the watershed analysis. The watershed analysis process should include monitoring of all of the recommended attributes before adjustments of stocking rates are made. More information on the watershed analysis process needs to be included in Appendix C. An appropriate stocking rate is fine tuned in cooperation with the BLM and permittee by adaptive management through the year and from year to year (USDA-NRCS 1997b).

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B8-25 In response to your comment, the text in Section 2.4.7.3 and 4.7 of the Proposed RMP and Final EIS has been expanded to address interactions between livestock grazing and the southwestern willow flycatcher.

B8-26 Please refer to Response to Comment B8-24 for a discussion of changes in livestock grazing management in lower Meadow Valley Wash as a result of the fires in 2005.

B8-27 In response to your comment, the text in Section 2.5.8.2 of the Proposed RMP and Final EIS has been revised to clarify that a similar thriving natural ecological balance would be achieved in Alternative B.

B8-28 In response to your comment, the analysis for several resource programs in Chapter 4 of the Proposed RMP and Final EIS has been expanded to discuss the impacts of special recreation permit areas. Soils survey data is more detailed than necessary to prepare a largely programmatic RMP/EIS for the Ely planning area. Dust generated from off-road racing events is very localized and temporary and does not contribute to regional air quality degradation.

B8-29 Appendix A in the Proposed RMP and Final EIS discusses the process found in BLM Handbook H-4180-1 Rangeland Health Standards. The commenter is directed to that handbook for the detail requested in this comment. The watershed analysis process is not used to adjust stocking rates. The Pasture and Rangeland Handbook provides a method for adjusting stocking rates.

Letter B8 Continued

B8-30 (26) Pg. 2.5-142 The Haypress allotment should not be identified for potential disposal if there is little to no indication that the horse preserve will be managed to maintain the health and functionality of both the upland and any riparian vegetation and soils on the preserve. A public process should be endorsed to develop a management plan with monitoring objectives that ensures ecological sustainability prior to disposal.

B8-31 (27) Pg. 2.5-142 In Alternative E, it is stated that there would only be closure of 3,300 acres within new ACECs, however several of the proposed ACECs would also limit livestock management. Please include the number of acres and allotments which grazing would become limited. Secondly, refer to comment #20. Removing livestock grazing as a management tool (or severely limiting the use) may perpetuate conditions with higher than normal fine fuel loads and subsequently result in larger and more frequent wildfires, especially for allotments in the Mojave Desert.

B8-32 Secondly, limiting or reducing livestock grazing in the proposed ACECs could have not only short-term but also long-term effects on the economic stability of affected ranches. Long-term limitations may fiscally limit the viability of ranching operations in the area. This issue was not addressed in Alternative E of the Environmental Consequences section.

B8-33 (28) Pg. 2.5-144 Performance-based grazing authorizations proposed in Alternative E are an excellent way to promote proper, if not exemplary, livestock grazing management. Flexibility to use pastures at appropriate times during the plant growth cycles between seasons and between years should promote accelerated ability to meet reasonable resource objectives and improve overall rangeland health.

B8-34 (29) Pg. 2.5-147 Allowing grazing permits to be relinquished and converted to forage reserves has the potential to drastically change the economic and social structure of the counties in the District. As land and water purveyors with no agricultural interests (e.g. Southern Nevada Water Authority) buy base property in the counties, more permits are likely to be relinquished. By not allowing application for these permits to other ranchers, the number of livestock producers within the District will continue to decrease. As fewer and fewer producers operate in the area, key infrastructure and economic opportunities will likely be lost, impacting the industry throughout the area. No economic impacts associated with implementing this policy have been analyzed in section 4.23 Economic Conditions - Environmental Consequences of the DRAFT RMP/EIS.

B8-35 It is easy to appreciate the need to provide additional forage opportunities for those permittees that are displaced for any reason, however each permittee has and continues to manage their own allotments with areas of reserve in the event of drought or other circumstances. This is especially true for permittees using rotation grazing systems. In instances where fire or planned restoration treatments affect allotments on such scales that the active use for that allotment would be significantly reduced, then alternative forage sources outside the

Responses to Letter B8

B8-30 Aliquot parts of the Haypress Allotment have been identified in the Proposed RMP for potential disposal but not specifically for a wild horse preserve. Any disposal would be in accordance with the Lincoln County Conservation, Recreation, and Development Act, would be a public process, and would be analyzed in accordance with the National Environmental Policy Act.

B8-31 Please refer to Section 2.4.16.1 in the Proposed RMP and Final EIS for a change in acres associated with new ACECs. Livestock grazing is proposed to be closed in the 40-acre Snake Creek Indian Burial Cave ACEC. Refer to Table 2.4-26 in the Proposed RMP and Final EIS for identification of additional ACECs where grazing is limited. As discussed in Section 2.5.16 of the Proposed RMP and Final EIS, grazing would also be excluded on a temporary basis for areas in the Mojave Desert that are recovering from the South Desert Complex Fires of 2005.

B8-32 In response to your comment, the text for the Proposed RMP and Alternatives B in Section 4.16 of the Proposed RMP and Final EIS has been revised to clarify the impact of these potential closures on the economic viability of numerous ranching operations. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

B8-33 Thank you for your comment.

B8-34 In response to your comment, the text in Section 4.23 of the Proposed RMP and Final EIS has been expanded to clarify the effects of relinquishing grazing permits. Whether grazing permits are relinquished and converted to forage reserves or opened to application from other ranchers would not appear to have dramatically different implications for the economic and social structure of communities in the Ely RMP planning area. In either case, the available forage produced on the affected allotments would likely be used by other ranching operations and the number of continuing ranching operations would logically be similar in either case. In fact, the availability of a forage reserve may help sustain the income of operations temporarily displaced for any reason. Moreover, the major causal factor between local ranching operations and the economic and social structure of local communities would appear to be the retention or selling off of base properties, the value of which is largely independent of current or future livestock operations, not the management of relinquished permits.

B8-35 The Proposed RMP specifies management policies and actions and provides programmatic and implementable direction for management of the public lands. The desert tortoise ACECs have been closed to livestock grazing in response to the fires that occurred in 2005. Temporary nonrenewable is an action that is regulatory and can be considered, and if appropriate approved, on an annual basis. In the event that grazing permits are relinquished, managing the areas as forage reserves would be considered. This would be reviewed through the scoping process. Both of these actions would be considered in consultation with the Fish and Wildlife Service to promote the recovery of the desert tortoise.

Letter B8 Continued

B8-35 allotment should be considered. One alternative could be to issue temporary nonrenewable permits for ACECs or other areas of nonuse during seasons of use that do not conflict with critical times for special status (e.g. livestock grazing could occur in desert tortoise ACECs while tortoises are in hibernation). Currently this option is not included in any of the alternatives in the DRAFT RMP/EIS. A second alternative would be to change relinquished allotments or other areas of nonuse to forage reserves or reserve common allotments.

B8-36 Using the Four C's concepts to grazing administration, forage reserves could be managed as Reserve Common Allotments (RCA). It is recommended that if RCAs are formed from relinquished permits; only the first two types of RCA formation should be utilized:

1) **Permittee Association Voluntary RCA** – RCAs voluntarily established by associations of permittees in areas specified in land use plans as suitable for RCA use.
2) **Individual Permittee Voluntary RCA** – RCAs voluntarily established by individual permittees in areas specified in land use plans as suitable for RCA use.
3) **BLM Administered RCA** – RCAs established from vacant allotments and/or donated or exchanged lands, and administered by the BLM for the same purposes as permittee association and individual permittee voluntary RCAs (BLM 2003).

B8-37 In the event that the Tamberlaine allotment permit, or any other allotment permits are relinquished, it is preferable that the permits remain available by application process to other ranchers according to current regulations (Alternative A). In the event that other ranchers do not apply for relinquished permits, then it is recommended the permits be held as forage reserves by grazing associations or individuals. It is least preferable that the BLM administer allotments as forage reserves, as this type of management should come from the grassroots level, not as a top-down approach for successful implementation.

B8-38 If forage reserves are created, it is imperative that annual or biennial grazing continues to occur on these allotments to prevent herbaceous species such as crested wheatgrass from becoming decadent. Annual or biennial grazing would also reduce the continuity and height of fine fuel loads frequently enough to prevent excessive fuel load build up which could increase susceptibility for large, high-intensity wildfires. Other planning concerns include development of a management plan for forage reserve allotments, which addresses objectives for how these forage reserve allotments will be managed, maintained, and monitored. The plan should also address who will get to use the allotment(s) and how priorities will be determined.

B8-39 Research use (and grazing nonuse) as proposed in Alternatives C and E are not a valid use for grazing permits under the current CFR's. Designated research sites not compatible with livestock grazing should be addressed in the RMP

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B8-36 The types of reserve common allotment formation categories presented in this comment would all be considered when allotments are relinquished.

B8-37 In the event that an allotment grazing permit is relinquished, the actions presented in this comment would be considered.

B8-38 In the event that forage reserves are created, the actions, practices, and recommendations presented in this comment would be considered. Grazing plans would be developed addressing all aspects of grazing management on forage reserves.

B8-39 Research on allotments for which a grazing permit has been relinquished is not included as part of the Proposed RMP. Research Natural Area is not a designation that is allowed under the new BLM Land Use Planning Handbook. If grazing permits are relinquished, authorized uses, which could include research, would be considered. Any uses would be consistent with the regulations and policies in force at that time.

Letter B8 Continued

B8-39 planning process as a change in land use to Research Natural Areas and included for analysis in section 2.522.5.

B8-40 The DRAFT RMP/EIS allows for any permits and specifically the Tamberlaine allotment to be relinquished and converted from grazing use to use as forage reserves. Additional planning issues should be considered in designating areas of the district for these changes in land use, including but not limited to economic viability of certain ranching communities/centers, proximity to towns and cities, and ease of transport of cattle from one allotment to another.

B8-41 As an example of the complex issues associated with forage reserves, the Tamberlaine allotment is located adjacent to the Ward Mountain (Blue Diamond) community, approximately six miles south of Ely. Removal of annual (or at least biennial) livestock grazing on this allotment could result in increased fuel loads and more intense fires. The allotment boundary falls within 0.5 miles of the Ward Mountain (Blue Diamond) development and management on this allotment could affect fire suppression efforts within the wildland-urban interface (WUI). Wildfires could spread more rapidly and at higher intensities into the Ward Mountain WUI. If any additional allotments were converted to forage reserves near other WUI areas, the same affects could be realized. Because of this concern, if allotments were to be managed as forage reserves they should either be grazed using TNR permits annual or biennially or be prohibited on allotments within one to two miles of WUI areas in the District.

B8-42 (30) Pg. 2.5-180 The description of Watershed Management - Management to maintain resiliency includes the management option of modifying livestock grazing or completely eliminating grazing on existing resilient vegetation communities. All of the options in this section should only be implemented when rangeland health standards are not being met currently. If the plant community only requires maintenance of resilient qualities, and livestock grazing was part of the system that reached a desired level of resiliency, then why should livestock grazing be modified or excluded for the purpose of maintaining resiliency? If the communities are currently functioning in a resistant and resilient manner to disturbance, then why change the current management (if the system is not broke, why fix it)? Also, point-in-time studies such as the watershed assessment method should not be used to determine changes in livestock grazing management. Rather they should only be used to determine areas where additional monitoring should occur, before management changes/adjustments are made.

B8-43 (31) Pg. 2.5-185 Alternative E proposes to only allocate additional forage to livestock grazing through restoration treatments after all rangeland health standards have been met on a watershed scale. In most cases, more than one allotment and more than one permittee manage grazing within one watershed. Alternative E also calls for granting performance-based grazing on case-by-case basis. This section greatly reduces the incentive for one performance-based permittee to manage his resources to meet all rangeland health standards. This is because a

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B8-40 Current grazing management policy addresses authorized uses (including forage reserves) that could be included or considered if grazing permits are relinquished. If the grazing permit for any allotment were to be relinquished, the planning issues presented in this comment would be considered. In the Proposed RMP, the Tamberlaine Allotment has not been specifically identified for a forage reserve.

B8-41 In the Proposed RMP, the Tamberlaine Allotment has not been specifically identified for a forage reserve. In the event that forage reserves are created, the issues raised in this comment would be considered.

B8-42 A variety of factors besides grazing (e.g., fire and drought) may adversely affect vegetation communities and push them toward transitions into undesired states. In such situations where rangeland health is at risk, adjustments in various resource uses such as grazing may be required for the maintenance of resilience. As indicated in the comment, if conditions are stable, health standards are being met, and vegetation communities are resilient, such adjustments in grazing management would not be appropriate or required.

B8-43 Reference to Performance Based Grazing has been removed as a Parameter or a management action in the Proposed RMP. Flexibility associated with livestock grazing is allowed in the current grazing regulations at 43 CFR Part 4100 and is specifically addressed under allotment management plans.

Letter B8 Continued

B8-43 neighboring permittee may not be able to reach standards in the same time frame. Each grazing system is different, and different issues could be present on each allotment in a watershed that will cause each allotment to meet standards at different times. If all standards are met on one allotment (but not the others) in a watershed, the allotment meeting standards should be eligible for additional forage allocations.

B8-44 (32) Pg. 2.5-194 Alternative E calls for the designation of 18 additional ACECs totaling 138,900 acres. Livestock grazing is to remain closed on 212,500 acres (existing ACECs), 3,300 acres are proposed for closure to grazing (new ACECs), and livestock grazing will be limited through changes to grazing permits on approximately 62,440 acres (new ACECs). In reviewing the description of the proposed Condor Canyon ACEC, no explanation or rationale is provided regarding livestock grazing being a threat to the Big Spring spinedace. Why are any additional grazing restrictions being proposed? Similar comments apply for Mount Irish and Shooting Gallery, as no evidence of threat from grazing is given or reasons for limiting or restricting livestock grazing on these two proposed ACECs, totaling more than 46,900 acres. Also, no description of the economic impacts of these proposed limitations of grazing are analyzed in section 4 – Environmental consequences. Refer to comment #20 regarding fuels management.

B8-45 (33) Pg. 2.5-266 Alternative E for Wilderness Study Areas proposes to emphasize other multiple uses within WSAs but also restrict management on all other areas with wilderness characteristics. This alternative doesn't list the types of management restrictions that would be put in place, nor does it list the estimated acreage within the District that has wilderness characteristics (other than WSA and designated wilderness). Managing to protect wilderness characteristics could limit the degree and extent of restoration treatments proposed in this document. Further analysis would be necessary to determine the potential impacts of this alternative, and as such it should not be included in the FEIS as the preferred alternative.

B8-46 (34) Pg. 3.5-4 Table 3.5-2 lists the source for the table as BLM unpublished data. These data need to have a better citation when listing unpublished data as the primary source of information. Are the data created from remote sensing technologies? If so, what is the date of the satellite imagery used for the classification? If not, how were these estimates made?

B8-47 (35) Pg. 3.5-5 Similar comment to #3 and #34. More information is needed regarding how these categories and estimated percentages were derived. Section 4.1.4 explains that the characteristics of three watersheds were extrapolated to the entire District using GAP data, however this still fails to explain how the watershed analysis was completed and what types of data were used and collected.

Responses to Letter B8

B8-44 In response to your comment, the text in Section 2.4.22 and Table 2.4-29 of the Proposed RMP and Final EIS has been revised to clarify grazing restrictions relative to various ACECs.

B8-45 In response to your comment, the text in Section 2.4.22.4 of the Proposed RMP and Final EIS has been revised to clarify the discussion of lands with wilderness characteristics. No lands with wilderness characteristics outside of currently designated wilderness and wilderness study areas have been identified in the Proposed RMP.

B8-46 In response to your comment, Table 3.5-2 in the Proposed RMP and Final EIS has been revised. The table footnote has been revised to indicated that the acreage estimates contained in the table were derived from extrapolation of Ecological Status Inventory and Southwest ReGAP data. Please also refer to Section 4.1.4.1 for additional discussion of the data extrapolation.

B8-47 In response to your comment, Section 4.1.4.1 has been revised to clarify that extrapolations within the Great Basin were made from data available for approximately 1.1 million acres in three watersheds, but not through the use of GAP data. Watershed analysis is not complete at this time.

Letter B8 Continued

B8-48 (36) Pg. 4.1-9 This section explains how the characteristics of three watersheds were extrapolated to the entire district, excluding the Mojave Desert areas. How was data derived for the Mojave Desert areas?

B8-49 (37) Pg. 4.16-5 Both Alternatives B and E indicate that changes to stocking levels and grazing management could occur "to meet objectives within pastures where riparian objectives or water quality standards are not being achieved." Changes to grazing management in riparian areas should only occur where livestock grazing is determined to be a causal factor in the failure to meet objectives.

B8-50 (38) Pg. 4.16.6 It is commendable the Ely District realizes the importance additional management actions, including rangeland projects (e.g. water developments, fencing, etc.), have on progress toward meeting rangeland health and riparian PFC objectives. Changes in season of use, time, duration, and fencing often require rangeland improvements to make them feasible management tools. Water hauls for protection of fishery habitat is not as desirable as permanent developments of offsite water troughs fed by creeks or springs. Increasing labor significantly through water hauls will reduce the capability of livestock producers to focus on improved cattle distribution through herding or other methods.

B8-51 (39) Pg. 4.16-8 Recreation- There is not enough information on how the proposed 2,680,000 acres of special recreation management areas might be managed for the BLM to assess the potential affects on livestock grazing. This portion of Alternatives B and E needs to be developed in more detail. It is not adequate to say "while management of these areas ***may not*** preclude grazing...". Instead, the RMP needs to explain how these areas are to be managed to adequately describe and receive comments on impacts of this action.

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Responses to Letter B8

B8-48 Within the Mojave Desert, vegetation characteristics were extrapolated from SW ReGAP vegetation data as described in Section 2.5.5.7. This has also been clarified with text revision of Section 4.1.4.1 of the Proposed RMP and Final EIS.

B8-49 In response to your comment, the wording in Section 4.16 related to livestock grazing changes to meet water quality standards in Alternatives B and C has been revised to include the phrase "and livestock grazing is a causal factor."

B8-50 Comment noted. These issues occur at the implementation level and would be addressed at the watershed analysis and allotment planning stage rather than as a component of the Proposed RMP.

B8-51 Please refer to the revised text in Section 4.16 of the Proposed RMP and Final EIS for clarification of the impacts to livestock grazing from designation of the additional special recreation management areas.v

Letter B8 Continued

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In summary, Resource Concepts, Inc. appreciates the opportunity to review the Ely RMP/EIS and provide comments on behalf of the N-4 State Grazing Board. We are available to discuss any of the concerns or comments outlined in this correspondence.

Sincerely,

John L. McLain
CRMC/CPESC

JLM:tlb:sta

Letter B9

Southern Nevada
Water Authority

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snwa.com

October 27, 2005

Gene Kolkman, Field Manager
U.S. Bureau of Land Management
Ely Field Office
HC33 Box 33500
Ely, Nevada 89301

Dear Mr. Kolkman:

SUBJECT: LINCOLN COUNTY CONSERVATION, RECREATION AND DEVELOPMENT ACT UTILITY CORRIDORS

The Southern Nevada Water Authority (SNWA) appreciates the opportunity to work with the U.S. Bureau of Land Management (BLM) in the identification of utility corridors authorized under the Lincoln County Conservation, Recreation, and Development Act of 2004 (LCCRDA). As you are aware, SNWA has been developing the alignments for pipelines, power lines, and associated facilities of the Clark, Lincoln, and White Pine Counties Groundwater Development Project (Case File No. N-78803), and is attempting to locate these facilities within the LCCRDA utility corridor as feasible.

B9-1 However, as we plotted the initial, general delineation of the utility corridor alignment developed by BLM on maps of greater resolution, some conflicts with existing lands and deviations from existing roads were noted. BLM's initial delineation was only of the alignment of the corridor and did not depict the 2,640-foot width of the corridor. In addition, SNWA's proposed pipeline deviates slightly from BLM's initial corridor delineation for engineering and constructability reasons. These adjustments keep the pipeline at lower elevations, minimizing changes in the hydraulic grade and avoiding the need for additional pumping stations.

B9-2 Therefore, SNWA is proposing minor adjustments in BLM's initial delineation of the utility corridor, as shown on the enclosed maps. These maps display BLM's initial alignment, the proposed corridor location, and SNWA's proposed pipeline and power line alignments on maps of 1:24,000 scale. For your reference, we have also depicted the Southwest Intertie Project alignment on these maps, as provided to us by BLM. We have also enclosed a disk with the GIS shapefile of this proposed corridor.

File No. ISWRP050 WBS 090G 24 E1

Responses to Letter B9

B9-1 The SWIP corridor has been expanded to 0.75 miles wide to connect with portions of the corridor designated in the Lincoln County Conservation, Recreation, and Development Act. This will allow Southern Nevada Water Authority to adjust the location of the proposed pipeline. Any other deviations could be authorized as part of the right-of-way process.

B9-2 Please refer to Response to Comment B9-1 for a discussion of corridors.

Letter B9 Continued

We would appreciate your input on these alignments, as we continue to develop our project proposal. If you have any questions, please contact Lisa Luptowitz at (702) 862-3789 or myself at (702) 862-3775.

Sincerely,

Kenneth A. Albright, P.E.
Director, SNWA Resources

KAA:LL:cec

Enclosures

c: Dan Netcher, Groundwater Development Project Coordinator, BLM
Bruce Flinn, Groundwater Development Project Manager, BLM
Lisa Luptowitz, Environmental Planner, SNWA

File No. ISWRP050 WBS 090G 24 E1

Letter B10

Southern Nevada
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B10-1

snwa.com

November 16, 2005

Gene Drais, Project Manager
U.S. Department of the Interior
Bureau of Land Management
Ely Field Office
HC33 Box 33500
Ely, Nevada 89301

NOV

Dear Mr. Drais:

SUBJECT: DRAFT RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT FOR THE ELY DISTRICT

The Southern Nevada Water Authority (Authority) appreciates the opportunity to provide comments on the draft Resource Management Plan and Environmental Impact Statement (RMP/EIS) for the Ely District. The Authority is a political subdivision of the State of Nevada, created in 1991 under Nevada State law pursuant to a Cooperative Agreement among its seven member agencies. The Authority's member agencies, which are water and wastewater agencies in southern Nevada, include: Big Bend Water District, City of Boulder City, City of Henderson, City of Las Vegas, City of North Las Vegas, Clark County Water Reclamation District, and Las Vegas Valley Water District. The Authority's mission is to manage the water resources of southern Nevada and develop solutions that will ensure adequate future water supplies for the Las Vegas Valley.

I. Introduction

As stated in the document, the purpose of the RMP/EIS is to provide "direction and guidance for management of approximately 11.4 million acres of public land located in Lincoln, Nye, and White Pine counties in eastern Nevada that is administered by the U. S. Bureau of Land Management (BLM), Ely Field Office". The RMP/EIS will "provide direction for management of renewable and nonrenewable resources found within the Ely District" and will "guide decision-making for future site-specific actions". The preferred alternative (Alternative E) supports implementation of the Eastern Nevada Landscape Restoration Project while still providing for resource uses, therefore, the Authority supports adoption of the preferred alternative with the changes described in this letter.

The Authority has applied to the BLM for rights-of-way to develop and convey groundwater within the Ely District, as part of its Clark, Lincoln, and White Pine Counties Groundwater Development Project. The BLM is currently preparing an

Responses to Letter B10

B10-1 Thank you for your comment.

Letter B10 Continued

EIS for this project. The Ely District RMP/EIS and the final decision made by the BLM will be directly relevant to the Authority's groundwater project.

II. Utility Corridors

The Lincoln County Conservation, Recreation, and Development Act of 2004 (LCCRDA) became law on November 30, 2004 (Public Law 108-424). As part of the LCCRDA, Congress directed the BLM, through the Secretary of the Interior, to establish a 2,640-foot wide utility corridor in Lincoln County and Clark County, Nevada as generally depicted on a map included in the congressional record. Although the BLM does not have discretion on the designation of the utility corridors, the BLM does have discretion on final alignment and location of the utility corridor. On October 27, 2005, the Authority submitted to the BLM a recommended detailed delineation of the utility corridor alignment, which corresponds with the location of the Authority's proposed groundwater project, which was the objective of the LCCRDA utility corridor. A copy of that submittal, including maps and a disk containing the GIS shapefiles, is enclosed. The Authority requests that the BLM consider and adopt this detailed alignment delineation of the utility corridor in the RMP/EIS. B10-2

Furthermore, although the RMP/EIS describes and depicts the LCCRDA utility corridors, it does not appear to actually designate them. The Authority believes the RMP/EIS should be revised to make it clear that the BLM is establishing the LCCRDA-mandated utility corridor, following the alignment identified in the Authority's October 27, 2005, submittal, and should address the environmental impacts of such establishment in the supporting National Environmental Policy Act (NEPA) document. B10-3

The Authority recommends selection of the Alternative C proposed Spring Valley Utility Corridor alignment, identified in the RMP/EIS, at a width of 0.5 mile. This alignment follows the existing Highway 893, and is compatible with the Authority's proposed groundwater project alignment. B10-4

The Authority also recommends the establishment of a utility corridor into Snake Valley consistent with Authority's current proposed action to develop and convey groundwater within the Ely District. Establishing alignments within the RMP/EIS consistent with the Authority's right-of-way applications will help avoid amendments to the RMP/EIS in the future. B10-5

III. Water Resources

Groundwater

The perennial yield and committed resources data used in Section 3.3 are over 30 and 13 years old, respectively. The cited reference for perennial yield given in Table 3.3-1 (Nevada Division of Water Resources 2003) is Appendix A-2 of the Nevada State Water Plan. Appendix A-2 does not provide perennial yield information. The perennial yield numbers given in the table correspond to Scott et al. (1971) and, therefore, are at least 30 to 40 years old. Page 3.3-1 cites B10-6

Responses to Letter B10

B10-2 The SWIP corridor has been expanded to 0.75 miles wide to connect with portions of the corridor designated in the Lincoln County Conservation, Recreation, and Development Act. This will allow Southern Nevada Water Authority to adjust the location of the proposed pipeline. Any other deviations could be authorized as part of the right-of-way process.

B10-3 The Lincoln County Conservation, Recreation, and Development Act designated this corridor. The Ely Field Office is including the corridor in the Proposed RMP. The impacts of facility construction within the corridor will be analyzed on a project-specific basis.

B10-4 The text in Section 2.4.12.5 of the Proposed RMP and Final EIS has been revised to clarify the discussion of corridors.

B10-5 The Ely Field Office is required to designate corridors through the land use planning process. The Draft RMP and EIS did not analyze a corridor in Snake Valley in any of the alternatives. The Proposed RMP states that water pipelines are encouraged to be located within designated corridors. Water pipelines outside of the designated corridors could be authorized through the right-of-way process and would not require a land use plan amendment.

B10-6 In response to your comment, the text in Section 3.3.1 and the footnote to Table 3.3-1, have been modified to address groundwater data.

Letter B10 Continued

B10-6 Nevada Division of Water Planning 1992 as the source for the committed resources data. Therefore, that data is at least 13 years old. The accurate age of the data needs to be cited in the text and noted on tables along with an explanation of whether the totals include or exclude supplemental duties to help clarify what the totals actually represent. A list of references that contain more recent hydrological data is enclosed.

B10-7 Table 3.3-1 is subdivided by county. This leads to redundancies, because hydrographic areas cross county lines. Nevada Division of Water Resources (NDWR) does not identify hydrographic areas by county, and therefore, they should not be represented in this manner in the table. In addition, NDWR uses the term "hydrographic areas" not "basins", and that should be corrected in the second column of this table.

B10-8 Perennial yield and committed resources, described in the third paragraph on page 3.3-1 and Table 3.3-1, are two separate issues that do not directly correlate, and should be discussed separately. Perennial yield is the amount of usable water in a groundwater aquifer and is determined by a variety of factors, including artificial recharge, natural discharge, and natural recharge. Committed resources are the total volume of permitted, certificated and vested groundwater rights which are recognized by the State Engineer and can be withdrawn in a groundwater basin in any given year. By combining the discussion of these distinctly separate topics into one paragraph, it confuses a hydrological process with a regulatory one.

B10-9 The perennial yield information listed in Table 3.3-1 exclusively uses Scott et al. (1971), which summarizes water availability in the shallow aquifers of the Ely District based on various U.S. Geological Survey Nevada Reconnaissance Reports or Nevada Water Resources Bulletins from the 1960s and 1970s. Numerous studies have been made since then that also focus on perennial yield or recharge estimates for hydrographic areas in the Ely District. These reports include Nichols (2000) and various reports by the Authority and the Las Vegas Valley Water District. These reports often provide perennial yield values or recharge estimates that differ from the values provided by Scott et al. (1971).

B10-10 The perennial yield values in Table 3.3-1 should be listed as a range that incorporates both older and newer sources of data.

B10-11 Listing the perennial yield values as ranges avoids misleading the reader to believe they are absolute values. For example, in Snake Valley, the perennial yield value cited in Table 3.3-1 originates from the report titled "Water for Nevada – Report 3" from the State of Nevada Department of Conservation and Natural Resources. In that report, perennial yield for Snake Valley is listed as > 25,000 afy not 25,000 afy. The report also cites Reconnaissance Report No. 34 as the source of the data for Snake Valley. Reconnaissance Report No. 34, however, states that the perennial yield of Snake Valley is approximately 80,000 afy for both Utah and Nevada portions of Snake Valley. The RMP/EIS defines perennial yield as "generally about equal to the estimated net annual recharge". Reconnaissance Report No. 34 states that of the estimated 105,000 afy of total recharge to Snake Valley about 65,000 afy originates from precipitation in Nevada. Based on the three reports discussed above, the perennial yield of Snake Valley could

Responses to Letter B10

B10-7 Comment noted. No changes were made to the Proposed RMP and Final EIS with regard to the county organization of the table. County residents and governments are part of the public audience, and the existing table organization enhances readability and orientation to a locale for the purposes of this particular EIS. There is no intended implication that hydrographic boundaries follow county lines. NDWR mixes its use of terms for hydrographic areas in published maps, tables, and other documents; usage has been modified to be consistent in the Proposed RMP and Final EIS text and tables.

B10-8 Please refer to Response to Comment B10-6.

B10-9 In response to your comment, changes have been made in the text to address the central issue behind this comment. Additional discussion and table entries are not being made, since to do so would involve substantially more text without contributing to the purpose of this RMP and EIS. Other studies and NEPA documents, involving numerous agencies and organizations, will address these issues in a manner appropriate to their scope and the roles and responsibilities of the cooperating participants, including the BLM. Also refer to Response to Comment B10-6.

B10-10 Please refer to Response to Comment B10-9.

B10-11 Please refer to the Response to Comment B10-9.

Letter B10 Continued

B10-11 vary from >25,000 to 105,000 afy. Table 3.3-1 should be modified to more accurately show the range of perennial yield projected to be available from each hydrographic area.

B10-12 The committed resources listed in Table 3.3-1 represent the total volume of permitted, certificated, and vested groundwater rights recognized by the NDWR in each hydrographic area in 1992. As a result, the committed resources are 13 years out-of-date and could vary substantially from the reported value. A footnote should be added to identify this issue. The NDWR source for this information actually specifies the month and year that the data apply to. In addition, the table needs to be footnoted stating whether these totals include or exclude supplemental duties, to help clarify what the total actually represents. It might also help for clarification to state that the 'Committed Resources' are actually 'Committed Groundwater Resources'.

Surface Water

B10-13 The second paragraph on page 3.3-5 states that Lower Meadow Valley Wash and the White River are tributaries to the Virgin River. Historically, the Lower Meadow Valley Wash and the White River were tributaries to the Virgin River. Today, the Lower Meadow Valley Wash and White River flow into the Muddy River and then into the Colorado River by way of Lake Mead. Please correct the language on page 3.3-5.

B10-14 The last paragraph on page 3.3-5 describes trends towards transfers of water from agricultural areas to municipal uses in Nevada. It should be noted that transfers of water from agricultural areas to municipal uses are not unique to Nevada and is occurring throughout the western part of the country.

B10-15 Table 3.3-2 is not an exhaustive list of streams within specific hydrographic areas. For example, Kalamazoo Creek in hydrographic area 184 could be classified as a Class A Water. In addition, some of the assignments seem debatable. For instance, Duck Creek in hydrographic area 179 and Hendry's Creek in hydrographic area 195 have numerous diversions on them that imply they have been affected by industrial or agricultural activities. A better explanation of the data sources used and conclusions made for this table is needed.

B10-16 As noted above, the NDWR usage is "hydrographic area" not "hydrographic basin". It is suggested that the title of the third column be changed to this usage.

Trends

B10-17 The discussion in the first paragraph on page 3.3-8 focuses on Authority projects, but neglects to mention the many other groundwater development projects proposed in the Ely District, including those by White Pine County, Lincoln County, and other private parties. The exclusive focus on Las Vegas is misleading. The discussion needs to be expanded to include other water use trends in the Ely District area. In addition, the description of the Authority's Virgin and Muddy Rivers surface water project is misplaced, in that it is solely a surface water project and

Responses to Letter B10

B10-12 Please refer to the Responses to Comment B10-6 and B10-9.

B10-13 In response to your comment, the text in Section 3.3.1 of the Proposed RMP and Final EIS has been corrected to clarify the discussion of these tributaries to the Muddy River.

B10-14 In response to your comment, the text in Section 3.3.2 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of water transfers to municipalities.

B10-15 In response to your comment, the footnote to Table 3.3-2 in the Proposed RMP and Final EIS has been expanded to more clearly present the state water classification process.

B10-16 In response to your comment, the text in Table 3.3-2 in the Proposed RMP and Final EIS has been modified to correct the column heading.

B10-17 In response to your comment, the text in Sections 3.3.1 and 3.3.2 has been modified to largely address your comment. However, the discussion centers on regional water resources and related projects within hydrologic proximity to the planning area, so the discussion of the proposed Virgin and Muddy Rivers surface water project has been retained.

Letter B10 Continued

B10-17 shouldn't be described under groundwater trends. Furthermore, it is not located within the Ely District, so its inclusion in the Ely RMP/EIS is confusing.

B10-18 As described above, the discussion on page 3.3-8 on over-committed basins and estimated perennial yields is only applicable to the year in which the data was obtained. Most of the data cited in this plan is from the 1970s for perennial yield data and from the early 1990s for the committed resources. The discussion needs to state that the data are dated and may not clearly represent current conditions.

If you have any questions regarding these comments, please contact Holly Cheong at (702) 862-3755.

Sincerely,

Kenneth A. Albright, P.E.
Director, SNWA Resources

KAA:JM:ZM:HC:cec

Enclosures

c: Michael Brennan, Attorney-at-Law, Holland & Hart, w/o enclosures
Kay Brothers, Deputy General Manager, SNWA Engineering & Operations, w/o enclosures
Richard Capp, Facility Planning Manager, Parsons, w/o enclosures
John Entsminger, Deputy General Counsel, SNWA, w/o enclosures
John Evans, Senior Electrical Engineer, SNWA, w/o enclosures
Lloyd Gronning, Concept Planning Manager, Parsons, w/o enclosures
Jennifer Hill, Attorney-at-Law, w/o enclosures
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Lisa Luptowitz, Environmental Planner II, SNWA Water Resources, w/o enclosures
Lou McNairy, Environmental Manager, Parsons, w/o enclosures
Derek Sloop, Hydrologist II, SNWA Water Resources, w/o enclosures

Responses to Letter B10

B10-18 Please refer to Response to Comment B10-6.

Letter B10 Continued

References for Table 3.3-1

Brothers, K., Katzer, T. L., Johnson, M., Tracy, J. V. 1996. Hydrology and Steady State Ground Water Model of Dry Lake and Delamar Valleys, Lincoln County, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 16

Brothers, K., Buqo, T. S., Bernholtz, A., Tracy, J. V. 1994. Hydrology and Steady State Ground-Water Model of Spring Valley Lincoln and White Pine Counties, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 13, 69 p.

Brothers, K., Buqo, T. S., Tracy, J. V., Kaufmann, R. F., Stock, M., Bentley, C., Zdon, A., Kepper, J. 1993. Hydrology and Steady State Ground-Water Model of Cave Valley, Lincoln & White Pine Counties, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 11, 48 p.

Brothers, K., Buqo, T. S., Tracy, J. V. 1993. Hydrology & Steady State Groundwater Model of Coal & Garden Valleys, Lincoln & Nye Counties, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 8, 52 p.

Brothers, K., Buqo, T. S., Tracy, J. V. 1993. Hydrology & Steady State Groundwater Model of Snake Valley, East Central NV & West Central UT: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 9

Buqo, T. S., Drici, O., Goings, D. B. 1992. Hydrology and Steady State Groundwater Model of Coyote Spring Valley, Clark and Lincoln Counties, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 3, 83 p.

Buqo, T. S., Drici, O., Goings, D. B. 1992. Hydrology and Steady State Ground-Water Model of Three Lakes Valley South, Clark county, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 4, 80 p.

Cole, E., Cernoch, B., Bruce, L., Rumbaugh III, J. O. 1992. Hydrology & Steady State Groundwater Model of Three Lakes Valley North, Clark & Lincoln Counties, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 5, 45 p.

Cole, E., Cernoch, B., Bruce, L., Rumbaugh III, J. O. 1992. Hydrology and Steady State Ground-Water Model of Tikaboo Valleys North and South, Clark and Lincoln Counties, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 6, 50 p.

Drici, O., Garey, C., Buqo, T. S. 1993. Hydrology & Steady State Groundwater Model of Pahroc Valley, Lincoln & Nye Counties, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 10, 62 p.

Katzer, T., and Donovan, D.J., 2003, Surface-Water Resources and Basin Water Budget for Spring Valley, White Pine and Lincoln Counties, Nevada, Report for the Las Vegas Valley Water District, 70 p.

Nichols, W.D., 2000, Regional Ground-Water Evapotranspiration and Ground-Water Budgets, Great Basin, Nevada: U.S. Geological Survey Professional Paper 1628, 82 p.

Woodward-Clyde, Dames & Moore, Las Vegas Valley Water District, 1994. Environmental Report Covering Selected Hydrographic Basins in Clark, Lincoln, Nye and White Pines Counties, Nevada: Las Vegas Valley Water District, Cooperative Water Project, Series Report No. 14, 199 p.

Letter B11

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NOV 2005

November 25, 2005

Mr. Gene Drais

COMMENTS ON: RECREATION PLAN

B11-1 1. For BLM to monitor or upgrade recreation in any area is hard for me to believe. Out by Eagle Valley, you have one recreation area that I know for more than ten years while I was a Commissioner in Lincoln County, there was not much up-keep or upgrade ever done at that site.

B11-2 2. Any control of the Outfitter and Sub-Guide business should be out of your control. You receive a fee from them on a yearly basis. As for impact to the public lands, I see less from them than the regular hunter. This is their business and they take care of the area in which they hunt. I believe that the only reason you are looking into changing this, is for the monies. Please leave that control with the State of Nevada and NDOW.

B11-3 3. Any competitive bid will cause problems - First with small businesses and outfitters, then with the local economy and the businesses that are supported by this industry. Go ahead and enhance recreation, but don't cut anybody out of the business. Create new businesses who will control and manage the tourism and recreation experiences.

COMMENTS ON: MANAGEMENT COMMON TO ALL ALTERNATIVES

B11-4 1. Development or construction of recreation trails and routes are acknowledged as a future need and would be considered in site-specific planning: **YES, but work with local areas of government, county and city to also create new businesses for local entrepreneurs.**

B11-5 2. Outfitter guide permits would not be limited until resource condition warranted setting limitation. **I would hope never.**

B11-6 3. Appropriate protection of cave resources in the planning area would be established. **Turn over to the mining industry to control and educate people or a group.**

Responses to Letter B11

B11-1 Comment noted. While statements of opinion (including agreement or opposition) do not require specific responses or text revisions under the NEPA regulations, they have been considered by the Ely Field Office and Nevada State Office and documented in the administrative record associated with the Ely RMP.

B11-2 In response to this and similar comments, the management action in Section 2.4.15.2 of the Proposed RMP and Final EIS regarding outfitter and guide permits has been revised.

B11-3 Please refer to Response to Comment B11-2.

B11-4 Thank you for your comment. The Ely Field Office will continue to work with local governments.

B11-5 Please refer to Response to Comment B11-2.

B11-6 Caves within the Ely RMP decision area are managed as required by federal law and according to the management direction contained in the Ely Cave Management Plan.

Letter B11 Continued

B11-7 4. A comprehensive climbing management plan to promote responsible and ethical climbing practices would be developed. The Ely Field Office staff would work with appropriate entities to protect all resources and preserve access for climbing and bouldering opportunities.: **Turn over to responsible climb clubs or businesses.**

B11-8 5. Specific recreation activities would be managed in accordance with the goals and emphasis for recreation management areas. **What specific recreational activities would be managed???**

B11-9 6. Most of the planning area would be managed for dispersed, backcountry, unregulated, and undeveloped use. **Concerns me for the area of back country and unregulated and undeveloped use. Need a listing of your management approaches.**

B11-10 Alternative A - is the one you should stay with.

B11-11 Alternative B - there is that competitive bid again. Keep this out please.

B11-12 Alternative C - No limitations on outfitters and guide permits for hunting is where it should be. To large for the motorcycle and truck events - that will be a real impact to the public lands - review the races now held.

B11-13 Alternative D - This will not work for any small business or industry.

B11-14 Alternative E - Stay away from this monitoring of recreation. Should be a time period of 5-10 years with the data collected for feed back to the public and industry users. Any surveillance at developed recreation sites greatly concerns me, it takes away our freedom..

B11-15 Most small businesses in rural Nevada, like us, have invested great amounts of monies to stay alive and to cater to those who come for any reason to our area. Four months out of each year is the hardest part of maintaining business.

B11-16 All hunting in Nevada is great for the locals, but needs to be controlled again by the State of Nevada - NDOW.

B11-17 Any changes to the racing industry helps but needs to be watched for they have a greater impact than the sportsman.

B11-18 Watch any changes to control roads or access to the public lands RS2077

Edward E Wright

Edward E Wright
On behalf of: Tillie's Inc, Wright's Country Cabins, TKO Outfitters

Responses to Letter B11

B11-7 Thank you for your comment. The Ely Field Office will continue to work with climbing clubs and other interested parties.

B11-8 Please refer to Sections 2.4.15.1, 2.5.15.1, 2.6.15.1, 2.7.15.1, and 2.8.15.1 in the Proposed RMP and Final EIS for discussions of management actions by alternative for each proposed Special Recreation Management Area.

B11-9 Please refer to Section 2.4.15 in the Proposed RMP and Final EIS for a discussion of management actions for recreation.

B11-10 Comment noted.

B11-11 Please refer to Response to Comment B11-2.

B11-12 Please refer to Response to Comment B11-2. The special recreation permit areas are being designated for motorcycle events only. Those areas presented in the Proposed RMP are based on existing courses that have been analyzed and raced on in the past.

B11-13 Thank you for expressing your concerns. While statements of opinion (including agreement or opposition) do not require specific responses or text revisions under the NEPA regulations, they have been considered by the Ely Field Office and Nevada State Office and documented in the administrative record associated with the Ely RMP.

B11-14 Thank you for expressing your concerns. While statements of opinion (including agreement or opposition) do not require specific responses or text revisions under the NEPA regulations, they have been considered by the Ely Field Office and Nevada State Office and documented in the administrative record associated with the Ely RMP. The monitoring of recreation use is consistent with BLM policy.

B11-15 Thank you for your comment. The general topic of local business economics and community sustainability has been considered in Section 4.23 of the Draft and Proposed RMP. The Ely Field Office will continue to consider local concerns when project-specific plans are prepared.

B11-16 Hunting in the Ely RMP planning area will continue to be managed by the Nevada Department of Wildlife.

B11-17 Race permitting and monitoring of impacts will be important to the Ely Field Office. While statements of opinion (including agreement or opposition) do not require specific responses or text revisions under the NEPA regulations, they have been considered by the Ely Field Office and Nevada State Office and documented in the administrative record associated with the Ely RMP.

Responses to Letter B11

B11-18 The Ely Field Office assumes the comment addresses Revised Statute (RS) 2477. As was discussed in Section 1.6.2.3 of the Proposed RMP and Final EIS, RS 2477 issues are beyond the scope of the Ely RMP.

Letter B12

Ely Draft RMP/EIS
Comment Form

Informed decisions are better decisions: BLM believes that extensive public involvement will serve to improve communication, develop enhanced understanding of different perspectives, and identify solutions to issues and problems. We look forward to hearing from you!

Where to provide comments: You can hand this form in at The Ely BLM Field Office (702 N. Industrial Way) or mail it in using the address on reverse

Tips on providing effective comments: The BLM land use planning process is based on agency policy, science, and social value. Specific comments that deal with important management methods and decisions are extremely helpful to the BLM. Overly general statements of support or opposition are less effective. Also remember that this RMP will deal with broad management decisions, not site-specific actions.

Name Thomas Brunson County White Pine

Title Outfitter Affiliation Timberline Outfitters Guide Service

Mailing Address PO Box 667

City McGill State NV Zip 89318

Date 09/05/05 Meeting Location (if applicable) _____

☐ Please check box if you do not want your name released when comments are made public.

COMMENT (use back side if you need additional space or attach additional sheets)

B12-1 I have read all Info provided and I am strongly In favor of Alternative C. to me it sounds the fairest of all options. I think that if you put it out to competitive bid you will kill the little guy.

Return comments during the open house or mail postmarked by:
November 28, 2005
To Return Via Mail:
Fold in thirds so that BLM address (on reverse) is showing, add postage, tape bottom of fold, and mail.

Responses to Letter B12

B12-1 In response to this and similar comments, the management action in Section 2.4.15.2 of the Proposed RMP and Final EIS regarding outfitter and guide permits has been revised.

Letter B13

TRAC-ON
TRAIL RIDE ADVENTURE CIRCUIT OF NEVADA

NOV 2005

November 25, 2005

Subject: Public Comments on Ely BLM EIS RMP.

On behalf of Eugene Entertainment Inc. and its Non-Competitive Trail Ride Series TRAC-ON, (Trail Ride Adventure Circuit Of Nevada) we are commenting on the new RMP within the BLM Ely field office. At the end of TRAC-ON's second year 2005 we represent over 300 individual persons on its mailing list. TRAC-ON's mailing list grows 25-50 individual persons per ride. By the end of 2006 TRAC-ON estimates 450 people on its mailing list.

B13-1 Regarding the Ely RMP TRAC-ON's position and choice would be Alternative A. We recognize that Alternative A would better suit the OHV community. Further more Alternative A follows the philosophy of other Nevada BLM field offices. That philosophy is no net land loss to OHV opportunities. All other alternatives show net land losses in upwards of two-thirds of current available land for OHV use. TRAC-ON also has the opinion that with the population growth in the Las Vegas area, available land for OHV opportunities in the Ely District will become more viable in the future.

B13-2 In closing I would also like to mention that OHV Education should be implemented to further assist in the Management of the Ely District. I am always available for suggestions on education. Thank You for taking the time to read these comments.

Sincerely,
Daryl Folks
Daryl Folks
President, E.E.I
Owner, TRAC-ON

SPORTSMAN 3475 Boulder Highway • Las Vegas, Nevada 89121 • Phone: (702) 641-6401 • Fax: (702) 431-6001

Responses to Letter B13

B13-1 The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. Areas are designated as "open" for cross country vehicle use where there are no compelling resource protection needs, user conflicts, or public safety issues. No areas managed by the Ely Field Office were determined to meet those criteria. The Ely Field Office is designating a majority of the planning area as "limited" in the Proposed RMP. The "limited" designation would still provide for off-highway vehicle opportunities, including potential new off-highway vehicle trails, while managing for public safety and resource protection needs. The only areas designated as "closed" to off-highway vehicle travel correspond to currently designated wilderness and wilderness study areas. Please note that the Nevada BLM has no policy regarding "no net land loss to OHV opportunities".

B13-2 The Ely Field Office currently presents several off-highway vehicle education safety and responsible use courses in the White Pine County and Lincoln County school districts. This program is expanding in Lincoln County under a grant including provisions for off-highway vehicle education.

Letter B14

TRAC-ON
TRAIL RIDE ADVENTURE CIRCUIT OF NEVADA

November 25, 2005

Subject: Public Comments on Ely BLM EIS RMP.

B14-1 On behalf of Eugene Entertainment Inc. and TRAC-ON, I have enclosed two maps with yellow highlighting in the N. Pahroc Range up to the Schell Creek Range. TRAC-ON is proposing that the yellow area remain open to Non-Competitive SRP's only. In 1990 and 1991 this particular area was permitted for two consecutive race events put on by the BITD. TRAC-ON has an application currently in process to re-approve this area for a Non-Competitive trail ride in June of 2006. In order for the area to be re-approved a new EA will need to be performed which will be time consuming and costly. Taking a more conservative approach in this area will help maintain OHV access but yet provide a low impact affect.

For the new RMP I hope that the Ely District will take serious consideration to TRAC-ON's proposal of this area. Thank You for taking the time to read these comments and letting TRAC-ON express its opinion.

Sincerely,

Daryl Folks
President, EEI
Owner, TRAC-ON

NOV 2005

SPORTSMAN 3475 Boulder Highway • Las Vegas, Nevada 89121 • Phone: (702) 641-6401 • Fax: (702) 431-6001

Responses to Letter B14

B14-1 In response to your comment, the text in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised to clarify special recreation permits for non-competitive off-highway vehicle events. Those events would be permitted on a case-by-case basis outside of desert tortoise ACECs.

Letter B15

Dear Mr. Drais;

John Uhalde & Company has attempted to review the Draft RMP/EIS for BLM's Ely district and offers the following comments:

--Note that any topic not addressed here is not necessarily agreed with nor endorsed in any way by John Uhalde & Co., but most likely was not commented on due to the extremely confusing and cumbersome way this document was put together.

B15-1 --The comment period needs to be extended. BLM had over 2 years to put this project together, with the hiring of a contractor. The public had just days, how do you think it rationally possible for people not employed to specifically comment on this, to do so in that time frame?

B15-2 --The EXTREME difference in the document itself and the errata sheet lends grave concerns regarding the potential outcome of this RMP revision for multiple-use of the Ely District. This issue needs to be re-addressed on a case by case basis, so there is NO confusion regarding the intention and direction of the BLM on any of the errata sheet issues. Also, ALL discrepancies with the original documentation given to the contractor needs to be made available to the public before ANY final decision is made.

B15-3 --2.5.3 Water resources: Introduction; While BLM would like to have "the right to be involved in the subsequent state permitting process's"
following an application for a change in an existing water right or an application for a new permit, it merely has the opportunity to comment on the application on the same level as any person.

B15-4 --The manner in which BLM has dealt with its proposed changes in grazing is totally inadequate. Any proposal to re-allocate adjudicated AUMs will be a question of taxable property, as recognizes by the IRS.

B15-5 --4.1.4.4 Bighorn Sheep and Domestic Sheep Interactions : Your cavalier treatment of closing domestic sheep allotments to accommodate Bighorn at some time in the future is completely unacceptable. Your information presented is, by your own account "incomplete Information" , using "unknown" effects and "conjecture". From this you conclude "the preponderance of evidence indicates negative interaction" between the two species. How completely absurd is that? The preponderance of incomplete, unknown conjecture is just incomplete unknown conjecture.

B15-6 Your stated
conclusion: "THE COST TO IDENTIFY AND CHARACTERIZE DISEASE VECTORS WITHIN BIGHORN SHEEP POPULATIONS ON THE ELY DISTRICT DURING THE RMP/EIS PREPARATION WOULD BE EXORBITANT" If BLM can't do or find the proper research to reach a conclusion that is neither incomplete and unknown or conjecture then the conclusion is just that: incomplete, inconclusive, conjectural and stated as "unknown".

B15-7 --BLM has not addressed any issues of Elk summer and winter forage that "pioneering" elk, as lack of responsible elk management is preferred to be called,which will happen and is indeed happening now, on the east side of the Grant and Quinn ranges.

Responses to Letter B15

B15-1 The required comment period on a Draft RMP and EIS is 90 days. BLM elected to set a 120-day comment period for the Ely Draft RMP and EIS and did not formally extend this period. Although the BLM did not elect to extend the official comment period for this document, comments received after the end of the comment period were considered as late as practicable within the overall document revision and publication process. Comments that were received after the close of the comment period have been accepted and considered in the preparation of the Proposed RMP and Final EIS.

B15-2 Modifications identified in the Errata Sheet have been tracked through the Proposed RMP and Final EIS. Consistency concerns were raised by a number of commenters. Chapters 2 and 4 in particular have been revised to correct inconsistencies among resource programs.

B15-3 In response to your comment, the text in Section 2.4.3 of the Proposed RMP and Final EIS has been modified to clarify the BLM's involvement in water permitting.

B15-4 Livestock grazing use will continue to be monitored and evaluated and coordination and consultation with the affected permittees, other agencies, and public interests would continue as allowed under regulation. Changes in allocated AUMs could affect ranch values, but such implementation-level impacts to taxable property are outside the scope of the RMP.

B15-5 Thank you for your comment. The text in Section 4.1.4.4 of the Proposed RMP and Final EIS has been revised to clarify the discussion of bighorn sheep and domestic sheep and goat interactions. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

B15-6 Please refer to Response to Comment B15-5.

B15-7 In response to this and similar comments, the text in Chapters 2 and 4 related to elk management has been revised to clarify that habitat management for this species (under the Proposed RMP and Alternatives B and C) would conform to the county elk management plans.

Letter B15 Continued

B15-8 --The addressing of the proposed rail spur for the D.O.E.'s Yucca Mountain Project is completely inadequate. This major project , which bi-sects our southern allotments, has been given little or no analysis of the potential impacts that would occur if this is built. It is essential the BLM address the impacts to Air Quality; water; Soil; vegetation;noxious weeds; fish and wildlife; wild horses;soils; visual; cultural; lands and reality;; grazing; special designations and economic impacts among others.

B15-9 --Map 2.4.-38 It would appear from this map that the private property in the Gleason creek watershed would be come a "Motorcycle Special Recreation Permit Area" . BLM, of any agency, should be aware of the years of conservation and repair work that we have done in the Gleason creek area, as it was done in conjunction with BLM. While it is unknown to John Uhalde and Company what BLM recreation plans are, any special use permit in this area needs to be done with a great deal of consultation and coordination with private property owners.

B15-10 --Your Impacts of Interrelated projects is inaccurate as well as incomplete. A glaring example is the statement that DOE's rail line withdrawal has no effect on Surface Disturbance other than the 200 foot wide right of way. The current 10 to 20 fold increase of truck and ATV traffic doing just EIS work has disturbed the surface of all roads and trails and then some in this areas.

B15-11 These comments reflect a grave concern with the Draft RMP/EIS for the Ely District in its entirety. It appears that there are many proposals and policies being put forth in this document that are attempting to reverse many years of cooperative work between Private Property owners and the BLM.

B15-12 Many parts of the document are in need of revision to seemingly match the original documentation which was given to the contractor and a new comment period needs to be issued after the corrections have been made. This is to important of a document to be left in this unprofessional and questionable manner.

Sincerely;
John Uhalde & Company
P.O. Box 151088
Ely, Nevada 89315

Responses to Letter B15

B15-8 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP. Analysis of the impacts of the construction and operation of the Yucca Mountain rail spur will be conducted by the Department of Energy and presented in an EIS prepared by that agency.

B15-9 Thank you for your comment. Ely Field Office management actions of the Proposed RMP and Final EIS would apply only to public lands and not private lands. In response to your comment, Maps 2.4-42, 2.4-43 and 2.4-44 in the Proposed RMP and Final EIS have been modified to more clearly present that non-BLM administered land is not part of the Motorcycle Special Recreation Permit Areas. Permitting for motorcycle events will continue to involve potentially affected private property owners.

B15-10 Please refer to Response to Comment B15-8 for a discussion of impacts of the Yucca Mountain rail spur. Also see Table 4.28-2 in the Proposed RMP and Final EIS for a listing of those resource programs that could affected by the rail spur project.

B15-11 The Ely Field Office intends to continue operating in a cooperative manner with all agencies, organizations, and individuals that have an interest in the management of the public lands in the Ely RMP planning area.

B15-12 The Ely Field Office is uncertain what "original documentation" the comment is referring to. The purpose of the Draft RMP and EIS was to solicit comments so that the Proposed RMP and Final EIS could be corrected, clarified, or expanded as appropriate. Comments that were received on the Draft have been incorporated into the Proposed RMP and Final EIS as reflected in the responses to comments contained in this Appendix. A new comment period is not needed.

Letter B16

This letter is written in regard to the Ely District BLM resource management plan EIS draft, chapters 1,2,3. July 2005.

My name is Shawn Lytle. I own and operate White Rock Outfitters in Eagle Valley Nv. I have been a resident of Lincoln Co. a hunter, sportsman and rancher for 34 years. It was brought to my attention that I missed the open meeting where I could have voiced my comments regarding the proposed alternatives in the resource management plan/EIS that affect my business.

I have read the proposed alternatives and I understand that the BLM is leaning toward alternative E.

B16-1 First of all, I don't completely agree with any of the alternatives. I as an outfitter have nothing in common with off highway vehicle recreation. I don't understand why the outfitters are being lumped in with that group of people.

B16-2 I am very much against the idea of an open bid process. I already pay the BLM for a land use permit that allows me to guide and operate my business on public land even though I don't impact the land any more than an average hunter does. An open bid process would force me to compete with outfitters who have far deeper pockets than I do. It would force me, and other outfitters like me, out of business.

B16-3 I think the idea of limiting the number of outfitters has merit, however, I think consideration should be given to the outfitters who have aquired land use permits and maintained them. I also think that outfitters that live in the geographical areas where they hunt should be given preference over non-resident outfitters.

B16-4 Another alternative may be to give the existing permitees special consideration and instead of open bid, a draw process with no fee or bid involved. I also think that in the event an outfitter recieves a permit to hunt in an area, he retains that permit for as long as he wants it. The permit may also be renewed every three years with the option to give up the permit.

B16-5 These are just a few ideas that might be considered and all would be better than any bid process. I hope that our local BLM District cares more about the local citizens that use their public land than an increase in revenue.

In closing, I would ask that you consider my thoughts on this matter, as they are the thoughts of many of my peers.

Sincerely, Shawn Lytle
White Rock Outfitters

(775) 962-5667
962-1115 cell

Responses to Letter B16

B16-1 In response to this and similar comments, the management action in Section 2.4.15.2 of the Proposed RMP and Final EIS regarding outfitter and guide permits has been revised.

B16-2 In response to this and similar comments, the text in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised regarding the issuance of outfitter and guide permits. Monitoring of outfitter and guide use would still occur for three years; however, outfitter and guide permits would not be limited during that three year study. Should the study show resource impacts, including user conflicts as a result of outfitter and guide actions, the Ely Field Office may address those problems by issuing outfitter and guide permits with special stipulations and conditions. No allocation system, including a competitive bid process, is included in the Proposed RMP and Final EIS.

B16-3 Please refer to Response to Comment B16-2.

B16-4 Please refer to Response to Comment B16-2.

B16-5 Please refer to Response to Comment B16-2.

Letter F1

Comments on the BLM Resource Management Plan/Environmental Impact Statement for the Ely District

By James Potts, Natural Resource Conservation Service
Holly Rask, University of Nevada Cooperative Extension

F1-1 Comments on the BLM RMP/EIS will follow table 2.4-1 in section 2.4 Summary of Management Direction by Alternative. As a whole, the majority of actions for resource management are agreed with. There are some areas for suggested changes and in need of clarity which are listed below:

F1-2 Under the VEGETATION:
Parameter – Pinyon-juniper Woodland
Alternative C or a combination between B and C would be preferred.
In the first row alternative B could use rewording to "...achieve a variety of phases capable of recuperating after disturbance and provide essential wildlife". This avoids saying resistant which is not achievable and simplifies the statement to the goal outcome. The terms resilient and resistant need to be defined in the glossary and then used appropriately.

F1-3 Second row – Where are we going with 77% of the woodland – what is the treatment and how can this much be treated? Commercial uses (mentioned in Alt C) could help drive treatment of 77% of the woodland.

F1-4 Parameter – Aspen
We agree with the choice of alternative B. It is recommended to add 'more' in front of "resistant to disturbance" because it will never be totally resistant. The terms resilient and resistant need to be defined in the glossary.

F1-5 Parameter – High Elevation Conifer Species
We agree with alternative C but wonder why the same didn't apply for pinyon-juniper woodland.

F1-6 Parameter – Salt Desert Shrub
We agree with proposed action.

F1-7 Parameter – Sagebrush
We agree with the choice of alternative B. Two questions come up: "How can such a large area be treated? And what kind of impact will the treatment activity have on current livestock operations. Flexibility for management of livestock and grazing allotments will be required.

F1-8 Parameter – Mountain Mahogany
We agree with proposed action.

F1-9 Parameter – Mojave Desert Vegetation
More work will be required on fire prevention and rehabilitation.

Responses to Letter F1

F1-1 Comment noted.

F1-2 In response to your comment, in Table 2.9-1 has been revised to incorporate the wording you suggest. Please refer to the Glossary in the Draft RMP and EIS and Proposed RMP and Final EIS for definitions of resilient and resistant.

F1-3 The 77 percent of existing woodland would be treated to achieve the desired future conditions presented in the Proposed RMP for pinyon and / or juniper. Treatments would utilize all tools available, individually or in combination. Please see Appendix H in the Proposed RMP and Final EIS for a listing of Tools and Techniques.

F1-4 In response to your comment, the text related to Alternative B in Section 2.6.5.3 of the Proposed RMP and Final EIS has been revised to incorporate the wording you suggest. Please refer to the Glossary in the Draft RMP and EIS and Proposed RMP and Final EIS for definitions of resilient and resistant.

F1-5 The management direction in Alternative C has been incorporated into the Proposed RMP. Pinyon and /or juniper communities as a whole are generally more accessible, whereas most of the High Elevation Conifer areas are not.

F1-6 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-7 The management direction in Alternative B has been incorporated into the Proposed RMP. The vegetation treatment would be implemented over a long period of time, as determined appropriate through watershed analyses. Areas of treatment would require exclusion of livestock per BLM policy; however, there would be a balance of treatment acres among watersheds and allotments to lessen the effect on current livestock operations.

F1-8 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-9 Fire prevention and rehabilitation are important components of the Proposed RMP.

Letter F1 Continued

F1-10 Parameter – Riparian/Wetlands
Hydrologic function should be first consideration and then plant community structure and composition.

F1-11 Parameter – Nonnative Seedlings
We agree with proposed action.

F1-12 FISH and WILDLIFE
We agree with proposed action.

F1-13 TERRESTRIAL WILDLIFE
We agree with proposed action.

F1-14 SPECIAL STATUS SPECIES
We agree with proposed action. Under Parameter – Great Basin, sage grouse row 4, what is the definition of occupied source habitat and occupied isolated habitats?

F1-15 WILD HORSES
We agree with proposed action.

F1-16 CULTURAL RESOURCES
We agree with proposed action.

F1-17 VISUAL RESOURCES
We agree with proposed action.

F1-18 LANDS AND REALTY
Parameter – Disposal of public lands
What was the basis on how the locations were decided? Did it consider impact on economics, lifestyle, etc.? Is the land meant for farming, residential, industry? More thought and effort needs to go into the selection of lands for disposal.
Other parameters - We agree with proposed action.

F1-19 RENEWABLE ENERGY
We agree with proposed action.

F1-20 TRAVEL MANAGEMENT AND OFF-HIGHWAY VEHICLE USE
Parameter – Off highway Vehicles
The "0 acres – open to cross county off-highway vehicle use" is too restrictive and does not appear to allow access for emergency, research, and ranchers to service needs or retrieve cattle.

F1-21 RECREATION
The question of who will mitigate damages to roads caused by events and under what conditions will events be cancelled (e.g. drought) is left unanswered.

Responses to Letter F1

F1-10 Hydrologic function is tied to plant community structure and composition, and the two are not separable and would be considered together on a watershed basis. Riparian/wetlands are part of a watershed system and would exhibit ecological site integrity.

F1-11 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-12 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-13 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-14 In response to your comment, the Glossary in the Proposed RMP and Final EIS has been updated to include clarification of the terms identified in Table 2.9-1.

F1-15 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-16 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-17 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-18 The lands proposed for disposal were selected in coordination with county officials. The counties held public meetings to get input on where the Ely Field Office should dispose of public lands and then provided their choice of lands to be available for disposal that would best meet the county's future needs. The proposed lands are concentrated around the communities in the planning area to provide for community expansion for residential, commercial, and public purpose uses.

F1-19 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-20 In response to your comment, the text in Section 2.4.14.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of Off Highway Vehicle Designations. Please refer to Section 2.4.14.1, transportation plan, in the Proposed RMP and Final EIS for a discussion of emergency motorized vehicle access.

F1-21 Thank you for expressing your concern. Special Recreation Permits for off-highway vehicle events are issued following site-specific environmental analysis and may contain special stipulations, such as a requirement to notify other permittees or a requirement to rehabilitate damaged roads in a timely manner.

Letter F1 Continued

F1-22 LIVESTOCK GRAZING
Parameter – Lands Available for Livestock Grazing
We agree with proposed action.

F1-23 Parameter – Permit administration
We support alternative E in achieving greater flexibility from administration on adjusting grazing according to the plant population response to grazing and the year's climate.

F1-24 Parameter – Kind of Livestock
We agree with proposed action.

F1-25 Parameter – Livestock Management in Bighorn Sheep Ranges
We agree with proposed action.

F1-26 Parameter – Non-use Relinquished Permits
We agree with proposed action.

F1-27 Parameter – Temporary Nonrenewable
What is "temporary non-renewable grazing"?

F1-28 Parameter – Water Hauling
We agree with proposed action.

F1-29 WOODLAND AND NATIVE PLANT PRODUCTS
Parameter – Fuelwood collection
It is not clear whether this is live or dead trees. This section should be linked to vegetation management plan and treatment of woodlands.

F1-30 Parameter – Pinyon Pine Nut Harvesting
We agree with proposed action.

F1-31 Parameter - Christmas Tree Harvest
We agree with proposed action.

F1-32 Parameter – Post and Pole Harvesting
We agree with proposed action.

F1-33 Parameter – Seed Collection
Collection permission should remain on a case-by-case basis. It is important to prevent over-harvesting.

F1-34 Parameter – Cactus and Yucca Collection
We agree with proposed action.

F1-35 Parameter – Other Vegetation Product Collection

Responses to Letter F1

F1-22 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-23 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-24 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-25 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-26 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-27 Please refer to Section 2.5.16.2 in the Proposed RMP Final EIS for an explanation of "temporary non-renewable" grazing.

F1-28 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-29 In response to your comment, the text in Section 2.4.17.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion that fuelwood collection would include both live and dead trees.

F1-30 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-31 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-32 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-33 In response to your comment, the Proposed RMP in Section 2.4.17.6 of the Proposed RMP and Final EIS has been changed to allow commercial use on a case-by-case basis. Please refer to Section 2.4.17.6 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of how BLM would prevent over-harvesting.

F1-34 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-35 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

Letter F1 Continued

F1-35 We agree with proposed action.

F1-36 GEOLOGY AND MINERAL EXTRACTION
We agree with proposed action.

F1-37 WATERSHED MANAGEMENT
We agree with proposed action.

F1-38 FIRE MANAGEMENT
We agree with proposed action.

F1-39 INVASIVE AND NONNATIVE PLANT SPECIES, INCLUDING NOXIOUS WEEDS
We agree with proposed action.

F1-40 SPECIAL DESIGNATIONS
Parameter - Areas of Critical Environmental Concern
How do these affect livestock grazing?

F1-41 Parameter – Back Country Byways
We agree with proposed action.

F1-42 Parameter – Designated Wilderness (Section 2.5.22.3) is missing from table 2.4-1
We agree with proposed action.

F1-43 Parameters - Wilderness Study Areas
Table 2.4-1 references the wrong Section (2.5.22.3 instead of 2.5.22.4)
It is unclear what management will happen in Wilderness Study Areas. What are wilderness characteristics?

F1-44 Parameters - Other special designations
Table 2.4-1 references the wrong Section (2.5.22.4 instead of 2.5.22.5)
We agree with proposed action.

Responses to Letter F1

F1-36 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-37 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-38 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-39 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-40 Please refer to Section 4.16 in the Proposed RMP and Final EIS for a discussion of the acreage that would be lost to livestock grazing with the designation of ACECs under each alternative.

F1-41 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-42 Since the management related to wilderness is common to all alternatives, a parameter related to this topic is not needed in Table 2.9-1. The table heading has been corrected in the Proposed RMP and Final EIS to eliminate this erroneous reference to Section 2.4.22. The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

F1-43 Section references have been eliminated from Table 2.9-1. Please see Section 2.5.22.4 for discussion of the management for Wilderness Study Areas and to Section 2.5.22.5 for the management of Other Special Designations. Wilderness characteristics are defined by wilderness regulations. (Please also see Section 1.6.2.1 for further discussion of these areas).

F1-44 Please refer to Response to Comment F1-43.

Letter F1 Continued

Please find attached a review of the Ely RMP/EIS by James Potts, NRCS and Holly Rask, UNCE.

Holly Rask, Ph.D.
Extension Educator
Cooperative Extension for Lincoln County University of Nevada, Reno P.O. Box 728 Caliente NV 89008-0728
Phone: 775-726-3109
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Email: raskh@unce.unr.edu
www.unce.unr.edu
(See attached file: 051122 Comments BLM RPM.doc)

Letter F2

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

18 November 2005

Gene Drais, Project Manager
Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely NV 89301

Ms Eloisa V. Hopper
99 CES/CEV
4349 Duffer Drive Suite 1601
Nellis AFB NV 89191-7007

NOV 2005

Dear Mr. Drais,

On behalf of the United States Air Force, Nellis AFB greatly appreciates being invited to participate as a Cooperating Agency for this document.

Attached are our comments to the draft Resource Management Plan/Environmental Impact Statement for the Ely District. While we consider all of our comments important, of key interest to Nellis AFB and the DoD are land disposals, which bring the potential for residential development underneath military airspace and Wind Energy development, which can have serious flight safety and mission impacts. If you have any questions, my point of contact in this manner is Mr. Jim Campe, (702) 652-5813.

Sincerely,

Eloisa V. Hopper

ELOISA V HOPPER, Chief
Environmental Flight

Attachment(s):
1. Air Force Comments to the RMP/EIS
2. Avigation Disclosure Statement

Global Power for America

Letter F2 Continued

Ely RMP/EIS		Comment Form for Draft RMP dated July 2005			
Instructions:					
a) The Excel file automatically wraps the text in a cell. Although you may not be able to see all of your comment at one time, it is there. Please do not extend comments to the next row. This makes it impossible to pull the comment into our Access database.					
b) Please do not reference other comments using the row number on your comment form. When pulled into Access, this context disappears.					
Page Number (e.g., 1.5-9 [bottom of printed page])	**Section Number (e.g., 1.3.4)**	**Paragraph Number (counting from the first full paragraph on the page)**	**Line Number (counting from the first line of the paragraph)**	**Comment**	**Author**
2.4-23	table 2.4-1	1		Alternative B and E show our Mt Irish NACTS site in the middle of a VRM Class II area. While the map appears to have cut our ROW out of the affected lands, we are totally surrounded. Will BLM levy rulings that require monies to correct? i.e. re-paint facilities? We need the detailed map that shows the area.	schofield
2.4-25	table 2.4-1	4		Table references map 2.4-25. Some of the areas shown as compatible for wind energy development conflict with our RF/EMI mission. Development in the areas as shown on the BLM map could impact our mission. To evaluate this, we need a better map of the BLM wind areas. Request GIS coverage from BLM so that we can overlay our RF/EMI areas with the BLM compatible wind use areas map.	schofield
2.4-37	table 2.4-1	1		Alternative B and E show our Mt Irish NACTS site in the middle of a ACEC area. While the map appears to have cut our ROW out of the affected lands, we are totally surrounded. Will BLM levy rulings that require monies to correct? Will they limit our activities? Will they not renew our ROW. This is a key node in our battle space. Limiting our activities or refusing to renew our ROW will have a significant impact to our mission.	schofield
2.5-111	2.5.11	2	all	Alternative B and E show our Mt Irish NACTS site in the middle of a VRM Class II area. While the map appears to have cut our ROW out of the affected lands, we are totally surrounded. Will BLM levy rulings that require monies to correct? i.e. re-paint facilities? We need the detailed map that shows the area.	schofield
2.5-113	2.5.12	3	1	"The Ely Field Office would be responsive to the public's needs..." Does "public" also include Federal agencies (DoD or Air Force)? If not, recommend adding Federal Agencies to this paragraph.	schofield
2.5.114	2.5.12	1	3	"meet public needs..." Does "public" also include Federal agencies (DoD or Air Force)? If not, recommend adding Federal Agencies to this paragraph.	schofield
2.5.115	2.5.12.1	2	16	Reference to Appendix O. Request a GIS coverage of the lands mentioned here so we can compare our mission use areas to lands recommended for sale to the public for development.	schofield
2.5-126	2.5.12.6	3	6	Recommend changing sentence to read; "Coordinate with Department of Defense on all communication towers over 100 foot above ground level."	schofield
2.5-127	2.5.12.7	2	2	Recommend changing sentence to read; "Coordinate with Department of Defense on all communication towers over 100 foot above ground level."	schofield
2.5-129	2.5.13.1	1	5	Recommend changing sentence to reflect the wording in the *Final Programmatic EIS on Wind Energy Development on BLM Administered Lands in the Western United States*, June 2005;Section 5.10.3; "... constraints to military testing and training operations could be the basis for denial of a ROW authorization should there be no available mitigation measures. Therefore, developers should conduct preapplication consultations with the BLM and the appropriate military repesentatives."	schofield/campe
2.5-132	2.5.14.1	2	1	This sentence references a "review team". Request that Nellis AFB is invited to become part of the review team.	schofield/campe

F2-1 F2-2 F2-3 F2-4 F2-5 F2-6 F2-7 F2-8 F2-9 F2-10 F2-11

Responses to Letter F2

F2-1 Rights-of-way are subject to valid existing rights. Visual resource management would not require the Air Force to modify or remove existing facilities.

F2-2 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. Applications received for wind energy development would be subject to NEPA analysis in coordination with local, state, and other federal agencies. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for wind energy development are received and evaluated.

F2-3 Please refer to Sections 2.4.12.7 and 2.4.22.1, management common to all alternatives, for a discussion of valid existing rights. Rights-of-way are subject to valid existing rights. ACEC management would not require the Air Force to modify or remove existing facilities.

F2-4 Please refer to Response to Comment F2-1.

F2-5 In response to your comment, the text in Section 2.4.12 of the Proposed RMP and Final EIS has been revised to include the needs of Federal Agencies in land use authorizations by the Ely Field Office.

F2-6 Please refer to Response to Comment F2-5.

F2-7 The requested GIS coverage will be provided.

F2-8 In response to your comment, the text in Section 2.4.12.6 of the Proposed RMP and Final EIS has been revised to clarify coordination with the Department of Defense on communication towers.

F2-9 In response to your comment, the text in Section 2.4.12.6 of the Proposed RMP and Final EIS has been revised to clarify coordination with the Department of Defense on rights-of-way equipment.

F2-10 In response to your comment, the text in Section 2.4.13 of the Proposed RMP and Final EIS has been expanded to clarify coordination with the Department of Defense on wind energy proposals.

F2-11 The Ely Field Office will continue to involve Nellis Air Force Base in decisions that affect its operations.

Letter F2 Continued

2.5-132	2.5.14.1	2	all	The terms/definitions in this paragraph do not match the terms/definitions on map 2.4-30. Recommend using same terms/definitions.	schofield	F2-12	
2.5-137	table 2.5-11			Right hand column - Primary Values. Where are these values defined in this document? The "heritage tourism" appears to be in the same area the off road racing in alternative E?	schofield	F2-13	
2.5-138	2.5.15.1	4	all	This is confusing. table 11 lists all Special Recreation areas. Map 36 shows additional area Pancake and re-labels Chief Mountains to Silver State. Map 30 shows areas for Off-highway (roads/trail) Use but the Special recreation areas are for same activity. Looking at map 30, I would say we can drive on roads and trails throughout the district except in the wilderness areas. But the other maps seem to modify and further restrict map 30. This is not clear.	schofield	F2-14	
2.5-177	2.5.19	3	all	watershed management - are the BLM watersheds consistent with designated Nevada hydrographic water basins? If watershed management activities include water production (wells, etc), the discussion should be consistent with State Law and the designated basins.	Shupe	F2-15	
2.5-188	2.5.20.1	3	all	Need to compare to the LV District Fire Plan to see how LV characterizes land contiguous to the Ely district.	schofield	F2-16	
2.5-246	2.5.22.1	1	2	"...rights-of-way may be granted if there is minimal conflict" and "valid existing rights would remain in effect." Will our valid ROW be renewed? It does not say this. It does say ROW will be granted if minimal impact. Does this include ROW renewal? If so, how restrictive will they get on our ROW? Will they require large changes (money)? Recommend language grandfathering existing ROWs that protects ROW holder from changes. Changes during equipment change out that can be met(color of antenna or dish) are not a problem. Changes that require additional construction (screen walls, re-engineering antennas and dishes) should not be	schofield	F2-17	
3.3-8	3.3	1	1	The discussion of water rights seems to focus on surface water rights and no mention about ground water rights. Further, it provides an explanation about federal reserve water rights but says BLM would apply for state water rights. Are these water rights from ground water sources or surface waters sources? The second sentence states there are no surface water rights available, if the BLM requires federal reserve water rights, why ask the state engineer for a permit? This is confusing, please clarify this concept.	Shupe/Campo	F2-18	
3.12.4	Table 3.12-4		all	Table does not reference PL 106-65 land withdrawal. Map 1.2-1 shows the Ely Planning Area as including a portion of the NTTR withdrawn lands.	schofield	F2-19	
3.12.4	3.12.1	1	all	This paragraph does not list AF or DoD use of public lands via ROW. Recommend adding DoD use of public lands via ROW.	schofield	F2-20	
1.2-2	Map 1.2-1			Why does this map show a portion of the NTTR withdrawn lands as inside the Ely Planning district? The portion is managed by the LV BLM Office. In looking through the maps, most of the maps ignore this portion of the Ely District. Which way is it supposed to be?	schofield	F2-21	
.	map 2.4-5			Alternative B and E show our Mt Irish NACTS site in the middle of a VRM Class II area. While the map appears to have cut our ROW out of the affected lands, we are totally surrounded. Will BLM levy rulings that require monies to correct? i.e. re-paint facilities? We need the detailed map that shows the area.	schofield	F2-22	
.	map 2.4-20			Request a GIS coverage of the lands mentioned here so we can compare our mission use areas to lands recommended for sale to the public for development.	schofield	F2-23	
	map 2.4-24			Map 2.4-25. Some of the areas shown as compatible for wind energy development conflict with our RF/EMI mission. Development in the areas as shown on the BLM map could impact our mission. To evaluate this, we need a better map of the BLM wind areas. Request GIS coverage from BLM so that we can overlay our RF/EMI areas with the BLM compatible wind use areas map.	schofield	F2-24	
	map 2.4-30			Map 30 shows areas for Off-highway (roads/trail) Use but the Special recreation areas are for same activity. Looking at map 30, I would say we can drive on roads and trails throughout the district except in the wilderness areas. But the other maps seem to modify and further restrict map 30. This is not clear. See	schofield	F2-25	

Responses to Letter F2

F2-12 Designations for areas open to OHV use and travel designations for roads are two different things. The terms/definitions are not intended to match exactly.

F2-13 Table 2.5-11 from the Draft RMP/EIS has not been carried forward into this document. Please refer to Sections 2.4.15.1, 2.5.15.1, 2.6.15.1, 2.7.15.1, and 2.8.15.1 in the Proposed RMP and Final EIS for discussions of management actions by alternative for each proposed Special Recreation Management Area. The Primary Values in each Special Recreation Management Area will be addressed in more detail in subsequent activity level plans. There is no conflict between areas for heritage tourism and off-road racing in the Proposed RMP.

F2-14 In response to your comment, Maps 2.4-15-1 in the Proposed RMP and Final EIS have been modified to more clearly present Special Recreation Management Areas.

F2-15 The watersheds identified in the Proposed RMP are not identical to designated Nevada hydrographic water basins. The BLM does not regulate or manage groundwater or surface water production, which is the responsibility of the Nevada Division of Water Resources, State Engineer's Office.

F2-16 Please refer to Section 1.8.3.1 in the Proposed RMP and Final EIS for a discussion of the inconsistencies between the Ely Fire Plan and similar plans of adjoining jurisdictions. These inconsistencies are relatively minor and have not proven to result in management difficulties.

F2-17 Please refer to Section 1.5 and Table 2.9-1 in the Proposed RMP and Final EIS for a discussion of management common to all alternatives for valid existing rights.

F2-18 In response to your comment, the text in Section 3.3.3 of the Proposed RMP and Final EIS has been revised to clarify the discussion of water rights.

F2-19 Although the portion of the NTTR lands referenced is within the Ely RMP planning area, it was not addressed in the Proposed RMP because it is managed by agreement through the Las Vegas Field Office.

F2-20 In response to your comment, the text in Section 3.12.1 of the Proposed RMP and Final EIS has been expanded to include Military Operations Areas and list Department of Defense use of public lands via rights-of-way.

F2-21 The Ely RMP planning area shown on Map 1.2-1 is the geographic area within which the BLM will make decisions. The planning area boundary includes all lands regardless of jurisdiction; however the BLM decisions will only apply to those lands which have appropriate BLM's jurisdiction (surface or subsurface). The Ely Field Office is administratively responsible for all lands in Lincoln County. By agreement, the BLM Las Vegas Field Office manages actions pertaining to the NTTR withdrawn lands.

F2-22 Please refer to Response to Comment F2-1.

F2-23 The requested GIS coverage will be provided.

Responses to Letter F2

F2-24 Please refer to Response to Comment F2-2.

F2-25 Please refer to the text in Section 2.4.14.2 in the Proposed RMP and Final EIS for discussion related to management of off-highway vehicle use on roads and trails in the Ely RMP decision area and to Section 2.4.15.1 for discussion regarding Special Recreation Management Areas. Map 2.4.14-1 in the Proposed RMP and Final EIS is related to planning area-wide travel management, not SRMA management. This map and others have been revised in the Proposed RMP and Final EIS to improve clarity of the information being presented.

Letter F2 Continued

	map 2.4-55			Alternative B and E show our Mt Irish NACTS site in the middle of a ACEC area. While the map appears to have cut our ROW out of the affected lands, we are totally surrounded. Will BLM levy rulings that require monies to correct? Will they limit our activities? Will they not renew our ROW. This is a key node in our battlespace. Limiting our activities or refusing to renew our ROW will have a significant impact to our mission.	schofield	F2-26
	map 2.5-3			Need to compare to the LV District Fire Plan to see how LV characterizes land contiguous to the Ely district. Are they characterized the same?	schofield	F2-27
				• Air Quality and Climate - Management Common to All Alternatives: • Add #5: coordinate with DoD relative to planning of prescribed burns within the MOA/NTTR.	Shupe	F2-28
4.11-3	4.11	5	all	Alternative B and E show our Mt Irish NACTS site in the middle of a VRM Class II area. While the map appears to have cut our ROW out of the affected lands, we are totally surrounded. Will BLM levy rulings that require monies to correct? i.e. re-paint facilities? We need the detailed map that shows the area and to discuss possible restrictions/requirements that would be placed on this sight.	schofield	F2-29
4.12-1 and 4.12-8	4.12	4	Goals 1 and 2	Lands & Realty: no alternatives listed under goals 1 or 2 discussed the impact of military overflights on development or vice versa. Residential development would be impacted by overflights and subject to noise of low level overflights, sonic booms, use of chaff and flares, etc. Without proper disclosure, the impact on military operations would be increased noise complaints and potential flight restrictions. Recommend placing deed restrictions stating lands transfered under Military Operations Areas and Military Training Routes are subject to these impacts. A sample avigation disclosure is attached.	Shupe/Campe	F2-30
4.23-1	4.23	1	all	Economic Development: no discussion of the avigation issue. Since military overflights occur, it should be addressed. (See previous comment)	Shupe/Campe	F2-31
4.28-47	4.28.11	all	all	Section does not address impact if AF is required to modify/remove ROW assets in VRM area.	schofield	F2-32
4.28-50	4.28.13	all	all	Section does not address impact to AF airspace. If BLM allows towers/wind turbines to be built that enter AF airspace (usually 100 ft above ground level under our Military Operations Area) then BLM should consider DoD mission and safety before approving a ROW?	schofield	F2-33
2.5-188	2.5.20.1 and Map 2.5-3			Fire Management Zones around the NTTR do match to Fire Mgt Zones created by LV BLM within the NTTR. If a fire occurs on the border would that result in different fire responses between the two Field Offices?	Christensen	F2-34

Responses to Letter F2

F2-26 Please refer to Response to Comment F2-3.

F2-27 Please refer to Response to Comment F2-16.

F2-28 In response to your comment, the text has been expanded to include the wording you suggest (see Section 2.4.2).

F2-29 Please refer to Response to Comment S2-1.

F2-30 In response to your comment, new text you provided has been added to Section 3.12.1 and 4.12 of the Proposed RMP and Final EIS. However, the BLM Nevada State Director has declined to require deed restrictions on lands identified for disposal.

F2-31 Thank you for your comment. The BLM appreciates the Air Force's concern regarding the potential effects of lands management on its flight operations over the Ely RMP decision area. In response to your comment, text discussing the potential conflicts of land disposal with Military Operations Areas has been added to Section 4.12 (Proposed RMP), and a mitigation measure for this conflict has been added to Section 4.29 (Lands and Realty). With respect to economic development, the planning area's size, low density of development, concentration of lands considered for disposal in proximity to existing development, and other factors would reduce possible conflicts between military overflights and economic development potentials across the planning area.

F2-32 Please refer to Response to Comment F2-1.

F2-33 In response to your comment, the text in Section 2.4.13 of the Proposed RMP and Final EIS has been revised to clarify the discussion of land use authorizations that might affect the Air Force mission.

F2-34 Please refer to Response to Comment F2-16.

Letter F3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

November 22, 2005

Gene Drais, Project Manager
Bureau of Land Management
Ely Field Office
HC33 Box 33500
Ely, Nevada 89301

Subject: Draft Environmental Impact Statement (DEIS) for the Ely District Resource Management Plan, White Pine, Lincoln and Nye Counties, Nevada (CEQ #20050308)

Dear Mr. Drais:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act.

F3-1 The DEIS analyzes five alternatives and identifies Alternative E as the Preferred Alternative. Our review found that the DEIS sufficiently addresses the environmental impacts of this alternative. Accordingly, we have rated the Preferred Alternative as Lack of Objections (LO). Please see the enclosed Rating Factors for a description of EPA's rating system.

F3-2 EPA supports the approach of the Preferred Alternative which shifts management of resources from an individual resource allocation basis to an ecological systems basis. We also commend the Bureau for a highly collaborative process that included 14 cooperating agencies, including four Indian tribes.

EPA appreciates the opportunity to review this DEIS. When the Final EIS is released for public review, please send one copy to the address above (mail code: CED-2). If you have any questions, please contact me or David P. Schmidt, the lead reviewer for this project. David can be reached at 415-972-3792 or schmidt.davidp@epa.gov.

Sincerely,

Duane James, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosure: Summary of EPA Rating Definitions

Printed on Recycled Paper

Responses to Letter F3

F3-1 The Ely Field Office appreciates your comment.

F3-2 The Ely Field Office appreciates your comment.

Letter F4

Department of Energy
Washington, DC 20585

DEC

NOV 3 0 2005

Mr. Gene Drais, Project Manager
U.S. Department of the Interior
Bureau of Land Management
Ely Field Office
HC33 Box 33500
Ely, Nevada 89301

Dear Mr. Drais:

The U.S. Department of Energy, Office of National Transportation (Department) appreciates the opportunity to provide comments on the Draft Resource Management Plan/Environmental Impact Statement (DRMP/EIS) for the Ely District. The Department acknowledges the effort that has gone into preparing this draft document, as well as the attention given to the principles of multiple use and sustained yield found in Section 202 of the Federal Land Policy and Management Act of 1976.

The Bureau of Land Management (BLM) is participating in the Department's preparation of a Rail Alignment Environmental Impact Statement for the Caliente rail corridor as a cooperating agency. Our comments focus on the potential for impacting the development of the proposed rail line along this corridor and focus on:

F4-1 1. Uncertainties regarding possible restrictions on granting the Right of Way (ROW) that could be required for this proposed rail line.

F4-2 2. The potential for certain alternatives in the DRMP/EIS creating the need for future amendments to the final RMP that could significantly impact the Department's schedule for building the proposed rail line. The time needed for creating an amendment could significantly delay the development of the proposed rail line and it would be unfortunate if this issue was not resolved with the finalization of the RMP.

F4-3 3. Uncertainties regarding references to the need for mitigation measures for the proposed rail line.

F4-4 Proposed actions of concern to the Department in the alternatives include:

- Changes to the Visual Resource Management (VRM) Classes
- The proposed creation of the Garden Valley SRMA
- Limitations to Lands and Realty actions (particularly not allowing new ROW applications)

F4-5 Additionally, other proposed actions in the DRMP/EIS, specifically actions in Alternatives B, D, and E, are very restrictive with regard to surface disturbing activities. If implemented, these actions could require a future amendment to the final RMP, if DOE does decide to construct a rail line.

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Responses to Letter F4

F4-1 Please refer to responses to Comments F4-14 and F4-15 for a discussion regarding granting a right-of-way for the rail line.

F4-2 Please see response to Comment F4-5 for a discussion of alternatives. A project-specific EIS is being prepared for the rail line. Conformance with the appropriate approved RMP will be analyzed as part of that NEPA process. The concerns alluded to are addressed in the responses to a number of subsequent comments.

F4-3 Please refer to response to Comment F4-18.

F4-4 Please refer to responses to Comments F4-14 and F4-15 for a discussion regarding granting a right-of-way for the rail line.

F4-5 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes.

Letter F4 Continued

F4-6 The Department requests that the RMP be finalized, in sections such as those proposing the Garden Valley SRMA, with the necessary recognition and inclusion of the proposed rail line (as presented to BLM in the Department's application for a Public Land Order dated December 19, 2003, and as discussed with BLM in our lead agency/cooperating agency interactions in developing the Rail Alignment EIS). Further, we request that

F4-7 BLM not change the VRM classifications for areas under consideration for the rail line from Class IV and III to Class II. This is necessary to avoid potential future conflicts that could adversely impact the development of the rail line.

For ease of identifying the Department's comments on the DRMP/EIS, we have organized our comments to match the sections and resource categories in the draft document. Resource areas of concern to the Department include Visual Resources, Special Recreation Management Areas, Geology and Minerals Extraction, and Lands and Realty.

We appreciate this opportunity to provide comment and look forward to working closely with BLM, and the Ely Field Office, as we proceed with this important program.

Sincerely,

J. Gary Lanthrum, Director
Office of National Transportation
Office of Civilian Radioactive
Waste Management

Enclosure

Responses to Letter F4

F4-6 Please refer to responses to Comments F4-19 and F4-21.

F4-7 Please refer to responses to Comments F4-8, F4-9, F4-10, and F4-11.

Letter F4 Continued

Comments to the US Department of the Interior, Bureau of Land Management Ely Nevada District, Regarding the Draft Resource Management Plan / Environmental Impact Statement for the Ely District

Section 2.5, Management Direction for Resource Programs

Section 2.5.11 Visual Resources

Proposals in the alternatives to change Visual Resource Management (VRM) Class IV areas to VRM Class II could significantly impact efforts to construct the rail line through the Ely planning area. To avoid any possible need for a future amendment to the Resource Management Plan (RMP), the U.S. Department of Energy, Office of National Transportation (Department) suggests:

F4-8

1. Retaining the VRM Classes in Alternative A in the final RMP, specifically in locations along the Caliente Corridor (the location of the Department's current application for a Public Land Order) so that they remain VRM Class III and IV. The objective of VRM Class II, as described in the Draft Resource Management Plan / Environmental Impact Statement(DRMP/EIS) on page 2.5-109,

> "is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape."

With such language, the proposed VRM changes in the DRMP/EIS could greatly restrict the development of the rail line by requiring an amendment to the final RMP. In the case of Southern Utah Wilderness Alliance, et al., (144 IBLA 70, May 20, 1998), the class II designation was held to prevent BLM from permitting activities they had deemed appropriate. VRM changes of concern in the DRMP/EIS include:

F4-9

- The Garden Valley Area (changing from a Class IV to a Class II)
  - The description of the Garden Valley area on page 2.5-111 does not clearly explain the proposed change

F4-10

- The Timber Mountain Area (changing from a Class IV to a Class II)
  - No explanation is given in the DRMP/EIS for this change

F4-11

- The area around the town of Caliente (changing from Classes IV and III to a Class II)
  - No explanation is given in the DRMP/EIS for this change

Responses to Letter F4

F4-8 In response to this and similar comments, the management actions in Section 2.4.15.1 of the Proposed RMP and Final EIS regarding special recreation management areas have been revised.

F4-9 Please refer to response to Comment F4-8.

F4-10 Please refer to response to Comment F4-8.

F4-11 New technology in the form of geographic information systems, as well as changing public perceptions about visual resources, led to the development of a new inventory for the Ely RMP planning area, and subsequent changes to visual resource management classes.

Letter F4 Continued

F4-12 Explanations in this section of the basis for these proposed changes for these areas would have enabled us to better comment on this issue.

F4-13 2. Including references to a separate inventory report or documentation of the inventory process in order to better support the proposed changes in VRM classes. Although section 2.5.11 includes general Bureau of Land Management (BLM) guidelines and methodologies used in the VRM inventory, it does not describe with any specificity the process for VRM classifications in the Ely planning area. Contrast rating worksheets (Form 8400-4-Visual Rating Worksheet) completed during the inventory could be referenced in this section, as well as all other visual resource inventory rating forms, overlays, slides and written material (BLM Manual Handbook 8410, section I. General Guidance, paragraph C), (BLM Instruction Memorandum No. 98-164) and (BLM Manual Handbook 8431-1, at 2).

F4-14 3. Addressing the uncertainty of the need for future amendments if the Department decides to build the proposed rail line and applies for the necessary ROW. Although the preceding suggestions request additional explanation be provided in this section for the proposed changes in VRM classifications, the Department's main concern with the Visual Resources Section is less with the lack of explanation for the proposed changes in classification, and more with the uncertainty that these proposed changes create for the possibility that a future amendment will be needed to permit the issuance of a Right of Way (ROW) for the rail line. The final RMP needs to deal directly with this uncertainty.

Section 2.5.12, Lands and Realty

The Department's comments on this section focus on the alternatives presented in the draft:

F4-15 1. There is a potential conflict between the Department's future rail line ROW application and lands available for disposal under Alternatives B, C, and E. Under these alternatives, lands where the rail line corridor may be located have been identified as available for disposal (as shown in maps 2.4-13, -16, and -21). A portion of those lands would not be available for disposal if the Department were to obtain a ROW to construct and operate a rail line in these areas. The lands identified for disposal in this section are those lands that are also referenced by the Lincoln County Conservation, Recreation and Development Act of 2004.

F4-16 2. Alternatives A and C are the least restrictive of the alternatives and are favored by the Department (not withstanding the conflict in Alternative C mentioned previously in point number one) since actions in these alternatives would not restrict the development of the rail line.

F4-17 3. Alternative D would place very strict limitations on development of the rail line in that no new ROW will be issued. Because of this, Alternative D would not be favored by the Department as it may not allow the development of the rail line without a future amendment to the final RMP.

Responses to Letter F4

F4-12 Please refer to responses to Comments F4-9, F4-10, and F4-11.

F4-13 Please refer to Section 3.11.3 in the Proposed RMP and Final EIS for a discussion of the visual resource inventory process. The detailed methodologies requested are discussed in the referenced BLM guidelines. Overall, the difference in visual resource management between alternatives is consistent with the differing resource management approaches and philosophies among the alternatives.

F4-14 The VRM classifications shown on Map 2.4.11-1 have been incorporated into the Proposed RMP and will be used during the life of the plan to manage visual resources. VRM management class objectives would be considered when evaluating BLM projects or private party proposals. Mitigation for potential visual resource impacts would be evaluated on a project-specific basis. VRM class objectives do not prohibit other multiple uses.

F4-15 The Caliente to Yucca Mountain Rail Line corridor was withdrawn on December 28, 2005, for 10 years. If a right-of-way is issued, the withdrawal will be relinquished and the lands will be available for disposal subject to the rail line right-of-way.

F4-16 Comment noted.

F4-17 Comment noted.

Letter F4 Continued

F4-18

4. Alternative E does not appear to preclude development of the rail line without an amendment (not withstanding the conflict in Alternative E, mentioned previously in point number 1), however the requirement to mitigate surface disturbing activities could have unspecified and uncertain impacts on the development of the rail line. The DRMP/EIS is not clear on requirements for mitigation, so the Department is unsure of the limitations placed on the construction of the rail line in this alternative. This should be made clear in the final RMP.

F4-19

Section 2.5.15.1, Parameter – Special Recreation Management Areas

In this section, the Department suggests adding text in the final RMP to describe the purpose and need for the proposed Garden Valley Special Recreation Management Area (SRMA) under alternatives B and E. The additional text should:

1. Provide a description of activities that would occur in this area.
2. Address the need for the Garden Valley SRMA
3. Describe the rationale for restrictions that would be placed on surface disturbing activities as a result of the SRMA.
   - Discussing potential restrictions from this designation can provide a better understanding of the management and purpose of the SRMA. Without this understanding, it is difficult for the Department to determine how the SRMA would affect development and operation of the rail line. Again, it is the uncertainty regarding the need for future amendments that is at issue here.

F4-20

Section 2.5.18, Geology and Mineral Extraction

The action described in the alternatives in this section should include development of rock quarries for ballast, in addition to sand and gravel. Several quarries for ballast may be proposed for the rail alignment.

Section 4.12, Lands and Realty

F4-21

Alternative E, Impacts from Other Programs, Recreation

Additional analysis should be added to this section to clarify the impacts from the proposed SRMA on the lands and realty program. The Department finds that the analysis in this section (page 4.12-7), lacks a discussion of impacts on Lands and Realty from the designation of the Garden Valley SRMA. It is not clear if designation of the SRMA suggests that the area is of high recreational value, thus excluding it from potential proposals such as the rail alignment.

Section 4.28, Cumulative Impacts

***Section 4.28.1.3,* Present, and Reasonably Foreseeable Future Actions**

In this section, the Department suggests:

Responses to Letter F4

F4-18 Thank you for your comment. Required mitigation for the rail line would be a location-specific decision made by the BLM as part of the NEPA analysis for the final right-of-way. The Best Management Practices presented in Appendix F, Section 1, of the Proposed RMP and Final EIS would provide guidance as to what types of mitigation might be required.

F4-19 Please refer to response to Comment F4-8.

F4-20 The Introduction to Section 2.5.18 in the Proposed RMP and Final EIS indicated that "stone" is a saleable mineral. Definitions for leasable, locatable, and saleable minerals have been added to this section. Section 4.28.18 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of rock quarries associated with the interrelated projects. The basic impact conclusions presented in the Draft RMP and EIS have not been changed.

F4-21 Please refer to response to Comment F4-8.

Letter F4 Continued

F4-22 1. Changing Table 4.28-1, under the heading "Ongoing Water Demand within the Ely District", from "No Effect" to either "Unknown" or replacing it with an approximate figure. The ongoing water demand would be lower than the construction water demand for the rail alignment. However, describing the impact as "No Effect" may be an understatement of the ongoing water needs of the rail project.

F4-23 2. Changing Table 4.28-2 to indicate that the rail alignment project could also have an impact on air quality, renewable energy, woodland and native plant products, mineral extraction, and special designations. Currently, the text in this table indicates that there would be no interaction with these resources.

Section 4.28.11, Visual Resources

On page 4.28-47, section 4.28.11, under "Impacts of Interrelated Projects", the text reads, "potential impacts to visual resources could occur from…the development of the Department of Energy rail line. Those projects could potentially require mitigation actions to reduce visual impacts within areas having more restrictive visual resource management classes (i.e., Class I and Class II areas)." It is the Department's understanding that visual resource inventory classes "…do not establish management direction and should not be used as a basis for constraining or limiting surface disturbing activities." (BLM Manual Handbook 8410-1, Visual Resource Inventory, dated 1/17/86, section V-1). The text in this section implies that impacts from VRM classes could limit surface disturbing activities. The Department suggests:

F4-24 1. Clarifying the text in order to understand if this is the intent.

F4-25 2. Identifying the types and extent of mitigation anticipated as being required to address potential impacts to visual resources from the rail line, or including a reference to a document containing the BLM standard operating procedures for mitigation. Part of the VRM system is, "to provide timely inputs into proposed surface disturbing projects…", (BLM Manual Handbook 8400, Visual Resource Management, dated 11/14/86, section 07, Overview of Visual Resource Management Systems) (BLM IB No. 98-135).

Section 4.28.12, Lands and Realty

F4-26 The Department suggests including the BLM proposed action for the withdrawal of public lands within and surrounding the Caliente Rail Corridor in the discussion of trends for future uses of BLM lands in this section.

Section 4.28.18, Geology and Mineral Extraction

F4-27 For this section, the Department suggests that a description of the potential development of rock quarries, in addition to sand and gravel, be included in the text. Several quarries for ballast may be proposed for the rail alignment, and their inclusion is needed for an adequate cumulative impact analysis in this section..

Responses to Letter F4

F4-22 In response to your comment, the text on Table 4.28-1 in the Proposed RMP and Final EIS has been modified to more clearly present the water usage associated with the proposed rail line.

F4-23 In response to your comment, the text on Table 4.28-2 in the Proposed RMP and Final EIS has been modified to more clearly present the potential cumulative impacts associated with the proposed rail line.

F4-24 in response to your comment, the text in Section 4.28.11 of the Proposed RMP and Final EIS has been revised to clarify the discussion of cumulative impacts to visual resources. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

F4-25 Please refer to response to Comment F4-18.

F4-26 Please refer to response to Comment F4-15.

F4-27 In response to your comment, the text in Section 4.28.18 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of rock quarries associated with the proposed rail line. Also see Response to Comment F4-20 for further discussion on saleable minerals. In response to your comment, the text in Section 4.28.18 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of rock quarries associated with the proposed rail line. Also see Response to Comment F4-20 for further discussion on saleable minerals.

Letter F5

United States Department of the Interior

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Ely, Nevada

November 29, 2005
File No. 1-5-06-TA-024
Ref. File No. 1-5-02-SP-307

Memorandum

To: Mr. Gene Drais, Project Manager, U.S. Department of the Interior, Bureau of Land Management, Ely Field Office, Ely, Nevada

From: Field Supervisor, Nevada Fish and Wildlife Office, Reno, Nevada

Subject: Service comments on July 2005 Draft Resource Management Plan and Environmental Impact Statement for the Ely District

Attached are the U.S. Fish and Wildlife Service, Nevada Fish and Wildlife Office's comments and suggested edits on the Draft Resource Management Plan (RMP)/Environmental Impact Statement (EIS) for the Ely District. These comments include input from staff in both our Reno and Las Vegas Offices. We appreciate the opportunity to review and provide comments and edits on the Draft RMP/EIS.

Please reference File No. 1-5-06-TA-024 in future correspondence concerning this input. If you have any questions on our comments, or require additional information, please contact me or Kevin Kritz at (775) 861-6300.

Sincerely,

for Robert D. Williams
Field Supervisor

TAKE PRIDE IN AMERICA

Letter F5 Continued

U.S. Fish and Wildlife Service, Nevada Fish and Wildlife Office Comments on the July 2005 Draft Resource Management Plan and Environmental Impact Statement for the Ely District

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General Comments

F5-1 The Preferred Alternative for management of desert tortoise in the draft RMP incorporates existing management actions as described in the Record of Decision for the Caliente Management Framework Plan Amendment. As you may know, the 1994 Desert Tortoise Recovery Plan is under review, and updates to the plan are expected to be completed in 2006. We recommend that BLM incorporate language in the RMP that will allow management flexibility for implementing new recovery guidance that may be included in the updated Recovery Plan. This language should be incorporated into the description of alternatives under "Management Common to All Alternatives", as it will be important for BLM to consider new management guidance for the tortoise, regardless of the management alternative ultimately accepted in the Record of Decision for the RMP EIS.

F5-2 We recommend that BLM include provisions for development of plans to monitor public use in the desert tortoise ACECs. As development progresses within the Coyote Spring Valley and the Lincoln County Land Act lands, we anticipate that public use of the adjacent ACECs will increase, as well as potential impacts to the tortoise. Coordinating and cooperating with local landowners and governmental agencies in these monitoring efforts will ensure that meeting recovery goals for the tortoise remains a high priority for management in the Mojave Desert region of the Ely District.

F5-3 We have recently learned from the Nevada Department of Wildlife (NDOW) that the California condor has been documented in the Condor Canyon area in Nevada. The California condor sighting was probably a member of the nonessential experimental population of California condors in northern Arizona as designated by the Service in the Federal Register (FR Vol. 61, No. 201, pp 54043-54058). Since this population was designated as nonessential, any members of it should be treated as a species proposed for listing as threatened. We suggest BLM consider the needs of this species with regard to the management of any BLM lands administered by Ely BLM Field Office in the Condor Canyon area. There may also be a need for BLM to consider this species in regard to management outside of this area.

Watershed Analysis Process- We reviewed Appendix C and noted the approach Ely BLM District intends to use with regard to watershed analysis for the watersheds within the Ely BLM Field Office administrative boundaries. Further, we understand the utility of this approach and the value this process has for addressing many resource concerns. However, we also note that the RMP EIS indicates that this process will take 10 years to complete, and furthermore that with the current funding levels provided to the Ely BLM

Responses to Letter F5

F5-1 Text in Section 2.4.7 of the Proposed RMP and Final EIS states management would follow U.S. Fish and Wildlife Service Recovery Plans. No text revisions are deemed necessary in response to this comment.

F5-2 In response to your comment, the text in Section 2.4.7 of the Proposed RMP and Final EIS has been expanded to clarify management of the desert tortoise ACECs.

F5-3 In preparation for the Biological Assessment associated with the Ely RMP, the USFWS has made the decision to treat the California condor as a transient to the area. As such, no changes have been made in the Proposed RMP and Final EIS other than to acknowledge the sighting in Chapter 3.

Letter F5 Continued

Field Office, it will take an estimated 20 years to complete to this process (Ch. 4, page 4.1-9). We also note that livestock grazing decisions and adjustments will be made after the watershed analysis is complete and there is some basis for making the change on the ground. Another concern is that watershed analysis has limited utility for most wildlife species (ie. sage grouse, golden eagle, elk, pronghorn antelope, etc.) that use landscapes on a much broader geographic scale than individual watersheds. A recent policy statement of The Wildlife Society states that "Caution should be exercised, however, when using watersheds to integrate wildlife management objectives into large-scale management plans. Because watersheds are defined by patterns of water drainage, their use as a management and planning tool for terrestrial species represents an artificial human constraint that may not be applicable when addressing wildlife populations that range beyond the boundaries of a planning unit delimited by water runoff."

F5-4 In summary, while we see the benefits of watershed analysis, especially for aquatic species, and recognize the soundness of the approach you outline in Appendix C, we are concerned that waiting to complete watershed analyses for all the Ely Field Office watersheds before management actions are taken to restore and improve existing degraded habitat conditions will unnecessarily delay management actions/decisions that are badly needed now. Also, because of our concerns about the utility of the watershed analysis approach for many terrestrial wildlife species, we suggest the limitations and shortcomings of this approach be acknowledged in the RMP. Finally, we recommend moving forward and implementing those restoration activities within watersheds that have already been identified, without waiting for the watershed analysis process to be complete.

F5-5 Nevada Comprehensive Wildlife Conservation Strategy (CWCS). In 2005, the Nevada Department of Wildlife (NDOW), working with other state, federal, non-governmental organizations, and private interests, developed a Comprehensive Wildlife Conservation Strategy for the state of Nevada. This comprehensive plan is designed to assess current populations, conservation status, and management and monitoring needs for all species of fish and wildlife under NDOW's management authority (mammals, birds, reptiles, amphibians, fish, and some aquatic invertebrates). We did not see any reference to the Nevada CWCS in the Draft Ely BLM RMP, or any indication that Ely BLM will embrace all or parts of the CWCS, in terms of management actions that are within the authority of the Ely BLM Field Office. We recommend that the Ely BLM RMP EIS at least reference the CWCS and that BLM agree to support it at some level. Finally, we recommend that BLM document the level of support that will be provided towards implementation of the CWCS and include this in the RMP EIS.

F5-6 Cumulative Effects analysis for projects that may occur within the foreseeable future. We understand the challenges that the Ely BLM Field Office faces in regard to analyzing all of the cumulative effects of actions proposed in the RMP EIS, as well as other actions like groundwater development, community growth, power plant construction, that may occur in the future. However, we remain concerned that a comprehensive analysis of all the cumulative effects of various types of development and resource extraction activities

Responses to Letter F5

F5-4 Management actions to restore and improve habitat conditions are not dependent on completion of watershed analyses for individual watersheds or until completion of all watershed analyses as inferred in this comment.

F5-5 In response to your comment, the text in Section 2.4.6 for both the Aquatic Habitat and Fisheries, and in Section 2.4.7 for Terrestrial Wildlife has been modified to address the Nevada Comprehensive Wildlife Conservation Strategy.

F5-6 The EISs prepared for the Draft and Proposed RMPs identified those projects within the Ely RMP planning area that could interact with landscape-scale resource management actions. The information that is available on many of these interrelated projects is very limited, but they were included for full disclosure. As development plans for specific proposals are advanced and applications are submitted to the Ely Field Office, the appropriate level of NEPA analysis, including interaction with other projects that could result in cumulative impacts, would be conducted.

Letter F5 Continued

F5-6 within the area of the Ely BLM Field Office land base needs to be completed in a NEPA format document.

Specific Comments

F5-7 **Section 1.7 , Resource Management Plan Implementation**
Page 1.8-1, section 1.8.1, paragraph 2. In the second sentence we suggest some slight modifications to the wording regarding consultation to state "BLM consults with the U.S. Fish and Wildlife Service whenever a federal project or action that it funds, authorizes, or carries out may affect a listed species, or may adversely modify its designated critical habitat (see Section 3.7 for details on listed species)."

F5-8 Page 1.8-1, section 1.8.1, paragraph 3. This part of the document indicates BLM will coordinate with the U.S. Fish and Wildlife Service (Service) on decisions that may affect the National Wildlife Refuge System. It also identifies the three National Wildlife Refuges that lie adjacent to Ely BLM administered lands. We suggest a consistency evaluation for any proposed management actions in the Draft Ely RMP that could impact fish and wildlife habitat on adjacent National Wildlife Refuge lands. We recommend coordinating directly with Service personnel responsible for managing these Refuges to complete this consistency evaluation. Finally, we request that BLM not include any proposed actions in the Ely Draft RMP for lands that lie directly adjacent to Service NWR lands that would compromise the intent for which these National Wildlife Refuges were designated.

F5-9 Page 1.9-5, section 1.9.1, Regional Organizations.
To the bulleted list of plans provided at the top of page 1.9-5 consider adding the following to this list:

North American Waterfowl Management Plan
United States Shorebird Conservation Plan
North American Waterbird Conservation Plan

Section 2.5, Alternatives – Management Direction for Resource Programs

F5-10 Page 2.4-10, Table 2.4-1, Great Basin Rocky Mountain Bighorn Sheep.
For Alternative E we encourage BLM to add a stipulation that "No domestic sheep or goat grazing would be allowed within 9 miles of rocky mountain bighorn sheep habitat, except where topographic features or other barriers prevent physical contact." This is the same stipulation provided for desert bighorn sheep on Page 2.4-13 for Desert Bighorn Sheep. We believe that rocky mountain bighorn sheep should be managed the same as desert bighorn sheep with regard to this issue. Similarly, under the Livestock Management in Bighorn Sheep Ranges parameter on Page 2.4-30 we recommend that this same language be added for the rocky mountain bighorn sheep under Alternative E that you have below it for the desert bighorn sheep.

Responses to Letter F5

F5-7 In response to your comment, the text in Section 1.8.1 of the Proposed RMP and Final EIS has been revised to incorporate your recommended wording.

F5-8 In response to your comment, the text in Section 4.6 of the Proposed RMP and Final EIS has been expanded to clarify impacts to and compatibility of USFWS National Wildlife Refuges with BLM management actions. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

F5-9 Please note that Section 1.9.1 in the Draft RMP/EIS is now Section 1.8.1. In response to your comment the text of Section 1.8.1 of the Proposed RMP and Final EIS has been revised to incorporate your suggested additions to the list.

F5-10 Thank you for your comment. Sections 2.4.6.2, 2.4.6.3 and 2.4.16 have been modified to clarify that within occupied habitat for both desert bighorn and Rocky Mountain bighorn sheep, domestic sheep and goats would be managed in accordance with current BLM guidelines when changes to BLM grazing permits are being considered. At the present time, BLM guidelines regarding buffer zones are different for Rocky Mountain bighorn sheep and desert bighorn sheep, because in most states desert bighorn sheep are considered a sensitive species and Rocky Mountain bighorn sheep are not.

Letter F5 Continued

F5-11 Page 2.4-23, Table 2.4-1, Disposal of Public Lands.
We suggest that Alternative E text be modified to include a stipulation that lands with habitat for federally listed, proposed, and candidate species, or proposed or critical habitat not be exchanged or disposed of.

F5-12 Pages 2.4-25 and 26, Table 2.4-1, Wind and Solar Energy parameter.
The wording for Alternative C, and by default Alternative E, for wind energy in Table 2.4-1 needs clarification. The text in this Table suggests that despite the fact that about 202,000 acres have been designated as potential wind energy development areas (Map Volume-Map 2.4-25), this type of development could also occur outside these areas. Are all potential wind areas in the District open to development? This seems overly broad and we advise against this approach. We note that some of the areas designated on Map 2.4-25 as "Potential Wind Energy Development Areas" occur in the Butte/Buck/White Pine sage-grouse Population Management Unit (PMU). This PMU is one of five sage grouse PMU's in Nevada that have the highest known population levels of sage grouse in the state. We further note that some of the potential wind energy development areas occur in areas with: elk migration corridors and crucial summer range; pronghorn migration corridors and crucial winter range; mule deer migration corridors and crucial winter range; and desert bighorn sheep migration corridors. We recommend BLM consider reducing some of the acres identified in the RMP EIS as potential wind energy development areas that occur within the Butte/Buck/White Pine sage-grouse PMU and in areas of key habitat for elk, mule deer, desert bighorn sheep, and pronghorn.

F5-13 Table 2.4-1also indicates that about 59 percent of the Ely District land base would be open to solar energy development. Although we acknowledge the value of developing more renewable energy sources, we recommend that the approach of allowing this much of the Ely District land base to be open for this type of development should be revisited, and that BLM consider placing additional constraints on this type of development. Some additional considerations for closures to solar energy development would include: 1) areas designated or proposed as critical habitat for a federally listed or proposed species; 2) areas that provide habitat for federally listed species, proposed species , and candidate species; 3) ACEC's established to benefit biological resources (wildlife, fish, plants) or that contribute significantly to the conservation of these biological resources; 4) Riparian and wetland habitat in general; 5) significant portions of the Butte/Buck/White Pine and Schell/Antelope sage-grouse PMU's, and to further consider a full closure for one of these PMU's; 6) crucial elk summer range; 7) crucial winter pronghorn range; and 8) crucial winter and summer range for mule deer.

F5-14 Page 2.4-30, Table 2.4-1, Non-use Relinquished Permits.
We do not agree with the direction provided in Table 2.4-1 with regard to this parameter. We suggest that the Table be edited for Alternative E. This practice should not be allowed for all grazing allotments in the Mojave Ecosystem part of the Ely BLM land base. We are comfortable with this approach for grazing allotments in the Great Basin Ecosystem section of the Ely BLM land base except in instances where an allotment is closed to protect resource values where this practice should not be allowed.

Responses to Letter F5

F5-11 In response to your comment, the text in Section 2.4.12.1 Retention of the Proposed RMP and Final EIS has been revised to clarify the discussion of what lands will be retained for federally listed species (i.e., designated critical habitat). Habitat for proposed and/or candidate species will be managed under current policy, which means actions requiring authorization or approval will not contribute to the need to list these species. This means the BLM may or may not be able to dispose of non-critical habitat for these species in the future.

F5-12 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. All applications will be subject to NEPA analysis and the Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS (Appendix F, Section 3, of the Ely Proposed RMP and Final EIS). The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for wind energy development are received and evaluated.

F5-13 Please refer to Response to Comment F5-13. Applications received for solar power development would be subject to NEPA analysis in coordination with local, state, and other federal agencies. Impacts to biological resources (wildlife, fish, plants), ACECs, and endangered and special status species would be considered.

F5-14 Please refer to Section 2.4.16 and 2.5.16.2 in the Proposed RMP Final EIS for a discussion of non-use relinquished permits.

Letter F5 Continued

F5-15 Pages 2.4-34, Table 2.4-1, Salable Mineral parameter.
Alternative E indicates that up to about 84 percent of the Ely District land base would be open to development for salable minerals such as sand and rock. We understand that in all likelihood only a limited part of the District land base will actually be developed to provide these commercial resources. However, allocating 84 percent of the Ely BLM land base to this type of development is inconsistent with the general description of Alternative E and the RMP Management Focus that is repeated throughout the RMP EIS. We suggest BLM reconsider this approach for Alternative E and consider reductions in acreage open to this type of development.

F5-16 Page 2.5-24 and 25, section 2.5.5.3 High Elevation Conifer Species.
The document indicates that there are approximately 56,000 acres of this habitat type on District (about 0.5 percent of the Ely BLM land base). Given that such a small proportion of the District consists of this type of habitat we do not agree with the management direction described for this under Alternative E. This section indicates that accessible sites would be managed for commodity products. We suggest you reconsider this approach and instead recommend revising Alternative E to indicate that habitat values for wildlife would be driving force for all management actions in these areas. All treatments within these areas should be designed to accomplish a habitat objective. This is not a concern if as a result of implementing treatments to address a habitat need there are products left over that can be utilized by the forest products industry. Again, the dominant driver in decisions about what treatments would be implemented, and how they would be implemented, should be habitat objectives not commodity products objectives.

F5-17 Page 2.5-49, section 2.5.5.10, paragraph 1, Monitoring of Vegetation. We recommend adding citations for references on vegetation monitoring plans that identify goals, objectives, success criteria, protocols, monitoring intervals, and data management and analysis needs. If these plans do not exist, we recommend that a statement be added that proposes development of such plans.

F5-18 Page 2.5-58, section 2.5.6.4, Migratory Bird Habitat, Alternative B, paragraph three.
This section states that migratory bird habitat needs will be assessed to determine if livestock grazing is a causal factor for nonattainment of standards. If these standards have not yet been developed, a monitoring plan should be prepared that establishes the standards by which effects of livestock grazing will be determined. These standards should be based on the needs of migratory birds, and should include factors such as understory cover, canopy cover, patch size, density, vertical diversity, and other such factors important in describing migratory bird habitat.

F5-19 Page 2.5-50, section 2.5.6, Fish and Wildlife.
This section focuses disproportionately on game fish and game animals. We recommend that this approach be reconsidered and that more discussion of those non-game fish and wildlife species, that are not Special Status Species, be included in this section.

Responses to Letter F5

F5-15 Specific rationale would be required to close an area to the sale of mineral materials. None has been provided in this comment.

F5-16 As indicated in the errata sheet accompanying the Draft RMP and EIS, Alternative E for this parameter has already been designated the same as Alternative B rather than Alternative C. This correction has been carried forward into the Proposed RMP and Final EIS.

F5-17 In response to your comment, the text in Section 1.7.2 and 2.4.23 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of monitoring.

F5-18 In response to your comment, the text in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to clarify how the Ely Field Office will manage migratory bird habitat.

F5-19 The Ely Field Office disagrees that the emphasis is disproportionate. Please refer to Sections 2.4.6.2 and 2.4.6.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for management actions for non-game wildlife.

Letter F5 Continued

F5-20 Page 2.5-62, section 2.5.6, Fish and Wildlife, Alternative E.
At the top of page 2.5-62, the RMP EIS indicates big game species habitats would be managed to meet public demands beyond what natural habitats and water sources would support. We are unclear as to why the Preferred Alternative should have such a goal. We suggest revisiting this objective for Alternative E and that a more appropriate management direction would be to manage big game habitat to support population levels consistent with what habitats and waters sources can support.

F5-21 Page 2.5-65, section 2.5.7, Special Status Species, Management Common to All Alternatives, item # 2. Priority for the application of management actions would be given respectively to Federal endangered and threatened species, Federal proposed species, Federal candidate species, and BLM sensitive species. Although these categories most likely include most of the rare species that may occur within the Ely District, some rare species may not be captured within these categories. The Nevada Natural Heritage Program's lists of rare species include several that do not fall within any of the aforementioned categories, and may be overlooked. We recommend that the BLM also consider these species while implementing management actions on District lands.

F5-22 Page 2.5-65, section 2.5.7, Special Status Species, Management Common to All Alternatives, item # 7. Restate this item as follows: "Most of the conservation measures developed under section 10 of the Endangered Species Act to mitigate effects on non-Federal lands within the Ely District to species covered under future habitat conservation plans would be implemented on Federal lands administered by the BLM Ely District. Development of mitigation measures to be implemented on BLM-administered lands under future habitat conservation plans would be coordinated with and approved by the U.S. Fish and Wildlife Service."

F5-23 Page 2.5-66, section 2.5.7, Special Status Species, Management Common to All Alternatives, item # 11. This paragraph describes the general management proposed at Ash Springs. We recommend BLM also consider adding the option of developing cooperative agreements with the adjacent private landowner, to enhance conservation efforts for the White River springfish at Ash Springs.

F5-24 Page 2.5-69, section 2.5.7.3, Special Status Species, Alternative B, first paragraph. We support the construction of a new fence around Shoshone Ponds, but request that access for fish surveys is included in the design. Additionally, we recommend including management actions that would divert stormflow from this site.

F5-25 Page 2.5-71, section 2.5.7.4, Special Status Species, Mojave and Great Basin Riparian Habitats, Alternative E, first paragraph. This paragraph states that the habitat needs of the ....., Meadow Valley Wash speckled dace and desert sucker would be evaluated in conjunction with the Southwestern Willow Flycatcher Recovery Plan. While protection of riparian areas for the flycatcher will generally provide benefits for the rare fishes, there are conservation actions that should probably be implemented for the fishes that are not included in the flycatcher Recovery Plan. We recommend that development of a management plan for the fishes from Eagle Valley downstream through Meadow Valley

Responses to Letter F5

F5-20 In response to your comment, the text in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to clarify the discussion of big game habitat management for increased game species distribution and densities.

F5-21 The Ely RMP focuses on federally listed, proposed, or candidates species; BLM sensitive species; and species that are state protected that could occur within the Ely RMP planning area. (See Planning Criteria #4 in Section 1.5.3.) This approach is consistent with the BLM Land Use Planning Handbook. The Nevada Natural Heritage Program database was consulted during preparation of the Proposed RMP and will be consulted when implementing management actions in the future.

F5-22 In response to your comment, the text in Section 1.8, Section 2.4.6 and Section 3.7 of the Proposed RMP and Final EIS has been revised to address the involvement of the USFWS in developing habitat conservation measures.

F5-23 In response to your comment, a new sentence was added in Section 2.4.7.4 of the Proposed RMP and Final EIS stating that activities could include an option to consider developing cooperative agreements with the adjacent private landowner for the purpose of enhancing conservation efforts for the White River springfish.

F5-24 In response to your comment, the text in Section 2.4.7.2 of the Proposed RMP and Final EIS has been revised to include evaluation and potential implementation of additional protection measures such as diversion of streamflow around the pond.

F5-25 In response to your comment, the text in Section 2.4.7.3 and 4.7 of the Proposed RMP and Final EIS has been revised to clarify the discussion of effects to special status species in Meadow Valley Wash. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

Letter F5 Continued

F5-25 Wash would be a more efficient process for establishing evaluation criteria for the Meadow Valley fishes. This effort could be coordinated with the Nevada Department of Wildlife and members of the Big Springs Spinedace Recovery Implementation Team.

F5-26 Page 2.5-71, section 2.5.7.4, Special Status Species, Mojave and Great Basin Riparian Habitats, Alternative E, paragraph 2. The last sentence in this paragraph states that livestock grazing would be excluded from the desert tortoise habitat areas of the Lower Meadow Valley Wash (Elgin south to Clark County). This statement should clarify if livestock grazing would be excluded from all tortoise habitat or all tortoise ACECs.

F5-27 Page 2.5-71, section 2.5.7.4, Special Status Species, Mojave and Great Basin Riparian Habitats, Alternative E, paragraph 3. Please either describe, or include a reference for, the appropriate stipulations that would be considered to determine if livestock grazing would be appropriate in unoccupied suitable habitats between October 15 and March 15.

F5-28 Page 2.5-71, section 2.5.7.4, Special Status Species, Mojave and Great Basin Riparian Habitats, Alternative E, paragraph 4. This section states that a Southwestern Willow Flycatcher Implementation Plan for Meadow Valley Wash would outline the schedule and procedures to determine if livestock are a causal factor for nonattainment of standards and guidelines. These standards and guidelines should be based on the ecological needs of the flycatcher, and should include factors such as understory cover, canopy cover, patch size, density, vertical diversity, and other such factors important in describing flycatcher habitat. If these standards and guidelines have not yet been developed, we recommend coordinating with the Service and knowledgeable flycatcher scientists to determine the appropriate factors that should be considered as part of this assessment.

F5-29 Pages 2.5-78 to 81, section 2.5.8.1, Wild Horses, Herd Management Area Establishment. We support Alternative E (same as Alternative B), which would eliminate herd management area status and remove herds from those areas that do not provide adequate and suitable habitat, including the Mojave Desert region of southern Lincoln County.

F5-30 Page 2.5-124, section 2.5.12.5, Lands and Realty, Corridors, item # 2. This item designates a corridor along existing telephone fiber-optic lines beginning at Township 11 South, Range 71 East, Section 30, and running easterly to the Arizona state line. This corridor appears to occur within the Beaver Dam Slope ACEC. We recommend identifying alternative routes for all new utility corridors that avoid desert tortoise ACECs.

F5-31 Page 2.5-124, section 2.5.12.5, Management Common to All Alternatives. We recommend that another item be added to the list here. The addition would be "All future electric utility line developments would follow the guidance provided by the Avian Protection Plan (APP) Guidelines released in 2005." This guidance was developed jointly by the Service and the electric utility industry working through the Avian Power Line Interaction Committee. It is available online at http://www.aplic.org.

Responses to Letter F5

F5-26 Under section 2.4.16 Livestock Grazing, management actions specify that the 208,160 acres within the Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs would remain unavailable for grazing. Grazing on allotments or portions of allotments within desert tortoise habitat, but outside of ACECs, would continue at current stocking levels (see Table 2.4-15).

F5-27 The text in Section 2.4.7.3 has been changed from the Draft RMP. The issue raised in your comment (i.e., livestock grazing in the proposed Lower Meadow Valley Wash ACEC) will be considered by the Ely Field Office when an ACEC management plan is prepared. The BLM will coordinate with the Service regarding livestock grazing in southwestern willow flycatcher habitat when the management plan is being developed.

F5-28 Please refer to Response to Comment F5-27.

F5-29 Comment noted.

F5-30 This corridor was designated in the Approved Caliente Management Framework Plan Amendment and Record of Decision for the Management of Desert Tortoise Habitat in September 2000. This amendment and decision were developed in coordination with the Service and incorporated terms and conditions from the Biological Opinion. The text in Section 2.4.12.5 of the Proposed RMP and Final EIS has been changed to state that this designated corridor will be retained.

F5-31 The text in Section 2.5.12.7 of the Proposed RMP and Final EIS has been revised to add coordination with the USFWS policy on utility line development and Avian Protection Plan guidelines.

Letter F5 Continued

F5-32 Page 2.5-126, section 2.5.12.6, Lands and Realty, Communications Sites, Management Common to All Alternatives. We recommend that BLM adopt the Service's *Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers* to minimize effects to migratory birds. We further request that you include this among the numbered items on page 2.5-126 under the "Management Common to All Alternatives."

F5-33 Page 2.5-130, section 2.5.13.1, Renewable Energy, Wind and Solar Energy, Alternative E (and Map 2.4-25). According to Map 2.4-25, it appears that several areas along the Meadow Valley Wash would be designated as potential wind energy development areas. Meadow Valley Wash is one of the most biologically diverse ecosystems in southern Nevada for birds. The potential of impacts to birds from wind energy projects established along or adjacent to the Meadow Valley Wash may be much greater than if these projects were located outside of this drainage. We recommend no designation of wind energy development areas within the vicinity of the Meadow Valley Wash.

F5-34 Pages 2.5-131 to 133, section 2.5.14.1, Travel Management, Transportation Plan, Management Common to All Alternatives. We recommend identifying desert tortoise habitat outside ACECs, as well as desert tortoise ACECs, as highest priority areas for the designation of roads and trails.

F5-35 Pages 2.5-134 and 135, section 2.5.14.2, Parameter- Off-highway vehicles. We are encouraged that under Alternative E none of the landbase would be categorized as "open" to cross-country off-highway vehicle use, that about 10.3 million acres of the Ely FO would have OHV use limited to existing roads and trails, and that about 1.1 million acres would be closed to off-highway vehicle use. However, we are concerned that too much of the District land base (approximately 90%) would still be open to OHV's. We understand OHV's would be limited to existing roads and trails, however, given BLM's limited budget to monitor and provide law enforcement patrols over this large area this approach will likely result in many areas where OHV's continue to travel cross-country. We recommend BLM reconsider the approach taken under Alternative E and consider closing more of the District land base to OHV travel. We suggest that the following areas should receive additional consideration for OHV closures: 1) areas designated or proposed as critical habitat for a federally listed or proposed species; 2) areas that provide habitat for federally listed species, proposed species , and candidate species; 3) ACEC's established to benefit biological resources (wildlife, fish, plants) or that contribute significantly to the conservation of these biological resources; 4) significant portions of the Butte/Buc/White Pine and Schell/Antelope sage-grouse PMU's; 5) crucial elk summer range; 6) crucial winter pronghorn range; and 7) crucial winter and summer range for mule deer. This list is not intended to be all inclusive but rather provided as an indication of the types of concerns we have with regard to off-highway vehicle use.

F5-36 Page 2.5-141, section 2.5.16, Livestock Grazing.
On page 2.5-141 under the Management Common to All Alternatives header the RMP EIS indicates that "adjustments to stocking rates would be based on watershed analysis." If this means that stocking rates would not be adjusted until watershed analysis was completed in a watershed, then we are concerned about this approach (see our comments

Responses to Letter F5

F5-32 The text in Section 2.5.12.6 of the Proposed RMP and Final EIS has been revised to add coordination with the USFWS policy on communication sites.

F5-33 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. All applications will be subject to NEPA analysis and the Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS (Appendix F, Section 3, of the Ely Proposed RMP and Final EIS).

F5-34 The designation of roads and trails as part of a transportation plan would not be limited to ACECs. The Ely Field Office will develop logical units for transportation planning. The sequence for developing transportation plans will be based on existing or anticipated travel use and the associated resource conflicts.

F5-35 Thank you for your suggestion. The BLM designates areas as "closed" if a closure to all vehicular use is necessary to protect resources, ensure visitor safety, or reduce use conflicts. The BLM designates areas as "limited" where it must restrict off-highway vehicle use in order to meet specific resource management objectives. These limitations may include: restricting the number or types of vehicles; limiting the time or season of use; permitted or licensed use only; limiting use to existing roads and trails; and limiting use to designated roads and trails. The BLM may place other limitations, as necessary, to protect resources, particularly in areas that motorized off-highway vehicle use enthusiasts use intensely or where they participate in competitive events. The limited designation across 90% of the Ely RMP decision area is consistent with BLM policy.

F5-36 Management actions to restore and improve habitat conditions will commence with completion of the initial watershed analyses for individual watershed rather than being delayed until completion of all watershed analyses as inferred in this comment. It is expected that the limiting factor for rate of treatment to restore and improve watershed health will be funding availability rather than the watershed analysis process. Term permits will be fully processed in compliance with NEPA procedures, applicable public laws, and BLM regulations and policies. The Ely Field Office intends to process term permits based on watershed assessment and priorities. However, term permits may be fully processed apart from the watershed process when necessary. The terms and conditions would be modified if information indicates that revision is necessary to achieve or make progress toward the Northeastern Great Basin Resource Advisory Council standards or the Mojave-Southern Great Basin standards.

Letter F5 Continued

F5-36 above under Watershed Analysis Process). Specifically, we are concerned that given the time BLM projects it will take to complete watershed analysis for the Ely District, stocking rate adjustments which are needed in the short term to address resource issues will not occur. This could result in further, and potentially serious, deterioration in watershed health and condition.

F5-37 Page 2.5-142, section 2.5.16.1, Alternative E. We note under the Preferred Alternative that 11,170,000 acres of the Ely District would be available for livestock grazing. We also recognize that livestock grazing is a historic and legal use of public lands. However, the RMP EIS states repeatedly "the restoration and maintenance of healthy ecological systems within watersheds is a primary focus for the future management of the Ely District" and "resources and resource uses will be managed to restore or maintain ecological health." Additionally, the RMP EIS characterizes Alternative E as "a shift from a commodity or individual resource allocation approach to a holistic or ecological systems approach to management." What is not clear is how allowing 11,171,000 acres (approx. 98% of Ely BLM landbase) of the District land base to be open to grazing is consistent with these focus statements, and the RMP characterization of Alternative E. In Chapter 3 on page 3.16-4, the RMP EIS indicates 61 of the grazing allotments in the District are in the "improve" category which, according to IM No. 82-292, means that the "present range condition is unsatisfactory." We do not support this level of grazing utilization on the Ely District land base and ask that BLM seriously reconsider this approach.

We request these type of reductions, or eliminations of livestock grazing, so that the needs of grazing permittes are better balanced with the need to conserve biological resources. Allowing 98 percent of the Ely BLM land base to be open to grazing could have numerous negative consequences to biological resources including federally listed species, federal candidate species, and sensitive species. In terms of areas to focus on in reducing lands open to livestock grazing we suggest the following : 1) areas designated or proposed as critical habitat for a federally listed or proposed species; 2) areas that provide habitat for federally listed species, proposed species , and candidate species; 3) ACEC's established to benefit biological resources (wildlife, fish, plants) or that contribute significantly to the conservation of these biological resources; 4) Riparian and wetland habitat in general; 5) significant portions of the Butte/Buc/White Pine and Schell/Antelope sage-grouse PMU's, and to further consider a full closure for one of these PMU's; 6) crucial elk summer range; 7) crucial winter pronghorn range; and 8) crucial winter and summer range for mule deer.

F5-38 Page 2.5-144, section 2.5.16.2, Alternative E for Permit Administration Parameter. The RMP EIS indicates on page 2.5-144 that Alternative E would implement a performance-based grazing system on the Ely District. We are open to this approach and recognize advantages it may provide. However, we have some reservations and concerns about how this will work in practice. We suspect some permittees will do a great job and others will not. We are also concerned about BLM's ability to administer and monitor this system given limited staffing and funding available to Ely BLM Field Office for this purpose.

Responses to Letter F5

F5-37 The areas presented in points 1 through 7 regarding lands open to livestock grazing currently are considered and addressed during annual grazing authorizations, the term permit renewal process, and the watershed analysis process.

F5-38 The term Performance Based Grazing has been removed as a Parameter. Performance Based Grazing emphasized flexibility. Flexibility will continue to be addressed on a site-specific basis. Allotment compliance will continue and will be prioritized based on criteria to include resource issues and operator performance capabilities.

Letter F5 Continued

F5-39 Pages 2.5-158 to165, section 2.5.18.1, Descriptions for Alternatives B and E.
The Draft Ely BLM RMP indicates that about 1.2 million acres would be open to leasing with some stipulations (standard lease terms and conditions and migratory bird restriction) and that another 8.6 million acres would be open to leasing with some programmatic stipulations. Additionally, another 446,000 acres would be open to leasing with only minor constraints. This means that about 90 percent of the Ely BLM land base would be open to leasing for fluid minerals with either some stipulations, or major stipulations. It also means only about 1.2 million acres would be closed to fluid mineral leasing (about 10 percent of the Ely BLM land base). We are not comfortable with this approach and the large proportion of the District land base that would potentially be open to leasing for fluid minerals like oil and gas. As with livestock grazing, we find that the approach proposed in the Draft RMP EIS is not consistent with the general description of Alternative E which characterizes BLM's Preferred Alternative as "a shift from a commodity or individual resource allocation approach to a holistic or ecological systems approach to management." Nor do we find it consistent with BLM's stated RMP Management Focus.

F5-40 We do note that many of the stipulations for fluid mineral development were specifically designed to benefit biological resources such as migratory birds, desert tortoise, sage grouse, and ferruginous hawks. However, most of these "wildlife" stipulations only relate to timing restrictions on fluid mineral activities. As long as the lessee adheres to seasonal timing restrictions, they can still have surface occupancy and develop the site for oil and gas, etc. Hence fluid mineral development is not prevented, but only shifted to avoid key time periods in the life cycle of certain species. This certainly has benefits for wildlife species but does not negate the negative consequences to wildlife of developing the site.

Having 90 percent of Ely District lands open to fluid mineral leasing, and preventing surface occupancy for this purpose on about 10 percent of the land base, conflicts with conserving biological resources. We suggest BLM seriously reconsider allowing this many acres to be open to fluid minerals leasing. Additional considerations for closures to fluid mineral leasing include: 1) areas designated or proposed as critical habitat for a federally listed or proposed species; 2) areas that provide habitat for federally listed species, proposed species , and candidate species; 3) ACEC's established to benefit biological resources (wildlife, fish, plants) or that contribute significantly to the conservation of these biological resources; 4) Riparian and wetland habitat in general; 5) significant portions of the Butte/Buc/White Pine and Schell/Antelope sage-grouse PMU's, and to further consider a full closure for one of these PMU's; 6) crucial elk summer range; 7) crucial winter pronghorn range; and 8) crucial winter and summer range for mule deer.

F5-41 Pages 2.5-158 to 176, Geology and Mineral Extraction, Fluid Leasables, Solid Leasables, Locatables, and Saleables, Alternative E (same as Alternative B). We support BLM's recommendation to close Condor Canyon, Kane Springs, Lower Meadow Valley Wash,

Responses to Letter F5

F5-39 The President's Energy Policy directs the BLM to keep open as much land as possible for energy development and to utilize specific management plans and mitigations to protect resources. The current and specific plans in place such as Class I visual areas, threatened and endangered species, ACECs, ISAs, and WSAs have such strict standards for non-impairment that most mineral operations would be precluded. Leasing stipulations, standard lease terms and conditions, and the Best Management Practices listed in Appendix F would help minimize adverse impacts to resources of concern for those operations that are permitted.

F5-40 Please refer to Response to Comment F5-39 for a discussion of closing areas to fluid mineral leasing.

F5-41 Particular consideration was given to the Desert Tortoise Amendment to the Caliente MFP (1999), its specific Standard Operating Procedures based on the Biological Opinion, current minerals activities and leasing, consistency with neighboring BLM Field Offices, and the BLM's mineral and national energy policy. As a result of this analysis, the management actions for the Mormon Mesa and Beaver Dam Slope ACECs have been retained in Section 2.4.18 of the Proposed RMP and Final EIS.

Letter F5 Continued

F5-41 and Shoshone Ponds ACECs to mineral extraction. We also recommend closing Mormon Mesa and Beaver Dam Wash ACECs to all mineral extraction.

F5-42 Pages 2.5-168 to171, section 2.5.18.3, Descriptions for Alternatives B and E.

This section indicates that about 10.1 million acres are open to locatable minerals development (about 88 percent of the Ely BLM District land base). In contrast, only about 1.3 million acres would be proposed for withdrawal from mineral entry (about 12 percent of the Ely BLM land base). We do not support this approach and the large proportion of the District land base that would potentially be open to leasing for development of locatable minerals like gold and silver. As with our previous comments pertaining to leasable minerals, we find that the approach proposed in the Draft RMP is not consistent with the general description of Alternative E which characterizes BLM's Preferred Alternative as "a shift from a commodity or individual resource allocation approach to a holistic or ecological systems approach to management." Nor do we find it to be consistent with the RMP Management Focus stated in the RMP. Allowing this many acres of land to be open to potential leasing for locatable mineral development conflicts with conserving biological resources. We suggest that Ely BLM seriously reconsider allowing this many acres to be open to locatable minerals leasing. Additional considerations for closures to this type of mineral leasing include: 1) areas designated or proposed as critical habitat for a federally listed or proposed species; 2) areas that provide habitat for federally listed species, proposed species , and candidate species; 3) ACEC's established to benefit biological resources (wildlife, fish, plants) or that contribute significantly to the conservation of these biological resources; 4) Riparian and wetland habitat in general; 5) significant portions of the Butte/Buc/White Pine and Schell/Antelope sage-grouse PMU's, and to further consider a full closure for one of these PMU's; 6) crucial elk summer range; 7) crucial winter pronghorn range; and 8) crucial winter and summer range for mule deer.

F5-43 Page 2.5-191, section 2.5.21, Noxious and Invasive Weed Management, Management Common to All Alternatives, item # 1. The Nevada Administrative Code (NAC) list of noxious weeds may not include invasive weed species, such as red brome and Sahara mustard, that are of concern to federally-listed, rare, and sensitive species. We recommend adding language to this section that identifies the potential need to manage invasive weeds other than those found on the NAC list of noxious weeds, to reduce threats to federally-listed, rare, and sensitive species and their habitats.

F5-44 Page 2.5-192, section 2.5.21.2, Monitoring of Noxious and Invasive Weeds. This paragraph states that burned areas, both natural and prescribed, would be surveyed for noxious weeds *as funding becomes available*. For prescribed burns, we suggest that weed surveys should be a part of the prescribed burn project, and the funding required for weed surveys should be included in the cost estimate for the project plan or grant proposal. Therefore, if the cost of weed surveys is built into the total cost of the prescribed burn project, conducting weed surveys in conjunction with prescribed burns would not be dependent on the availability of funds.

Responses to Letter F5

F5-42 As a point of clarification, locatable minerals are not subject to leasing. Nevertheless, the current and specific plans in place such as Class I visual areas, threatened and endangered species, ACECs, ISAs, and WSAs have such strict standards for non-impairment, that most mineral operations would not be permitted. This precluded the need for blanket closures and enables more site-specific decisions regarding the resource use. For those operations that are permitted, the Best Management Practices listed in Appendix F would help to minimize adverse impacts to resources of concern.

F5-43 In response to your comment, the text in Section 3.21.3 of the Proposed RMP and Final EIS has been revised to clarify that invasive species of concern include both red brome and Sahara mustard as well as cheatgrass and halogeton.

F5-44 Please refer to Appendix A in the Proposed RMP and Final EIS for a revised discussion of Watershed Analysis and Section 2.4.23 for Monitoring.

Letter F5 Continued

F5-45 Pages 2.5-194 and 225, section 2.5.22.1, Special Designations, Areas of Critical Environmental Concern, Existing ACECs: Kane Springs, Beaver Dam Slope, and Mormon Mesa. This section proposes to close Kane Springs ACEC to minerals extraction, but leaves Mormon Mesa and Beaver Dam Slope ACECs open to minerals extraction. We recommend all existing ACECs, as well as proposed ACECs (Condor Canyon, Lower Meadow Valley Wash, and Shoshone Ponds) established for the protection of federally-listed species be closed to all mineral extraction.

F5-46 Page 2.5-225, section 2.5.22.1, Special Designations, Areas of Critical Environmental Concern, Existing ACECs, Transportation. This section should state that roads and trails would be designated open or closed, rather than making a statement that transportation would be limited to existing roads.

F5-47 Page 2.5-234, section 2.5.22.1, Special Designations, Areas of Critical Environmental Concern, Condor Canyon, Alternative B, Fire Management. Fire management for full suppression should include proactive elements into the strategy, such as incorporating fuel breaks and conducting prescribed fire in a manner that would diminish burn intensity and minimize probability of catastrophic wildfire. Fire management should focus on minimizing potential of erosion and other effects from fire to the Big Springs spinedace.

F5-48 Page 2.5-234, section 2.5.22.1, Special Designations, Areas of Critical Environmental Concern, Condor Canyon, Alternative B, Livestock Management. We support the recommendation for limited grazing within the ACEC, provided that guidelines are developed to provide options for livestock grazing management that include eliminating or restricting grazing if monitoring shows that goals for riparian management are not being met. These guidelines should be developed with assistance from the Big Springs Spinedace Recovery Implementation Team.

F5-49 Page 2.5-241, section 2.5.22.1, Special Designations, Areas of Critical Environmental Concern, Lower Meadow Valley Wash ACEC, Alternative B. We support the establishment of an ACEC for the protection of riparian habitat along the Meadow Valley Wash. This ACEC proposes to protect 3,240 acres of riparian habitat within three separate segments along the Meadow Valley Wash south of Caliente down to the Lincoln/Clark County line. These areas were identified based on the best information available a couple years ago on the occurrence of suitable or potentially suitable southwestern willow flycatcher habitat on BLM-administered land along the Meadow Valley Wash. Since that time, additional information has become available regarding disturbance to riparian habitat resulting from flooding events during the winter and spring of 2005 and other ground-disturbing activities conducted in response to damage caused by flooding. This information should be used to verify that the ACEC boundaries as proposed, would encompass the most appropriate locations for protective management of riparian habitat. We recommend that the proposed ACEC boundaries be overlaid with data on the distribution of southwestern willow flycatcher habitat, and with post-flood data on areas that were subject to ground-disturbing activities, to validate the appropriateness and/or feasibility of managing these areas for purposes of riparian habitat

Responses to Letter F5

F5-45 In response to your comment, the Kane Springs, Beaver Dam Slope, and Mormon Mesa ACECs have been closed to mineral development. Proposals for other ACECs intended to protect federally listed species also contain stipulations on mineral development. Please refer to Section 2.4.18 of the Proposed RMP and Final EIS for specifics on mineral stipulations for individual ACECs.

F5-46 The BLM proposes to follow the decisions previously negotiated and approved in the Caliente Management Framework Plan Amendment and Record of Decision for the Management of Desert Tortoise Habitat dated September 2000, since these decisions are still valid. As a point of clarification, travel would be limited to designated (not existing) roads and trails. Thus, existing roads and trails would be either designated open or designated closed. The text in Section 2.4.22.1 of the Proposed RMP and Final EIS has been revised to be more consistent with the wording contained in the Amendment and ROD.

F5-47 The topic of detailed fire management plans for individual ACECs will be considered by the Ely Field Office when individual management plans are prepared for these special designation areas.

F5-48 The topic of detailed livestock grazing plans for individual ACECs will be considered by the Ely Field Office on a case-by-case basis for these special designation areas. Livestock grazing will be controlled through terms and conditions on the grazing permit.

F5-49 In response to your comment, the text and maps related to the proposed Lower Meadow Valley Wash area of critical environmental concern in Section 2.5.22 of the Proposed RMP and Final EIS have been revised.

Letter F5 Continued

F5-49 conservation. We are available to assist BLM with any additional efforts you may undertake to re-evaluate the location of this ACEC.

F5-50 In addition, since the two southerly segments are subject to a much more stressful desert environment, and are in much poorer condition than the northerly Rainbow segment, we recommend Alternative B for livestock management of the Lower Meadow Valley Wash ACEC, provided that the locations of the three segments of this ACEC are not substantially altered by subsequent evaluations. Alternative B would close the Carp and Rox units to livestock grazing, while limiting grazing in the more northerly Rainbow unit.

Section 3.0, Affected Environment

F5-51 Page 3.3-8, section 3.3.2, Trends- Groundwater.
We do not agree completely with the first complete sentence on this page. This sentence indicates how areas like Reno, Carson City, and Las Vegas are growing and the ways that water demands related to the growth of these areas can be met. There are other alternatives that could be considered which you do not list here. One example is constructing water desalinization plants in California in exchange for Colorado River water (this would be appropriate for southern Nevada only).

F5-52 Page 3.6-1, section 3.6 Fish and Wildlife, general comments on this section.
We note the RMP EIS included a list of game fish that occur on the District. We understand that detailed accounts of all the fish and wildlife species that occur on the Ely BLM District cannot be provided. However, we suggest considering the addition of a table to the Appendices that at least provides a list of mammals, birds, reptiles, amphibians, and fishes that are known or suspected to occur on the District.

F5-53 The RMP EIS wildlife discussion under section 3.6.2 is heavily weighted towards a few big game species. We suggest that expanding coverage of non-game wildlife species that are not Special Status Species. We also suggest adding in a specific section under Wildlife to address migratory birds. There is information available from the Great Basin Bird Observatory's Nevada Bird Count Program and their Breeding Bird Atlas project for Nevada on bird numbers and distribution within the Ely BLM District. Since BLM was a partner in these efforts this data is available to BLM upon request. Trend information for birds is available from the Breeding Bird Survey. We note that within the area covered by the Ely BLM District boundary there are 10 Breeding Bird Survey transects that have been surveyed for birds. Additionally, NDOW likely has information on both non-game wildlife and small game numbers that could be integrated into this part of the document.

F5-54 Page 3.6-13, section 3.6.2 Wildlife, Current Management.
On the top of Page 3.6-13 the Ely BLM RMP indicates the number of birds from the Service's Birds of Conservation Concern that could occur in the Great Basin and Mojave ecosystem parts of the Ely District. Consider adding an Appendix Table that summarizes this information for interested persons.

Responses to Letter F5

F5-50 Please refer to Response to Comment F5-27.

F5-51 In response to your comment, the text in Section 3.3.2 of the Proposed RMP and Final EIS has been modified to clarify groundwater development trends.

F5-52 Several sources of direction were consulted in determining the information to include in the Proposed RMP and Final EIS. The BLM Land Use Planning Handbook instructs the Ely Field Office to designate priority species of wildlife and habitats for management emphasis. Priority species are identified in Section 2.4.6 of the Proposed RMP and Final EIS. Habitat management that would benefit priority species would also benefit other wildlife species. With regards to the affected environment chapter of the EIS, the Council on Environmental Quality directs that "The descriptions shall be no longer than is necessary to understand the effects of the alternatives" (40 Code of Federal Regulations 1502.15). Therefore, the Ely Field Office did not consider an expansive species list as being necessary for developing management actions or analyzing the impacts of the alternatives.

F5-53 In response to your comment, the text in Section 3.6.2 of the Proposed RMP and Final EIS has been revised to expand the discussion of migratory birds. The BLM Land Use Planning Handbook directs the Ely Field Office to develop management actions for "game, non-game, and migratory bird species". The priority species listed in Section 2.4.6.2 of the Proposed RMP and Final EIS includes game species and migratory birds. Also, please refer to Response to Comment F5-52.

F5-54 In response to your comment, a table has been added to Section 3.6.2 of the Proposed RMP and Final EIS to present the 28 species of birds that are of concern.

Letter F5 Continued

F5-55 Page 3.7-1, section Special Status Species.
Most of the discussion of plant, fish, and wildlife species is for federally listed and candidate species. Consider adding more discussion for species that are not federally listed or federal candidate species. Some information is available about these species from the Nevada Natural Heritage Program, the Great Basin Bird Observatory's Breeding Bird Atlas project and their Nevada Bird Count program, the Breeding Bird Survey program administered by U.S. Geological Survey- Biological Resources Division, the Nevada Department of Wildlife (especially the Wildlife Diversity Bureau), and other sources.

F5-56 Page 3.7-2, section 3.7.1, Federal Species of Concern and Sunnyside green gentian.
First we are not certain as to the intended meaning of the term "Federal Species of Concern." If it is intended to be a reference to the "Species of Concern" list that the Nevada Fish and Wildlife Office, U.S. Fish and Wildlife Service, formerly kept for the state of Nevada then we suggest that the RMP refer to these species in a different manner. In October 2003, the Nevada Fish and Wildlife Office discontinued the practice of maintaining a list of species of concern for the state of Nevada. We remain concerned about the conservation status of the species on that former list, however, most were already on the sensitive species list for Nevada maintained by the Nevada Natural Heritage Program (NNHP). So rather than maintain our own list we have adopted NNHP's sensitive species list. We informed partner agencies of this change in a letter sent out in the fall of 2003.

F5-57 While the sunnyside green gentian it is not a Federal Species of Concern, it is on a list maintained by NNHP of rare plants. Also, it is on a list maintained by the Nevada Division of Forestry of Nevada plants that are "fully protected" under state law.

F5-58 Page 3.7-2, section 3.7.2 Aquatic Species, Aquatic Invertebrates and Amphibians header.
In the first sentence under the Aquatic Invertebrates and Amphibians header the RMP EIS has the term "proposed species of concern". We are unclear what this is referring to. Is this referring to a species proposed for federal listing, or does it refer to a BLM sensitive species, or is it a reference to the former species of concern maintained by the Service?

F5-59 Page 3.7-10, section 3.7.3 Wildlife.
We suggest that a discussion for pygmy rabbit in the Special Status Species wildlife section be added to the RMP EIS. Wording regarding management of sagebrush habitat should include qualifiers to allow for possibility that what is good for sage grouse may not be the right approach for other sagebrush obligate species (ie. pygmy rabbit, sage sparrow, sage thrasher, etc.) and may need to be adjusted on a site-specific scale or local project scale.

F5-60 The Bald Eagle Protection Act should be cited as the Bald and Golden Eagle Protection Act. Since golden eagles are protected under this federal act we suggest that a specific section concerning the management of golden eagles be added to the RMP EIS. One of the appendices includes management stipulations for golden eagles but this approach should be present throughout the document.

Responses to Letter F5

F5-55 The species presented in Section 3.7 of the Proposed RMP and Final EIS include federally listed species, federal candidate species, and selected BLM sensitive species. The bird species emphasized in Section 3.7.3 (southwestern willow flycatcher, Yuma clapper rail, bald eagle, yellow-billed cuckoo, greater sage-grouse, and western burrowing owl) were selected through discussions between the Ely Field Office and the Fish and Wildlife Service as those most appropriate planning-area-wide impact analysis.

F5-56 In response to your comment, the text in Section 3.7.1 of the Proposed RMP and Final EIS has been revised to clarify the discussion of the Sunnyside green gentian. The Federal Species of Concern heading has been deleted.

F5-57 Changes have been made in the text (Table 2.9-1 and text sections 2.4.7.6, 3.7.1, and 4.7) to correctly identify the status of the sunnyside green gentian and to discuss related impacts in an appropriate manner.

F5-58 In response to your comment, the text in Section 3.7.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of BLM sensitive species.

F5-59 In response to your comment, the text in Section 3.7.3 of the Proposed RMP and Final EIS has been modified to discuss additional sagebrush obligate species.

F5-60 In response to your comment, the text in Section 3.7.3 of the Proposed RMP and Final EIS has been revised to reference the Bald and Golden Eagle Protection Act. In addition, a decision has been added in Section 2.4.7.1 that states, where appropriate, permitted activities will be restricted from May 1 through July 15 within 1/2 mile of a raptor nest site unless the nest site has been determined to be inactive for at least the previous five years. This pertains to all raptors including golden eagles.

Letter F5 Continued

F5-61 The recovery plan for bald eagles in Nevada is the Pacific States Bald Eagle Recovery Plan which was published in 1986. We suggest you properly cite this document in the EIS and list it with your list of recovery plans that apply to the Ely BLM District on page 1.9-1. You should also be aware in 2005, bald eagles nested in the Ruby Valley in Elko County. This means that bald eagle nesting in the Ely District is possible, although admittedly nesting habitat is rather limited and it is likely that the District will not support very many nesting pairs over time.

F5-62 Page 3.7-13 Current Management. Although bald eagle presence and use in the Ely District BLM area is rather limited management direction for bald eagles here are covered under the Pacific States Bald Eagle Recovery Plan (1986). This Recovery Plan should be cited on Page 3.7-13 under this header.

F5-63 Page 3.7-1, section 3.7.1 Plant Species. The "Existing Conditions" section indicates that there are two federally listed plant species on the Ely District. The Utes ladies'-tresses is the only federally listed plant species that occurs on Ely District. The sunnyside green gentian is not a federally listed species so the text should be corrected to reflect this. In 2005 there was a rediscovery of Utes ladies'-tresses in the vicinity of where it was formerly documented. We suggest adding some discussion to incorporate this new information.

F5-64 Page 3.7-5, section 3.7.2, Affected Environment, Aquatic Species, Pahranagat Roundtail Chub. Add additional language to this section regarding the new refugium recently developed for this species at the Key Pittman Wildlife Management Area. This refugium is a former irrigation reservoir fed by well water. It was lined with a pond liner during 2004, and 2,400 individuals were stocked. During surveys in the fall of 2005, young of year chub were detected, suggesting reproduction was occurring.

F5-65 Page 3.7-8, table 3.7-1, Affected Environment, Summary of Population Sampling for Federally Listed Fish Species. More recent data is available for all of the fish species listed in this table. Surveys for each of these species were conducted either in 2004 or 2005. We recommend coordinating with NDOW to update this table so that it reflects the most current data.

F5-66 Page 3.7-10, section 3.7.3, Wildlife, Federally Listed Species, Southwestern Willow Flycatcher, second paragraph. More recent survey data is available for the Pahranagat National Wildlife Refuge. One of Nevada's largest flycatcher populations occurs on the Refuge, and surveys have been conducted annually since 1998. Please contact our office to obtain a list of references for these surveys.

F5-67 Page 3.7-11, section 3.7.3, Wildlife, Federally Listed Species, Bald Eagle, first paragraph. Please add to this paragraph that bald eagles are known to roost in the large cottonwoods and willows at the Pahranagat National Wildlife Refuge during winter months.

Responses to Letter F5

F5-61 In response to your comment, the text in Chapter 1 and Section 3.7.3 of the Proposed RMP and Final EIS has been revised to reference the Pacific States Bald Eagle Recovery Plan. In addition, Section 3.7.3 has been modified to acknowledge the nest site in Ruby Valley.

F5-62 In response to your comment, the text in Section 3.7.3 of the Proposed RMP and Final EIS has been revised to include the reference to the Pacific States Bald Eagle Recovery Plan (1986).

F5-63 In response to your comment, the text in Section 3.7.1 of the Proposed RMP and Final EIS has been revised to indicate the recent observations of the Ute ladies'-tresses. Changes have been made in the text (Sections 2.4.7, 3.7.1, and 4.7.1) to correctly identify the status of the sunnyside green gentian and to discuss related impacts in an appropriate manner.

F5-64 In response to your comment, the text in Section 3.7.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of the new refugium in the Key Pittman Wildlife Management Area.

F5-65 In response to your comment, Table 3.7-1 in the Proposed RMP and Final EIS has been updated to include more recent survey information.

F5-66 In response to your comment, the text in Section 3.7.3 of the Proposed RMP and Final EIS has been updated to include the more recent survey data for the southwestern willow flycatcher.

F5-67 In response to your comment, the text of Section 3.7.3 in the Proposed RMP and Final EIS has been revised to incorporate the additional information on bald eagle roosting.

Letter F5 Continued

Section 4.0, Environmental Consequences

F5-68 Page 4.1-6, section 4.1.3, Assumptions for Analysis. The first bullet statement indicates existing state and federal environmental legislation and regulatory programs would remain relatively unchanged. Our concern with this statement relates to BLM Environmental Impact Statement DES 03-62 regarding Proposed Revisions to Grazing Regulations for the Public Lands. Our understanding is that BLM is in the process of finalizing these proposed revisions to grazing regulations. If this is the case then there are some fundamental changes that will be made to the way BLM administers its grazing program. Many of the proposed changes give greater ownership and benefits to permittees grazing on federal lands, and change the time interval between when a resource problem is identified on an allotment and when livestock numbers are adjusted to address the problem. If these revisions are immanent they would change much of the discussion about livestock grazing and it's effects on biological resources of the Ely District. Hence there may be a need for BLM to revise livestock grazing discussions in all appropriate sections of the Ely BLM RMP EIS to account for these changes.

F5-69 Page 4.1-12, section 4.1.4.5 Special Status Species, Summary of Existing Information. This bulleted item indicates that the Nevada Natural Heritage Program only has information about special status plants and not animals. The Nevada Natural Heritage Program tracks information about all rare species in Nevada including animals (includes all taxa). This bullet should be revised accordingly. If the Ely BLM District has not already done queries with the Nevada Natural Heritage Program to acquire information on animal species, consider doing this. Similarly, NDOW, through it's Wildlife Diversity Bureau, collects data on animal species and maintains databases and GIS themes with this information. For bird species the Great Basin Bird Observatory has a Nevada Bird Count program focused on monitoring trends of bird populations throughout the state of Nevada. For White Pine and Lincoln Counties this monitoring work has been ongoing for the last four years.

F5-70 Page 4.3-3, section 4.3, Environmental Consequences, Water Resources, Impacts from Other Programs, Lands and Realty. This sentence states that impacts to water resources from lands and realty actions could contribute to increased erosion. This sentence greatly understates the potential impacts to water resources that would result from lands and realty actions. The sale of Federal land for development purposes promotes a greater demand for water resources to support the resulting development. The BLM should disclose all impacts, including indirect impacts related to water resource development, which would result from the sale of disposal lands.

F5-71 Page 4.6-30, section Alternative E- Wildlife Conclusion. We assume that the conclusion statement is a summation of the indirect and direct impacts on wildlife resources from all program areas under the management authority of the Ely BLM Field Office. Most of the discussion about impacts in Chapter 4 is overly generalized and not very specific. Nor is much provided in the way of quantitative information to back up the conclusions that you reached. The discussions in Chapter 4 also seem to focus disproportionately on the positive outcome for biological resources that will accompany actions like range and

Responses to Letter F5

F5-68 Thank you for expressing your concerns regarding consistency between the Proposed RMP and the Proposed Revisions to Grazing Regulations for the Public Lands (BLM EIS DES 03 62). The Record of Decision for revisions to grazing regulations was issued in July of 2006, and the Proposed RMP was evaluated for consistency. In addition, a summary of the grazing EIS has been added to the Proposed RMP and Final EIS in Section 1.9.3.4 on Recent Programmatic EISs.

F5-69 In response to your comment, the text in Section 3.7 of the Proposed RMP and Final EIS has been changed to clarify the discussion regarding the Natural Heritage Program.

F5-70 Without further specifics regarding individual lands and realty actions, it would be speculative to identify site-specific impacts from these actions or try to quantify them. In general, land disposals leading to development would result in increased demands on water resources. In response to this and similar comments, the text in Section 4.3 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of the effects of land disposal on water resources. The basic impact conclusions presented in the Draft RMP and EIS have not changed. In addition, each disposal action would undergo a NEPA process wherein its specific impacts would be assessed, and cumulative impacts from past, present, and reasonably foreseeable future actions would be addressed at that point in time.

F5-71 The conclusion statement is meant to be a brief summary statement about effects of management actions on wildlife in general, not an itemization by individual species or even species groups. Impact discussions that provide effects on particular groups of wildlife species are described earlier in the text for the Proposed RMP.

Letter F5 Continued

F5-71 watershed improvement projects, habitat restoration, etc. This is also the case for the conclusion statement. We acknowledge that much of the restoration and habitat enhancement actions you discuss in the EIS will benefit wildlife species. However, the statement lumps many different types of wildlife species together when impacts are likely to affect different wildlife species in very different ways. We are unclear as to why a summary statement about whether the combined indirect and direct impacts would negatively impact wildlife populations, positively affect them, or that they would remain stable was not provided in the RMP EIS. In short, a conclusion about the indirect and direct impacts on wildlife was not provided. We recommend expanding the analysis, splitting out statements of impacts based on different types of wildlife, and providing both conclusory statements and more context as to how these conclusions were reached. We note similar deficiencies in the conclusion statements for Aquatic Habitat and Fisheries on page 4.6-10. The conclusion provided in the RMP EIS for these biological resources is not accurate and lacks justification.

F5-72 Page 4.7-19, section 4.7.2, Environmental Consequences, Aquatic Species, Alternative B, Fish and Wildlife, Big Spring Spinedace. This sentence states that management actions would have no effect on the spinedace because trout distribution in the Meadow Valley Wash does not overlap with that of the spinedace. However, the Recovery Implementation Team has been discussing the potential for establishing a refugium for the spinedace in Clover Creek, which is within the historic range of the spinedace, and this may create an overlap with trout management in this area. We recommend adding language that would address the potential need for coordinated fish management efforts in Clover Creek at some point in the future.

F5-73 Page 4.7-19, section 4.7.2, Environmental Consequences, Aquatic Species, Alternative B, Livestock Grazing, Other Sensitive Species on BLM-administered Land. This section mentions reducing impacts to the White River desert sucker and relict dace from livestock grazing. However, there is no mention of these two species elsewhere within the document. Management alternatives and affected environment for these species should be added to chapters 2 and 3.

F5-74 Page 4.7-20, section 4.7.2, Environmental Consequences, Aquatic Species, Alternative B, Mineral Extraction, Big Spring Spinedace and Other Sensitive Species on BLM-administered Land. This section should be expanded to describe more specifically what the anticipated effects may be to aquatic listed, rare, and sensitive species from mineral extraction. Since most of the Meadow Valley Wash and Clover Creek are located within areas proposed to be open to minerals extraction, and the upper Meadow Valley Wash is located within a high potential oil and gas development area, we are particularly interested in understanding the specific impacts that may occur to listed, rare, and sensitive aquatic species, and the measures that will be taken to ensure that impacts from mineral extraction are minimized to avoid adverse effects to the species.

F5-75 Pages 4.7-25 and 4.7-46, section 4.7 Special Status Species, Conclusion statements for Aquatic Species and Wildlife Species. Similar to our previous comments above regarding the "Conclusion" statements about impacts (indirect and direct) on Wildlife

Responses to Letter F5

F5-72 In response to your comment, the text in Section 4.7 of the Proposed RMP and Final EIS has been revised to include a discussion of the potential for establishing a refugium for the spinedace in Clover Creek. If the refugium is established, coordinated management between the USFWS and NDOW would be required.

F5-73 In response to your comment, the text in Section 2.4.7, Section 3.7.2, and Section 4.7 of the Proposed RMP and Final EIS have been revised to clarify the discussion regarding management of special status species and impacts to those species. Specific management direction is provided for those species that the BLM and the USFWS agreed to address during the consultation process for the Ely RMP. All other special status species (see Appendix E) have been addressed in a general way in the Proposed RMP and Final EIS.

F5-74 The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for mineral extraction are prepared and evaluated. NEPA analysis and Section 7 compliance will be required and impacts and mitigation will be described for the specific development areas. Best Management Practices would be implemented to minimize impacts to sensitive species. Please refer to Section 2.4.18 in the Proposed RMP and Final EIS for a discussion of specific restrictions to mineral development in ACECs that provide habitat for sensitive species.

F5-75 The conclusion provides summary statements about effects of management actions on sensitive species as an overall group. Impact discussions that provide effects on particular sensitive species are described under each program.

Letter F5 Continued

F5-75 and Aquatic Habitat and Fisheries we do not think the "Conclusion" statements in this section are accurate or appropriate given the limited discussion provided about indirect and direct impacts. The RMP EIS analysis is overly general and does not provide a context that allows for the conclusion that is provided. The RMP EIS "Conclusion" statement lumps together a wide variety of species and concludes the same outcome for all when the outcomes will actually vary by species. We suggest BLM revisit these sections of the EIS. There is a need to provide more background and context for the conclusions. Rather than lumping together a wide variety of taxa we suggest that they be split into separate discussions. Some type of summary statements about whether you expect populations to remain the same, decrease, or increase should be provided.

F5-76 Page 4.28-32 and 34, section 4.28.6 Fish and Wildlife, Cumulative Impacts Conclusion. After reviewing the summary statements provided on pages 4.28-32 and 4.28-34 for "Fisheries" and "Wildlife", we do not understand how the conclusions that are provided in the RMP EIS were reached. Most of the discussion about impacts in Chapter 4 is overly generalized and not very specific. Nor is much provided in the way of quantitative information to back up the conclusions that are provided. The RMP EIS discussions also seem to focus disproportionately on the positive outcome for biological resources that will accompany actions like range and watershed improvement projects, habitat restoration, etc. We acknowledge that much of the restoration and habitat enhancement actions discussed in the EIS will benefit wildlife species. However, under Alternative E 98 percent of the Ely BLM land base will be open to livestock grazing, the area open to locatable minerals would be 89 percent of the District, the total acreage open to salable minerals would be 84 percent of the District, the acreage open to leasing of fluid minerals would be 89 percent of the District, the acreage open to leasing of solid minerals would be 89 percent of the District, about 60 percent of the District would be open to solar energy development, there does not appear to be any general stipulation preventing lands with known occurrences of federally listed species from being disposed of, about 11 percent of the land base would be open to maximize opportunities for motorcycle special recreation permit events, and only about 7 percent of the District would be closed to off-highway vehicles. Even considering that a variety of best management practices, contract stipulations, and management adjustments will be applied to programs that negatively impact fish and wildlife resources, we do not agree with the conclusions that are provided. Within the context of cumulative impacts analysis the RMP EIS should consider the worst case scenario from the combined impact of all the extractive type activities that BLM could potentially allow and then project an outcome for fisheries and wildlife based on this. BLM may also want to project the best case scenario for resource development in the RMP EIS and then project a range of possible outcomes that may result. In reviewing Chapter 4 we have to assess the greatest potential impact that may result for fish and wildlife resources from the alternative BLM proposes to implement. In doing this we conclude that the overall impact to fish and wildlife resources from the BLM preferred alternative is likely to have negative consequences for fish and wildlife populations on the Ely BLM District land base.

We suggest that BLM revisit the analysis of cumulative effects for fish and wildlife resources, split out the analysis into more categories or groupings of fish and wildlife,

Responses to Letter F5

F5-76 In response to this and other comments, the impact analysis in Section 4.6 of the Proposed RMP and Final EIS has been clarified and expanded as appropriate. However, the Council on Environmental Quality has eliminated the requirement for a "worst case analysis" in EISs. In accordance with applicable statutes and policies, the Ely Field Office would continue to manage the majority of lands within the Ely RMP decision area for multiple uses. The widespread closure of lands to other uses for the sole purpose of protecting and enhancing fish and wildlife values is not consistent with BLM's multiple use mandate. The Ely Field Office's management actions for the decision area are based on projected resource demands, sustainable use levels, and site-specific management applied at the watershed level. The fact that the majority of the decision area would remain open for mineral development or for renewable energy development is essentially irrelevant to the reasonably foreseeable development projections for these resource uses, which serve as the logical basis for assessing environmental impacts from the Proposed RMP. In support of the impact conclusions presented, it should be noted that while the management actions in the Proposed RMP would retain multiple use throughout most of the decision area, almost all disturbance-generating uses would be subject to substantially greater constraints and environmental protection measures than are applied under current management. For example, where current management identifies almost the entire decision area as being "open" to off-highway vehicle use, the Proposed RMP would "limit" such use to designated roads and trails or "close" some areas entirely. Similarly, Section 2.4.12 stipulates that lands designated as "critical habitat" for listed species would not be disposed. The Cumulative Impacts Conclusion statements are intended to be very brief summary statements, not a repeat of the more detailed discussions presented throughout Chapter 4.

Letter F5 Continued

F5-76 and provide more of a context for how the conclusions provided in the RMP EIS were reached.

Appendix B, The Bureau of Land Management's Proposed Wind Energy Development Program

F5-77 Will the Ely BLM Field Office be adopting all the best management practices from the BLM Final Programmatic EIS on Wind Energy Development? More specifically, would the Ely Field Office be adopting the best management practice that would prohibit the disturbance of listed plant species?

F5-78 Pages B-1 to B-6, Under the Proposed Policies and Proposed Best Management Practices header.

We recommend that the Ely BLM Field Office fully adopt both the Service's *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* and guidance contained in the Service's *Prairie Grouse Leks and Wind Turbines: U.S. Fish and Wildlife Service Justification for a 5-Mile Buffer from Leks; Additional Grassland Songbird Recommendations* briefing paper. We also suggest these guidance documents be referenced in this Appendix and that all appropriate guidelines and best management practices from these Service guidance documents be integrated into all future wind energy developments on the Ely BLM District.

F5-79 Page B-16, under References.
The "Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats, 2004" was not written by the State of Nevada. This was a product of the Western Association of Fish and Wildlife Agencies and authored by John Connelly, Steven Knick, Michael Schroeder, and San Stiver. This publication should be cited as it is given on the front page of that Assessment.

Appendix E, Tools and Techniques

F5-80 A section is needed todescribe monitoring plans for determining the effects or success of management tools and techniques for use in managing natural resources, watersheds, and ecological systems. Although the RMP describes monitoring in general for each of the programs in Chapter 2, more specific guidelines should be developed to test the efficacy of management tools and techniques, to ensure that results are successful in reaching management goals while reducing or avoiding impacts to listed, rare, or sensitive species.

F5-81 **Appendix F, Special Status Species.** In Table 1, in the column labeled "U.S. Fish and Wildlife Service", the Greater sage grouse is coded as "PT." We assume that this is intended to indicate that the species has been proposed for listing as threatened. Since sage-grouse have not been proposed by the Service for listing, this space should be blank.

Responses to Letter F5

F5-77 The Proposed RMP/Final EIS has incorporated the best management practices from the BLM Final Programmatic EIS on Wind Energy Development found in Appendix F, Section 3. Any disturbance of listed plant species that might be identified in the future would be addressed during the NEPA process and consultation with the US Fish and Wildlife Service.

F5-78 Please refer to Appendix F, Section 3 in the Proposed RMP and Final EIS for the BLM Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS. These are the best management practices that will be adopted by the Ely Field Office. Please note that the Fish and Wildlife Service consulted on the preparation of the Wind Energy EIS and is expected to issue a programmatic biological opinion on the development of wind energy on public lands. If the Service determines that best management practices beyond those published in conjunction with the Record of Decision are necessary and appropriate, it is expected that these would be included in the biological opinion.

F5-79 In response to your comment, the referenced citation has been corrected.

F5-80 In response to your comment, the text in Section 2.4.23 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of monitoring.

F5-81 In response to your comment, Appendix E in the Proposed RMP and Final EIS has been modified by removing the code "PT" from the referenced table.

Letter F5 Continued

F5-82 **Appendix H, Standard Operating Procedures.** We recommend an addition to "WL3" on page H-1 to add another sentence to this SOP stating that "To the greatest extent possible all mind adits and shafts that are slated for closure will be surveyed for bat presence and use prior to being closed."

F5-83 For Standard Operation Procedure "SS4" on page H-2 we suggest that BLM add in a reference for the most recent joint guidance produced by APLIC, the 2005 Avian Protection Plan, for minimizing wildlife impacts from powerline/utility line construction.

F5-84 We suggest the addition of a stipulation to the "Minerals" part of the Standard Operating Procedures (pages H-6 to H-8). The stipulation should state that for circular, hollow mining claim markers the tops are required to be capped, in accordance with Nevada state law, to prevent mortality to migratory birds, bats, and insects.

F5-85 **Appendix L, Standard Terms and Conditions for Mineral Development Within the Ely District.** On Page L-4 under Standard Operating Procedures for Mineral Materials we suggest adjusting the time period with regard to nesting migratory birds so that it reads "Any disturbance commencing between April 1 and July 15." Similarly, on page L-5 under "13" and on page L-23 under "1.2.4.4" we suggest the same change be made.

F5-86 On page L-7 under "20" the Appendix indicates that a 0.5 mile buffer zone will be imposed on activities around various raptor use sites. For what length of time would this buffer zone against disturbance be in effect?

F5-87 On page L-7 under "21" we suggest changing the language to read "Consultation with the U.S. Fish and Wildlife Service is required under Section 7 of the Endangered Species Act if a BLM project (any project funded, authorized, or carried out by BLM) may affect a listed species or adversely modify designated critical habitat for the species. If a BLM project may affect a species proposed for listing or adversely modify proposed critical habitat for a species, BLM 6840 policy requires conferencing with the U.S. Fish and Wildlife Service." The last sentence provided under item "21" is fine as is. Similarly, we suggest changing this language elsewhere in this Appendix where it occurs (ie. item 25 page L-12, etc.).

F5-88 For the desert tortoise on page L-38 under item 1.4.7.1 we suggest some modifications to the existing text to account for the fact that desert tortoise has designated critical habitat. The suggested revision would be "Consultation with the U.S. Fish and Wildlife Service is required under Section 7 of the Endangered Species Act before a project can be approved if BLM determines that the proposed action may affect the desert tortoise, or adversely modify designated critical habitat for the species. If a determination is made that a BLM project may affect the desert tortoise, or adversely modify designated critical habitat for the species, the proposal must be modified or denied per appropriate regulations."

F5-89 Page L-25 under section 1.2.4.15, Pygmy Rabbit Standard Operating Procedure. We suggest some changes and revision to the measures that you include here. Our recommendation is that there be three measures as follows:

Responses to Letter F5

F5-82 In response to your comment, the text of Standard Operating Procedure WL3 from the Draft RMP and EIS has been revised to incorporate the wording suggested in the comment. It now appears in Appendix F, Section 1, as best management practice #1.7.5.

F5-83 In response to your comment, the text of Standard Operating Procedure SS4 from the Draft RMP and EIS has been revised to incorporate the reference suggested in the comment. It now appears in Appendix F, Section 1, as best management practice #1.7.2.

F5-84 A best management practice as described in this comment is not needed in the Proposed RMP, because mining claim markers are regulated by the State of Nevada.

F5-85 The Standard Terms and Conditions for Mineral Development listed in Appendix L of the Draft RMP/EIS are for Alternative A, which is continuation of present management. Thus, the dates referenced in this comment cannot be changed. A specific time period for the nesting of migratory birds in the planning area is not included as a management action in the Proposed RMP, because it would vary substantially between the Great Basin and the Mojave Desert regions. However, please note that the Ely Field Office Policy for Management Actions for the Conservation of Migratory Birds allows for revising the dates of the "no activity" period as new information on avian species or specific characteristics of a proposed project indicate a need to do so.

F5-86 In response to your comment, the wording of item 20 under Geophysical Operations has been revised to clarify that the referenced buffer zone would apply throughout the period of active use of these sites. Please note that Appendix L has been combined into Appendix K in the Proposed RMP and Final EIS.

F5-87 In response to your comment, your suggested text changes have been incorporated. Please note that Appendix L has been combined into Appendix K in the Proposed RMP and Final EIS.

F5-88 In response to your comment, your suggested text changes have been incorporated. Please note that Appendix L has been combined into Appendix K in the Proposed RMP and Final EIS.

F5-89 In response to your comment, your suggested text changes have been incorporated. Please note that Appendix L has been combined into Appendix K in the Proposed RMP and Final EIS.

Letter F5 Continued

F5-89

a. Avoid areas pygmy rabbits occupy
b. Restriction of activities near burrows during the months of April through early August
c. Avoid fragmentation of populations

F5-90

Appendix M, Wildlife Desired Future Conditions

We note that desired future conditions for sagebrush habitat, and those species associated with this habitat type, are provided in this Appendix. This is key given that about 49 percent of the Ely BLM land base is sagebrush habitat. However, we are concerned that desired future condition sections for any of the other wildlife habitats that Ely BLM District is responsible for managing were not developed and provided in this Appendix. We strongly encourage BLM to develop desired future conditions for all the wildlife habitats managed by the Ely BLM Field Office.

F5-91

Appendix N, Standard Requirements for Lands and Realty Actions Within the Ely District

We are concerned that this Appendix has no stipulations or standards that relate directly to fish, wildlife or plants. More specifically there are no standards provided relative to federally listed species, designated critical habitat, and species that are proposed for listing or those that are federal candidates for listing. We suggest adding a stipulation to this Appendix that specifically indicates that BLM lands with habitat for federally listed species, species proposed for listing, species that are candidates for listing, or with designated or proposed critical habitat for a federally listed species, will not be exchanged or disposed of by BLM.

Responses to Letter F5

F5-90 Please refer to Section 2.4.5 in the Proposed RMP and Final EIS for a discussion of the desired future condition of vegetation by all habitat types. Please note that this Appendix has been deleted from the Proposed RMP and Final EIS.

F5-91 Please refer to Section 2.4.12 in the Proposed RMP and Final EIS for a discussion of lands and reality management actions. Please note that Appendix N has been combined into Appendix K in the Proposed RMP and Final EIS.

Letter F6

United States Department of the Interior

NATIONAL PARK SERVICE
Great Basin National Park
Baker, Nevada 89311-9701

N16(GRBA)

November 30, 2005

DEC 2005
RECEIVED

Gene Drais, Project Manager
U.S. Department of the Interior
Bureau of Land Management
Ely Field Office
HC33 Box 33500
Ely, Nevada 89301

Mr. Drais,

Great Basin National Park has reviewed the Draft Resource Management Plan/Environmental Impact Statement for the Ely District and would like to provide additional information on issues concerning wildlife. Although Humboldt National Forest and Great Basin National Park predominately administer the south Snake Range, the proposed alternatives could weaken the ability to carry out management for Rocky Mountain Bighorn sheep on the south Snake Range and sage grouse in Snake Valley. Listed below are our comments to include in the document.

F6-1

- Include the Windy Peak and Sacramento Pass area of the south Snake Range for management of Rocky Mountain bighorn sheep. Great Basin National Park is currently preparing a restoration plan for bighorn sheep that will encourage metapopulation dynamics with the Mt. Moriah population and cooperative domestic sheep management. The Windy Peak/Sacramento Pass area provides existing bighorn sheep habitat based on GIS habitat models developed by the park and provides a corridor for movement between Mt. Moriah on the north Snake Range and alpine habitats on the south Snake Range. This corridor allows for metapopulation dynamics that would maintain the genetic viability of both populations. Movements between Mt. Moriah and the south Snake Range do occur. Bighorn sheep released on Mt. Moriah in 1991 and fitted with ear tags were seen as far south as Lincoln Peak on the south Snake Range, 30 miles from Mt. Moriah. In addition, private landowners on Sacramento Pass have reported bighorn sheep movement both north and south in that area.

F6-2

- Include the document titled Instruction Memorandum No. 98-140 Revised Guidelines for Management of Domestic Sheep and Goats in Native Wild Sheep Habitats as an appendix. This document is referred to multiple times, yet without knowledge of it's contents, a reviewer cannot determine the adequacy of the guidelines to protect

Responses to Letter F6

F6-1 In response to your comment, the text in Table 2.9-1 and in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to include the entire Snake Range.

F6-2 Thank you for your comment. Any reference to Instruction Memorandum No. 98-140 has been removed from the Proposed RMP and Final EIS because this IM could be replaced during the life of the RMP. The most current BLM guidelines for management of domestic sheep and goats in bighorn sheep habitat will be applied. At the present time, BLM guidelines regarding buffer zones are different for Rocky Mountain bighorn sheep and desert bighorn sheep because in most states desert bighorn sheep are considered a sensitive species and Rocky Mountain bighorn sheep are not.

Letter F6 Continued

F6-2 bighorn sheep. Mention that these guidelines would be addressed when revising grazing plans on allotments adjacent to bighorn sheep habitats that occur primarily on lands administered by the Humboldt National Forest and National Park Service, which largely occurs on the south Snake Range. Implementing these guidelines around the south Snake Range would reduce risks for disease transfer between domestic and bighorn sheep as buffers would largely be non-bighorn sheep habitats.

F6-3
- New information concerning sage grouse in Snake Valley is now available. In October 2004, members of your staff and the Nevada Division of Wildlife captured four male sage grouse on the Baker Ranch and fitted them with radio telemetry transmitters. They requested Great Basin National Park Resource Management staff monitor the movement of these grouse to determine seasonal distribution, lek locations and relative abundance. We are still monitoring several birds today. Range distribution of these birds included the eastern extent of the Baker Ranch between May and October. In November, the birds shifted their range west of Baker onto the bench below Kious Springs and remained there until mid-May. We discovered new lek locations on the bench below Kious Springs. Unfortunately, the population is small with only nine birds counted at once. A full report including GIS shapefiles will be sent under a separate letter.

F6-4
- Details are not sufficient in the Draft Resource Management Plan/Environmental Impact Statement for the Ely District to determine how proposed land disposals would affect the habitats used by this small population of sage grouse, but we feel it necessary to reevaluate proposed land disposals in Snake Valley in light of the small and isolated nature of this population.

F6-5
- Lands within one mile north and south of State Highway 488 and lands within one mile west of State Highway 487 from the junction of U.S Highway 6 & 50 to Baker, NV should not be considered for disposal and should be closed to entry for fluid leasable minerals, solid leasable and locatable minerals and saleable minerals to preserve scenic viewsheds and consolidate urban growth in the townsite of Baker.

This concludes our comments on the Draft Resource Management Plan/Environmental Impact Statement for the Ely District. If you have any questions, do not hesitate to contact Tod Williams at (775) 234-7331 ext. 223 or tod_williams@nps.gov.

Sincerely,

Cindy Nielsen
Superintendent

cc Paul Podbourny, BLM Ely District
Curt Baughman, NDOW

Responses to Letter F6

F6-3 Thank you for this wildlife resource information. Effects on specific leks will be considered by the Ely Field Office when project-specific plans are prepared or evaluated.

F6-4 In response to your comments, the land disposal maps (Maps 2.4.12-1 through 2.4.12-4) in the Proposed RMP and Final EIS have been revised to retain the sage grouse habitat you have identified.

F6-5 This land has not been identified for disposal, and it has not been closed to fluid leasable minerals, solid leasable and locatable minerals, and saleable minerals. The type of issues raised in your comment will be considered by the Ely Field Office when project-project plans are prepared or evaluated.

Form Letter 1

November 29, 2005

BLM Ely Field Office
Attn: Ely RMP Team
HC 33, Box 33500
Ely, Nevada 89301

Dear Ely RMP Team;

Please accept my comments on the draft resource management plan for BLM lands in eastern Nevada.

Form1-1 Protecting wilderness quality public lands is my primary concern in the draft plan. I urge the BLM to continue to protect and restore the eight areas currently identified as Wilderness Study Areas from damage from illegal off-highway vehicle use and other illegal activities.

Form1-2 In addition, I ask the BLM to include provisions in the final management plan to protect the wilderness qualities of all of the areas carefully reviewed and recommended by the Nevada Wilderness Coalition for wilderness protection.

Form1-3 These special places like Becky Peak, with its high meadows and rich habitat for elk, pronghorn, and other wildlife, are favorites of outdoors enthusiasts. The Antelope Range with its outstanding vistas, wildlife, and opportunities for solitude is equally deserving of protection. In the case of the spectacularly scenic Blue Mass/Kern Mountains, I would like to see the Area of Critical Environmental Concern proposal for this area expanded to include the entire area proposed by the Nevada Wilderness Coalition.

Form1-4 The Government Peak area, adjacent to the Mt. Moriah Wilderness, should also be protected as wilderness to protect wildlife viewing and hunting opportunities for visitors, as well as habitat for wildlife. The expanded Heusser Mountain Bristlecone Pine area just outside of Ely also needs to be protected.

Form1-5 All of these wilderness quality areas should be protected in the plan by prohibiting oil and gas leasing and the placement of wind power facilities within their boundaries.

Form1-6 These potential wilderness areas should be designated as Class 1 Visual Resource Management Units. Off road vehicles should be limited to only designated roads and trails and all unnecessary vehicle routes should be restored.

Form1-7 In summary, I want to see all of the wilderness quality land managed by the BLM's Ely Field Office protected in the long term for the life of this resource management plan.

Thank you for your consideration.

Sincerely,

Responses to Form Letter 1

Form 1-1 The Lincoln County and White Pine County Conservation, Recreation, and Development Acts have either designated wilderness or released wilderness study areas in these two counties. Designated wilderness and the remaining wilderness study areas in the Nye County portion of the decision area are closed to OHV use. OHV use in other parts of the decision area will be "limited" to designated roads and trails in order to protect a range of resource values.

Form 1-2 When the Ely RMP planning process was initiated, there was no requirement in the Land Use Planning Handbook to identify lands with wilderness characteristics. Under the new Planning Handbook (2005), the BLM no longer designates wilderness study areas as part of the land use planning process. While the new Handbook allows the Ely Field Office to consider information on wilderness characteristics as part of travel management and visual resources management, no lands with wilderness characteristics were identified during the Ely RMP planning process.

Form 1-3 As part of the ACEC regulations, the Ely Field Office may not use an ACEC designation as a substitute for wilderness suitability recommendation.

Form 1-4 Please refer to Response to Comment Form 1-2.

Form 1-5 Please refer to Response to Comment Form 1-2.

Form 1-6 Please refer to Response to Comment Form 1-2.

Form 1-7 Please refer to Response to Comment Form1-2.

Form Letter 2

October 20, 2005

BLM
Ely, Nevada Field Office
Ely, Nevada

Re: BLM Ely RMP/EIS

Dear Sirs:

You have solicited comments from the public; I have the following questions and concerns regarding the proposed RMP/EIS for portions of eastern and central Nevada. As you know, the stated main premise for this effort is an attempt to" restore the Basin's native plant species and halt the spread of invasive species". As that is the main stated premise for the program, I have the following comments and questions:

Form 2-1 1. Please see exhibit A attached. Are any of the BLM staff responsible for the development and implementation of this RMP currently or in the past members of, employees of, or affiliated with any of these organizations in any way?

Form 2-2 2. Have any of these organizations or individuals from these organizations been hired, contracted with or allowed to work as volunteers in any capacity that would allow them to influence the RMP/EIS development or implementation?

Form 2-3 3. Has any information provided by them in the way of statistics, studies either published or unpublished, surveys, or opinions been included in the formulation of this RMP/EIS, in any of the potential implementation formats?

Form 2-4 4. Have any of the BLM personnel involved in the RMP/EIS met with any person or persons from any of these organizations in a private or non-public meeting concerning the aspects of this program?

Form 2-5 5. Have any of these organizations been contracted with or in any other way paid to provide any information, surveys, studies or statistics that have been utilized by the BLM staff for this particular RMP/EIS?

Form 2-6 6. Has the BLM staff complied with the letter and spirit of SB 247 concerning the closure of existing roads, and what is being done to ensure no closures of public access roads and routes currently open?

Form 2 -7 7. It appears that under the auspices of restoration of native plant and animal species, an attempt is being made by the composers of the plan to include other non-related activities. For example, why does this RMP/EIS even consider road closure and cessation of so called off-road activities? Please explain in detail how the above stated purpose of the RMP/EIS will be met by road closure, cessation of off-road activities, and closure of large areas of the land in question. Please be specific and please be sure to include specific studies and surveys that support that point of view, and where they can be reviewed.

Form 2-8 8. What measures have been taken to ensure continued Americans with Disabilities Act access to currently accessible areas? It appears that all of the potential choices will negatively impact this situation. While we understand that you are not required to make provision for the handicapped for wilderness areas, which

Responses to Form Letter 2

Form 2-1 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP and does not require further agency response.

Form 2-2 Please refer to Response to Comment Form 2-1.

Form 2-3 Please refer to Response to Comment Form 2-1.

Form 2-4 Please refer to Section 5.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of informal presentations that were made to organizations during the preparation of the Ely RMP.

Form 2-5 Please refer to Response to Comment Form 2-1.

Form 2-6 Please refer to Section 2.4.14.1 in the Proposed RMP and Final EIS for a discussion of how the BLM develops transportation plans and how the process gives the public the opportunity to participate.

Form 2-7 The Proposed RMP and Final EIS outline the BLM's proposed activities for managing all of the resources and uses for which it has responsibility within the Ely RMP decision area. These responsibilities extend far beyond protection or restoration of plant and animal communities, although those goals are a major part of the proposed program. Management of transportation routes and off-highway vehicle use on the public lands is just one of the factors considered in meeting the goals and objectives identified in the Ely RMP.

Form 2-8 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP. As stated in Section 1.5.1, General Criteria No.1 of the Proposed RMP and Final EIS, the Ely Field Office will comply with all applicable Federal laws, including the Americans with Disabilities Act.

Form Letter 2 Continued

Form 2-8 we believe is basically wrong, the philosophy of the BLM has always been to make provision when possible for handicapped. How specifically will this issue be addressed?

Form 2-9 All of the potential implementation plans have significant problems. The concerns that we have will be significantly alleviated if truthful and complete answers are given.

Thank you,

Dr. Mike Moore Dr. Dave Moore, Dr Gary Moore, Dr. Kevin Moore, Dr. Fred Knight, Dr. S. Chan, Dr. Jeff Henkes, Mr. Mark Moore, Mr. Ryan Moore, Mr. Adam Moore, Mr. Jake Knight, Mr. Derek Knight, Mr. Curtis Knight, Mr. Josh Moore, Mr. Kyle Moore, Mr. Lukas Moore, Mr. Frank Chan, Mr. Vince Lee, Mr. Mark Chan, Mr. Doug West. "The Committee of Twenty"

C/O Mark Moore
8565 Corbett
Las Vegas, Nevada 89149
702-254-6700
702-596-7622

Responses to Form Letter 2

Form 2-9 Comment noted. All comments on the Draft RMP and EIS have been truthfully responded to in this section of the Proposed RMP and Final EIS.

Form Letter 3

Snorel600rep@aol.com

Form 3-1 The proposed draft of the ely rmp has left out the biggest user, off hwy vehicles .It is amazing that there is no ohv park in this emp draft, with the growth of Nevada and the government land sales ohv areas are lost forever. Now is a great time to get the ohv park going so ohvs can enjoy eastern Nevada for many years to come. In the draft there is a plan to reduce or do away with ooff road racing, limiting or eliminating ohv racing will hurt the local economy's of Lincoln and white pine counties, the largest economic impact to Lincoln County is off road racing. There also needs to be ohv trail connecting Las Vegas to the silver state trail and to the Utah trail system with the Nevada department of parks estimating Nevadan's owning 340,000 ohvs and many out of state users in Nevada it make little sense to reduce the areas that many Nevadan's use their ohvs.

Form 3-2

Form 3-3

KEN FREEMAN , NATIVE NEVADAN

Responses to Form Letter 3

Form 3-1 Please refer to Section 2.4.15.1 in the Proposed RMP and Final EIS for a discussion of Special Recreation Management Areas, which include areas where the recreational use of off-highway vehicles would be emphasized. No OHV parks have been included in the Proposed RMP

Form 3-2 The Proposed RMP and Final EIS identify management actions for off-road racing (see Section 2-4.15.2), but it would not be eliminated.

Form 3-3 In response to your comment, the text in Section 2.4.15.1 of the Proposed RMP and Final EIS has been revised to clarify the discussion of how future recreational trails would be addressed.

Form Letter 4

November 23, 2005

NOV 2005

Gene Drais, RMP Project Manager
Bureau of Land Management
Ely Field Office, HC 33
Box 33500
Ely, Nevada 89310

Re: Comments on BLM's Draft Resource Management Plan/Environmental Impact Statement for the Ely District

Dear Mr. Drais:

As a resident of White Pine County and an avid sportsman I have reviewed the Draft RMP/EIS for the BLM's Ely District and provides the following comments:

General Comment

Form 4-1 The proposed management of elk addressed in the draft contains contradictions and inaccurate information. The draft addresses elk in several sections, some as a non-indigenous species, and some where elk are included as an indigenous species. However, in at least one section of the draft, elk would be granted the same status as other indigenous wildlife. The fact is that very little, or no, research was done to determine if elk were in fact an indigenous wildlife species in the area encompassed by the Ely District. Attached documentation in exhibit form provides evidence that elk are in fact indigenous to Nevada, as well as White Pine County; therefore making it necessary to include elk as an indigenous wildlife species consistently throughout the draft.

Specific Comment

Form 4-2 2.5.6.6 *Parameter – Great Basin Big Game Habitat (Mule Deer, Pronghorn, and Elk):* The information in paragraph four on Page 2.5.60 under Alternative A, contradicts the information in paragraph two on Page 2.5.61 under Alternative B and in paragraph five on page 2.5-62 under Alternative E. Should either Alternative A or Alternative E be adopted elk would not be granted status as indigenous wildlife; however, in Alternative B elk are more appropriately included as indigenous wildlife.

Form 4-3 Despite the contradiction we maintain that elk are very much indigenous wildlife by definition. There is supporting documentation that elk were very much a part of the native wildlife species in White Pine County. Written documentation in 1859 by Captain J.H. Simpson, Engineer Department of the U. S. Army titled "Explorations" "Great Basin of the Territory of Utah". Captain J. H. Simpson wrote, "An elk was seen yesterday in Stevenson's Canon and one to-day in Red Canon". These sightings were on the northern end of the Snake Range east of Ely. Despite the fact that Capt. Simpson was developing

Responses to Form Letter 4

Form 4-1 In response to your comment, corrections have been made in the Proposed RMP and Final EIS to recognize elk as a native species to the area throughout all alternatives.

Form 4-2 Please refer to Response to Comment Form 4-1 for a discussion of elk as a native species to the area. Text in Chapters 2 and 4 of the Proposed RMP and Final EIS has been revised to indicate that management of habitat for elk under the Proposed RMP would conform to the county elk plans.

Form 4-3 Please refer to Response to Comment Form 4-1 for a discussion of elk as a native species to the area.

Form Letter 4 Continued

Form 4-3 a direct wagon route from Camp Floyd to Genoa in the Carson Valley in 1859 his observation of elk in White Pine County is documented in the Snake Range. We submit that elk were present in other ranges of White Pine County as early as 1859, if not before. This documentation is proof that elk were indigenous species to White Pine County and therefore granted indigenous species status accordingly. Additional testimony continues to demonstrate that elk are indigenous to Nevada.

Form 4-4 Statements made referring to the introduction of elk in White Pine County in 1932 are erroneous, when in fact it was a reintroduction of elk in an area in which elk where an indigenous species (native), as documented, almost a century earlier

4.6.1 Aquatic Habitat and Fisheries

Form 4-5 The information contained in paragraph 6 on page 4.6-28 under Alternative E referring to the "reduction in population growth of elk on the District in the long-term" is not consistent with inclusion of elk as an indigenous species as it so deserves based upon above information and attached exhibits which document elk as indigenous wildlife in White Pine County.

Summary

Form 4-6 We feel that the RMP/EIS should properly address elk as an indigenous (native) species for the purpose of future planning of habitat enhancement projects and just maintain a status equal to that of the mule deer, pronghorn, and big horn sheep. Documentation has been provided to demonstrate that elk were present in White Pine County over a century ago, and due to their reintroduction in 1932 continue to flourish through proper management. I agree that the elk numbers must be managed in relationship to available habitat through harvest, transplant, etc. I personally feel that of the alternatives provide in the draft the only one we could support is **Alternative B.**

Form 4-7 Recreation which includes hunting and wildlife viewing contribute a sizable portion to the economy of White Pine County. Not including elk as an indigenous wildlife species and enhancing habitat to maintain or expand heard growth in order to provide recreational opportunities for present and future generations as a part of the BLM's Mission.

Should you have question, please feel free to contact me at (775) 289-4363

Sincerely,

Brandon Jackson

Responses to Form Letter 4

Form 4-4 Please refer to Response to Comment Form 4-1 for a discussion of elk as a native species to the area.

Form 4-5 The current population growth rate of elk in the Ely RMP planning area will logically decrease over time as the population reaches the carrying capacity of available habitat. Text in Chapters 2 and 4 of the Proposed RMP and Final EIS has been revised to indicate that management of habitat for elk under the Proposed RMP would conform to the county elk plans.

Form 4-6 Please refer to Response to Comment Form 4-1 for a discussion of elk as a native species to the area. Your comment regarding a proposed alternative is noted.

Form 4-7 In response to your comment, the text in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to clarify the discussion of big game habitat management for increased game species distribution and densities.

Letter I1

Dear sirs:

I would like to add my opinion to the plan regarding the Sloan Canyon Conservation Area. I have been a hunter, fisherman, camper, hiker, target shooter, plinker, etc. for almost 50 years. Most of that activity has occurred on public land. I have raised five children and now have seven grandchildren that have sharred my love of the outdoors.

I1-1 We all love our public lands and the fact that they are open to allow us to pursue our outdoor interests. Please consider that when you develop your resource management plan. I especially want to address: hunting, target shooting, and plinking. They are honest, wholesome

I1-2 endeavors, even if there are those that disagree with that point of view. I believe our public grounds should be managed to support hunting, target shooting and plinking. I could go on and on about the times that I have been in the outdoors with folks hunting, target shooting and plinking, and the positive results those outings had on

I1-3 all of us. It's sad to see areas closed to those interests because some don't like them. To those folks I would say, fine, if you don't like to hunt, shoot or plink, then don't, but it's not their place to restrict the rest of us.

I1-4 I am a retired police officer and was one for over 34 years. I can tell you first hand, that the application of the interests I mention and sharring them with others, especially children, only improve public health.

I1-5 Please do not consider reducing the availability of our lands when you develop the resource management plan and environmental impact statement for the Sloan Canyon Conservation area.

Thank you for your consideration.

Respectfully sumbmitted,

Paul Anderson

Paul Anderson<paulndarcy@sbcglobal.net>

Responses to Letter I1

I1-1 Comment noted. Outdoor recreation is an important consideration for the management of public lands by the Ely Field Office.

I1-2 The outdoor activities identified in your comment are recognized by the Ely Field Office as valid uses of the public lands.

I1-3 Please refer to Response to Comment I1-2.

I1-4 Comment noted.

I1-5 This comment is not relevant to the Ely RMP. The Sloan Canyon Conservation Area is not within the Ely planning area. It was a planning effort undertaken by the BLM Las Vegas Field Office and was completed in June 2006.

Letter I2

Fastfreddy5050@cs.com
10/04/2005 11:21 AM

To elyrmp@blm.gov
cc
bcc
Subject Draft mamagment plan

I2-1 Hi: In regards to your managment plan I feel that BLM lands in the Ely district should be managed as multiple use and all activities that were allowed in the past, especially recreation (hunting, fishing) be allowed to continue. Sincerely, Fred

Responses to Letter I2

I2-1 Please refer to Sections 2.4.15, 3.15, and 4.15 in the Proposed RMP and Final EIS for discussions of Recreation Resources within the Ely RMP decision area. The management actions contained in the Proposed RMP continue to focus on multiple use of resources.

Letter I3

Dear Ely BLM,

Thank you for the opportunity to comment. We commend the BLM for its forward-thinking plan. We support most of the resource management plan, in particular the restoration activities. Nevertheless, there are some areas of the plan that we feel require further attention, addressed below.

I3-1 2.5.12.2 Lands and Realty - Disposal of Public Lands
The public lands listed for disposal in the Baker area should be located in different areas than those shown in Alternative E. The areas shown are for the most part away from utility corridors and access. In addition, the land disposal area furthest to the south may be in an area that a group of sage grouse recently have been found to use. In 2004 NDOW put radio collars on some of the sage grouse, finding that they use fields on Baker Ranch for part of the year, then cross the sagebrush land to the northeast to their lekking area. If this land is disposed, potential development could impede the success of this population. Land disposal should take place in areas where disposal would serve important public objectives including community expansion or economic development.

We recommend that the lands for disposal in the Baker area be located around the town of Baker and along Highway 6 & 50. (will send map if comment time extended)

I3-2 2.5.12.5 Lands and Realty - Corridors
Alternative E should not include designating a new corridor that runs from Lincoln to Elko counties through Spring Valley. If a party desires a right-of-way in the future, it should be decided at that time. Designating a corridor at this time is speculative and would put additional resources at risk.

I3-3 2.5.13.1 Parameter- Wind and Solar Energy
Limiting locations for renewable energy before they are definitively known will stifle future opportunities. Further studies using anemometers should be conducted before land is designated as wind energy development areas. Locations should be managed on a case-by-case basis.

I3-4 2.5.5.4 Parameter- Salt Desert Shrub The effect of rodent and ant communities (e.g. ground squirrel burrows and harvester ant mounds) on spreading invasive exotic plants should be discussed.

I3-5 2.5.6.1 Aquatic Habitat and Fisheries
We congratulate the BLM for moving towards more emphasis on enhancing native fisheries in Alternative E and think that even stronger language supporting native fish and their habitats would be appropriate.

I3-6 2.5.5.6 Big Game Habitat
We believe that the BLM should make Alternative B its preferred alternative. Alternative E, which provides for managing big game species habitats beyond what natural habitats and water sources would

Responses to Letter I3

I3-1 In response to this and other similar comments, the lands available for disposal in the Baker area have been revised for the Proposed RMP and Final EIS. Please refer to the revised disposal maps introduced in Section 2.4.12.2 and the revised legal descriptions in Appendix I.

I3-2 In response to your comment, the text in Section 2.4.6 (Goal) and text in Section 2.4.6.3 of the Proposed RMP and Final EIS have been revised to clarify the discussion of how the BLM would manage big game species habitats.

I3-3 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. Applications received for wind energy development would be subject to NEPA analysis in coordination with local, state, and other federal agencies.

I3-4 While the effects of rodents and insects contribute to the spread of plant seeds, these are relatively minor and localized factors in the widespread dispersal of invasive weeds.

I3-5 Thank you for your comment. The Proposed RMP states that the Ely Field Office would work with the U.S. Fish and Wildlife Service and Nevada Department of Wildlife to enhance native fisheries habitat whenever possible and balance native and nonnative fishery management strategies.

I3-6 In response to your comment, the text at the beginning of Section 2.4.6 under "Goal" and the text in Section 2.4.6.3 of the Proposed RMP and Final EIS have been revised to clarify the discussion of how the BLM would manage big game species habitats.

Letter I3 Continued

I3-6 support, unbalances the ecosystem and puts added stress on nongame species and forage species.

Please include us on your mailing list for any further correspondence regarding this EIS.

Sincerely,
Craig and Gretchen Baker
P.O. Box 34
Baker, NV 89311

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http://www.yahoo.com/r/hs

Letter I4

November 29, 2005

Bruce Flynn
BLM, Ely Field Office
HC33 Box 33500
Ely, NV 89301

NOV

Nov. 27, 2005
Karen Boeger
5055 Wilcox Ranch Road
Reno, NV 89510

Comments: Ely Draft RMP EIS

Thank you for this opportunity to submit comments on your draft RMP. I'm only sorry that I haven't taken more time study this huge document and give you more detailed comments. Please assume that any issue I haven't commented on, I either agree with your proposed alternative or I just don't have the knowledge/expertise to make an informed comment.

1) Vegetation:

I4-1 *Aspen (2.5.5.2):

The preferred alternative says aspen communities would be managed ("using disturbance") … this sounds dubious at best, unless that means prescribed fire?

I4-2 The preferred alternative also is unclear on what is meant by using grazing management as a "common treatment tool" for restoration or rehabilitation. Can it be presumed to mean a restriction of grazing in those areas??? One would hope so.

2) Fish and Wildlife:

I4-3 *Wildlife Water Developments (2.5.6.3)/ *Great Basin Big Game Habitat (2.5.6.6):

Alt. B should be the preferred alternative because it emphasizes habitat health, which in turn will provide an appropriately healthy game population. Management that is a response to "public demand" is not always the best for the long-term public good.

I4-4 Control of ATVs would do far more in the long run for healthy game populations and improved hunting opportunities than more and more water developments.

I4-5 *Great Basin – Big horn sheep:

Responses to Letter I4

I4-1 In response to your comment, various disturbance factors (e.g., fire and thinning) are among the common approaches for stimulating additional regeneration in aspen stands. The text in Section 2.4.5.3 of the Proposed RMP and Final EIS has been revised to clarify the propose management of aspen communities.

I4-2 The use of grazing management as a tool in treatment and rehabilitation of vegetation communities may involve changes in intensity, duration, and periods of grazing or total elimination, if necessary. In most cases, the specific changes in grazing management for a given area would be defined following watershed analysis rather than being addressed specifically in the RMP/EIS.

I4-3 Wildlife habitat health is an overriding theme of all the alternatives analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Although the BLM may install artificial wildlife water developments to "Meet the public demands for increased recreational opportunities ..." as stated in Section 2.4.6.7 of the Proposed RMP and Final EIS, that decision must still meet the goal of wildlife habitat management, which is listed at the beginning of Section 2.4.6.

I4-4 Please refer to Section 2.4.14.2 in the Proposed RMP and Final EIS for a discussion of how the BLM plans to manage OHVs.

I4-5 In response to your comment, the text in Table 2.9-1 and in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to include the entire Snake Range.

Letter I4 Continued

I4-5 The preferred alternative artificially limits big horns to 2 areas. Further, it does not take into account the affect of management on BLM lands adjacent to big horn areas of the NPS.

I4-6 3) Special Status Species

- Mohave Desert Scrub Habitat (2.5.7.6.): Alt. B is preferred to E. There must be adequate review and justification for grazing any Mohave Desert lands or lands elsewhere receiving 8" or less of rain per year. Eliminate grazing where grazing cannot be sustained without ecological disruption.
-

4) Cultural Resources

*. (2.5.9.1 through 2.5.9.8:
Historic roads, trails, etc. / Rock Art Sites / Historic town sites, etc./ Historic cemeteries/ Ethnic arboreal narratives / Formative Puebloan sites / Rock shelter and caves

I4-7 "Public use" emphasis for these resources will be fraught with problems and leans toward a "build it and they will come" attitude. While existing developed sites should be maintained, in no case should public access be "promoted". Most vandalism and negative impacts can be controlled by limiting public access and/or closing existing motorized routes a significant distance from the resource.

I4-8 I oppose any fee sites on general principle. Fees insert a profit motive into public lands decision-making. Dependence on user fees for recreation and/or cultural resource management will damage the BLMs' ability to make objective decisions.

5) Lands and realty

I4-9 *Disposal of public lands (2.5.12.2): Alt. B is the best for this issue. Not disposing of critical habitat for T&E species or sensitive species is the right thing to do for highest public benefit.

I4-10 *Corridor designations (2.5.12.5): Alt. A is best. Additional corridors must not be designated. This is the responsible choice as the majority of White Pine residents have grave concerns about water deportation. It would be irresponsible to make any decision until an expanded water study is complete.

I4-11 *Communication sites (2.5.12.6): Alt. B is best. It provides an adaptive management approach by not creating new sites until existing ones are at capacity.

I4-12 *Land use authorizations (2.5.12.7): Alt. B again is the best approach. by utilizing authorizations next to existing ones, so as to minimize impacts and not further fragment habitat.

6) Travel Management and ORV Use:

Responses to Letter I4

I4-6 Livestock grazing suitability and the evaluation of grazing use relative to grazing any Mohave Desert lands and the achievement of the standards for rangeland health will be conducted during the term permit renewal process, during watershed analysis, and during grazing use monitoring. Authorizing grazing may be appropriate in certain situations. These are issues that would be considered associated with authorizing any grazing use.

I4-7 Cultural sites with evidence of public use will be considered for allocation to Public Use. Use of such sites will be limited if monitoring of a site shows a need to protect the resource.

I4-8 Thank you for expressing your concerns. Fees are an allowable method to maintain facilities for public use. Fee areas are allowed under BLM policy where special management, such as maintenance of facilities for public use, incurs costs that cannot reasonably be funded through the normal budget process.

I4-9 Please refer to Section 2.4.12.2 in the Proposed RMP and Final EIS for a discussion of disposal of designated critical habitat for threatened or endangered species. Please note that under the Proposed RMP, no such disposal would be allowed.

I4-10 The Ely Field Office is required to designate corridors through the land use planning process. It is BLM policy to encourage prospective applicants to locate their proposals within corridors. The Proposed RMP states that water pipelines are encouraged to be within designated corridors. Water pipelines could be authorized through the right-of-way process and would not require a designated corridor.

I4-11 The Proposed RMP encourages co-location of communication sites before rights-of-way for new sites are issued. The Proposed RMP is responsive to the needs of communication for public safety and to accommodate changes in technology.

I4-12 Please refer to management actions in Section 2.4.12.7 in the Proposed RMP and Final EIS for a discussion of land use authorizations.

Letter I4 Continued

I4-13 *Transportation plan (2.5.14.1): Alternative B should be preferred. Recreation and tourism **promotion** must not be the emphasis for road and trail designations.

I4-14 Management capabilities, sustainability, minimizing impact to other resources (wildlife, cultural, historical, etc.), minimizing impact to other users (quiet use, traditional hunting, permittees, etc.) should be the guiding principles of any transportation plan as directed in the Executive Orders and CFRs. Statewide BLM ORV Guidelines should be followed when designating routes.

7) Recreation:

- Special Recreation Management areas (2.5.15.1):

I4-15 Motorized recreation is not benign. It has more potential to damage land and disrupt traditional uses more than about any other use of public land. Thousands and thousands of miles of roads suitable for ORV use already exist **If** use can be kept to designated routes.

I4-16 While the concept of designating areas for emphasis of certain types of recreation can help to reduce conflicts, BLM needs to more clearly define just how these areas will be managed. Proposed areas encompass huge acreages. The impacts on wildlife will be significant, especially over time as use increases. What input has there been from NDOW on this alternative? There must be EAs on each proposed area?

I4-17 Existing management capabilities are inadequate to manage existing problem areas. Currently there are absurd administrative limits on BLMs capability to enforce regulations. BLM must resist a "build it and they will come" mentality. Build only as needed and as you have the funds, personnel, and administrative ability to properly manage the use.

I4-18 One of the proposed motorized areas, the Eagan Crest, contains a high density of springs, which makes it unique and a highly important wildlife habitat, vulnerable to ORV impacts and disturbance. This area must not be designated an ORV area. Recreation must never be emphasized or "promoted" by a public lands agency without established ability to manage for sustainability and non-degradation of the land and resources while minimizing user conflict

- Special Recreation Permits (2.5.15.2):

I4-19 a. The EIS does not make clear just how these ORV recreation management areas differ from the ones proposed in 2.5.15.1. I assume you mean that these will be areas of INTENSIVE (racing, machine challenge, etc.) ORV use??

Responses to Letter I4

I4-13 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify criteria that may be used when designating routes in a project-specific transportation plan.

I4-14 Thank you for your comment. The Proposed RMP has been developed as directed in the BLM Land Use Planning Handbook, current federal regulations, and applicable Executive Orders. Nevada BLM off-highway vehicle guidelines will be utilized by the Ely Field Office.

I4-15 In response to this and similar comments, the management action in Section 2.4.15.1 of the Proposed RMP and Final EIS regarding special recreation management areas has been revised to reduce the number and size of proposed special recreation management areas. In addition, no special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP.

I4-16 In response to this and similar comments, the management action in Section 2.4.15.1 of the Proposed RMP and Final EIS regarding special recreation management areas has been revised to reduce the number and size of proposed special recreation management areas. In addition, no special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans are prepared or evaluated.

I4-17 Please refer to Response to Comment I4-16.

I4-18 Please refer to Response to Comment I4-16.

I4-19 In response to your comment, the text in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of special recreation permit areas for motorcycle events.

Letter I4 Continued

I4-20 b. NO recreation management areas with an intensive ORV emphasis should be in the selected alternative. Competitive ORV recreation use, beyond touring:
Is destructive by nature
Breeds disrespect for wild country
Is contrary to the "tread lightly" philosophy
Encourages/ promotes/ legitimizes unethical motorized behavior

Fosters irresponsible use that gets carried beyond these areas into the wider public lands.

I4-21 c. Motorcycle events must be prohibited (Alt. D) for the same reasons as above.

I4-22 d. Truck events must be prohibited (Alt. D) for the same reasons as above.

I4-23 e. "Go fast" ORV competitive events encourage machine thrill sport and a demand for speed and machine challenge elsewhere. Such events displace all other users for the duration of the event and in any areas where "go fast" activity is taking place, event or not.

I4-24 f. Outfitter and guide permits should be limited by social capacity as well as by resource conditions. Crowding damages wild land experience. Quality recreation experience is in direct proportion to the lowest numbers of others encountered.

9) Special Designations

I4-25
- Backcountry byways (2.5.22.2):

  Please do not consider extending the Silver State Trail beyond what is legislated in the Lincoln Co. Public Lands Bill. It remains to be seen if management capabilities can minimize potential impacts. No further designations should be made until it is clear that there is capacity for management.

- WSAs (2.5.22.3):

I4-26 a) It is outrageous that BLM will not be considering new WSAs! The original WSA process is now 20 years old and out-dated. Values and situations have changed dramatically. An onslaught of ATV use, and consequent proliferation of unauthorized renegade routes, has drastically affected previously unroaded lands. White Pine Co. community support for Wilderness indicates that there is an increasing demand for protection of these endangered areas.

I4-27 b) The preferred alternative language, which declares, "other multiple uses would be emphasized", is totally unacceptable! WSAs by law must retain their Wilderness character; Alt. E language makes adhering to the law impossible.

Responses to Letter I4

I4-20 Please refer to Response to Comment I4-16.

I4-21 Please refer to Response to Comment I4-16.

I4-22 Please refer to Response to Comment I4-16.

I4-23 Please refer to Response to Comment I4-16.

I4-24 In response to this and similar comments, the text in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised regarding the issuance of outfitter and guide permits. Monitoring of outfitter and guide use would still occur for three years; however, outfitter and guide permits would not be limited during that three year study. Should the study show resource impacts, including user conflicts as a result of outfitter and guide actions, the Ely Field Office may address those problems by issuing outfitter and guide permits with special stipulations and conditions. No allocation system, including a competitive bid process, is included in the Proposed RMP and Final EIS.

I4-25 Please refer to Response to Comment I4-16. The location of the Silver State Trail was designated in the Lincoln County Conservation, Recreation, and Development Act of 2004. The Ely Field Office is currently developing an implementation management plan for that trail. During site-specific transportation planning, the Ely Field Office will hold public scoping meetings to address completeness of the route inventory and public issues, concerns, and access needs. Neither the management plan for the Silver State Trail nor any possible extensions of the trail are addressed in the Proposed RMP.

I4-26 When the Ely RMP planning process was initiated, there was no requirement in the Land Use Planning Handbook to identify lands with wilderness characteristics. Under the new Planning Handbook (2005), the BLM no longer designates wilderness study areas as part of the land use planning process. While the new Handbook allows the Ely Field Office to consider information on wilderness characteristics as part of travel management and visual resources management, no lands with wilderness characteristics were identified during the Ely RMP planning process.

I4-27 To clarify, Section 2.4.22.4 in the Draft RMP and EIS and Proposed RMP and Final EIS states that other multiple uses would be emphasized outside of Wilderness Study Areas.

Letter I5

Ely Draft RMP/EIS
Comment Form

Informed decisions are better decisions: BLM believes that extensive public involvement will serve to improve communication, develop enhanced understanding of different perspectives, and identify solutions to issues and problems. We look forward to hearing from you!

Where to provide comments: You can hand this form in at The Ely BLM Field Office (702 N. Industrial Way) or mail it in using the address on reverse

Tips on providing effective comments: The BLM land use planning process is based on agency policy, science, and social value. Specific comments that deal with important management methods and decisions are extremely helpful to the BLM. Overly general statements of support or opposition are less effective. Also remember that this RMP will deal with broad management decisions, not site-specific actions.

Name Ray Ehly Jr County Washoe

Title _____ Affiliation _____

Mailing Address PO Box 19606

City Reno State NV Zip 89511

Date 11/18/05 Meeting Location (if applicable) _____

☐ Please check box if you do not want your name released when comments are made public.

COMMENT (use back side if you need additional space or attach additional sheets)

I5-1 2.5-133 Travel Plan,
Please Restrict ATV Use to Designated Roads and Trails

I5-2 I am tired of Seeing Vehicles Traveling off Roads and trails, diminishing my Enjoyment of our Lands
Strict Enforcement, large Penalties, Confiscation of ATV's for failure to Abide, would be a Start to Correct a growing Problem Rapidly

Thank you Ray Ehly

Return comments during the open house or mail postmarked by:
November 28, 2005
To Return Via Mail:
Fold in thirds so that BLM address (on reverse) is showing, add postage, tape bottom of fold, and mail.

Responses to Letter I5

I5-1 The management actions in the Proposed RMP include restricting OHV use to designated roads and trails.

I5-2 In response to your comment, the text in Section 2.4.14 of the Proposed RMP and Final EIS has been revised to clarify the discussion of off-highway vehicle management.

Letter I6

Sehi, Debby

From: Gene_Drais@nv.blm.gov
Sent: Thursday, September 29, 2005 4:32 PM
To: Ludwig, Andrew; Moore, Russ; Sehi, Debby
Cc: William_E._Dunn@nv.blm.gov; Gary_Medlyn@nv.blm.gov; Rick_Orr@nv.blm.gov; James_Perkins@nv.blm.gov; Jake_Rajala@nv.blm.gov; Stephanie_Trujillo@nv.blm.gov; Jeff_Weeks@nv.blm.gov; Stephanie_A_Connolly@nv.blm.gov
Subject: Fw: Comments pertaining to EIS Statement for Ely District

Attachments: These comments pertain to the Draft.doc

These comments pertain to the ...

Same comment I sent just a few minutes ago from another person.

Gene Drais
Acting Associate Field Manager
Ely Field Office
775-289-1880
----- Forwarded by Gene Drais/EYFO/NV/BLM/DOI on 09/29/2005 03:30 PM -----

"Sue Gilbert"
<sgilbert@water.nv.gov>
09/29/2005 02:21 PM

To <elyrmp@blm.gov>
cc
Subject Comments pertaining to EI Statement for Ely District

(See attached file: These comments pertain to the Draft.doc)

Letter I6 Continued

Attachment to e-mail from Sue Gilbert

I6-1 These comments pertain to the Draft-Executive Summary, Resource Management Plan/Environmental Impact Statement for the Ely District. Page 3.3-8 states, "all surface water in Nevada is fully appropriated and no new applications for permits to appropriate surface water rights may be approved." Please note that there are numerous springs and small streams throughout the state for which no determination of water quantity has been made by the State Engineer's office. One must make application on a particular source before this determination of water quantity is made. The State Engineer may approve an application if he determines that there is sufficient water for the proposed use. You should also be aware that there may be vested claims on a various sources. Vested claims are those in which a beneficial use of the water can be established before the establishment of Nevada water law. It is not necessary for vested claims to be filed until such a time as so order by the State Engineer.

I6-2 Please be advised that Table 3.3-1, Water Availability in Shallow Alluvial Aquifers, which shows the perennial yield for various groundwater basins throughout White Pine and Lincoln counties, may be subject to change as more studies and tests are conducted in these areas. Additionally, the committed resource, as enumerate in the table, is subject to change as existing permits and applications are approved, denied, forfeited, cancelled, etc.

Responses to Letter I6

I6-1 In response to your comment, the text in Section 3.3.3 of the Proposed RMP and Final EIS has been revised to clarify the discussion of water rights and permit applications.

I6-2 In response to your comment, the text in Section 3.3.1, and the footnote to Table 3.3-1, of the Proposed RMP and Final EIS have been modified to clarify the discussion of water availability.

Letter I7

November 29, 2005

Bruce Flynn
Bureau of Land Management, Ely field office
HC33 Box 33500
Ely, NV 89301

Dan Heinz
5055 Wilcox Ranch Road
Reno, NV 89510
Following are my comments on the Draft RMP.
General:
The current staff of the Ely field office can be trusted to do the right thing but this plan is not for you, it is for the long view when current personnel will not be in place. You owe the public a document that will lay out clear, objective, criteria that will help assure future management will not slip, allowing regression of costly restored lands back to their current degraded condition.

I7-1 There have been several major campaigns to restore watersheds and deteriorated rangelands over the years. These have succeeded only in the few situations where the causative factors for the poor conditions were corrected for the long term. So very much public money has been wasted trying to correct symptoms rather than dealing with the basic management problems. I do not find any clear direction to analyze causative factors or to correct management over the long term. Yes, the draft contains some vaguely implied direction but such direction must be strong and clear.

I7-2 I am particularly concerned that the role of past poor grazing practices have played in the massive encroachment of PJ is not highlighted.
Highlighted in a manner, which can direct corrective management for all post treatment programs. Poor grazing practice greatly reduces vegetative competition for PJ seedling establishment while reducing wildfire. The Draft does not even provide a comprehensive bibliography laying out the science available on this subject.

Grazing:

I7-3 Performance based grazing is ready for trial only if very specific, objective, and measurable performance criteria are established which protect the multiple resources which depend on healthy, productive range lands. For example only: 4" stubble ht. must remain after grazing on ABC creek, and/or use of riparian willows by cattle will not exceed 30%.

I7-4 Subjective criteria like iterated in the Standards and Guidelines make permit administration difficult indeed.

I7-5 Grazing practices that purport to improve rangelands most often only improve forage for livestock, if they accomplish even that, and are not multiple use orientated.

Responses to Letter I7

I7-1 The Proposed RMP and Final EIS includes text revisions from the Draft RMP and EIS in several locations to provide clarification of the Ely Field Office's proposed approach to identifying causative factors (see Section 2.4.19 regarding watershed analyses) and monitoring of rangeland health.

I7-2 Expansion of pinyon-juniper communities is related to a variety of factors with changes in fire regime being one of the foremost. The change in fire regime, in turn, is partially related to grazing management (i.e., fuels manipulation) and partially to levels of local fire suppression. The variety of factors affecting pinyon-juniper expansion will be considered in the proposed management of these areas during and following watershed analysis.

I7-3 The term Performance Based Grazing has been removed as a Parameter. Performance Based Grazing emphasized flexibility. Flexibility is allowed under current regulation and specifically through allotment management plans. Current policy and regulation are not decisions in the Proposed RMP. Flexibility will continue to be addressed on a site-specific basis. Allotment compliance will continue and will be prioritized based on criteria to include resource issues and operator performance capabilities. Management objectives are established during the term permit renewal process or the watershed analysis process.

I7-4 Monitoring objectives are developed in association with the Standards and Guidelines, which may be somewhat subjective. However, the objectives are measurable and achievable and consider resources and resource uses. Progress toward meeting the standards is then based on the objectives. These will continue to be developed.

I7-5 Livestock grazing is a multiple use activity and other resource uses are considered in association with authorizing grazing use. Multiple use objectives are established associated with the standards for rangeland health. Conformance with established guidelines to include effective management practices is essential to maintaining or achieving the standards for rangeland health.

Letter I7 Continued

I7-6 The RMP must give direction that objective and measurable criteria be established, and amended to the grazing permit, as a part of the allotment planning process for performance based grazing.

I7-7 A new RMP is an opportunity to review old grazing policies such as basic rangeland suitability for domestic livestock grazing in the first place.

I7-8 The draft implies grazing policies for the Mojave will be revisited. This is worrisome, that land has been severely degraded by past grazing and may never recover. There are large areas administered by this field office outside of the Mojave, which receive very low precipitation and need to be reviewed for ability to sustain grazing at modern standards for acceptable impacts.

I7-9 The selected alternative must direct review of all lands receiving 8" or less annual precipitation for capability to support domestic livestock grazing at economic levels within acceptable impact parameters.

I7-10 Recreation:

The Draft proposes to establish special recreation management areas for ORVs.

Touring public lands via motor vehicle is a long established use that can well be allowed within acceptable impact criteria. There are thousands and thousands of routes now available and capable of supporting touring via ORV.

I7-11 The Draft is totally unclear exactly what is proposed within these special areas, why there is a need for them in the first place. One must suspect such an area would allow "challenging" machine use, and other activities which have little to do with enjoying the wildness of Nevada's back Country.

I7-12 Promoting ORV recreation at this time seems like very bad policy. The BLM cannot even begin to regulate or manage existing opportunities.

I7-13 The Draft needs to present a great deal more explanation and justification for the concept of special recreation areas for ORVs and it must direct site specific EAs for all such proposed development.

I7-14 ORV Racing by any type is destructive by its very nature. It encourages inappropriate use of other areas. It flies in the face of "tread lightly"
policy. It promotes disrespect for wild land. It is in severe conflict with most any other use of the public lands.

I7-15 A major, albeit sometimes very tough, roll for public land managers is to just say no to uses, which cannot happen without long term land damage.
Public "demand" must never override good land ethics.

I7-16 The long-term public good is going to best be served by phasing out all high land impact competitive sports. Do not advance or encourage racing or any other destructive or competitive use of our lands.

Responses to Letter I7

I7-6 Please refer to section 2.4.16 and 2.7.16 in the Proposed RMP and Final EIS for a discussion of objective and measurable criteria relative to performance-based grazing.

I7-7 The Proposed RMP specifies management policies and action and provides programmatic and implementable direction for management of the public lands. Policies such as rangeland suitability will be reviewed on an allotment-specific basis.

I7-8 The Proposed RMP specifies management policies and actions and provides programmatic and implementable direction for management of the public lands. Evaluation of livestock grazing use relative to achievement of the Mojave-Southern Great Basin Standards is a continual and on-going process. Grazing use will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring..

I7-9 Livestock grazing suitability and the evaluation of grazing use relative to grazing any Mohave Desert lands and the achievement of the standards for rangeland health will be conducted during the term permit renewal process, during watershed analysis, and during grazing use monitoring. Authorizing grazing may be appropriate in certain situations. These are issues that would be considered associated with authorizing any grazing use.

I7-10 Comment noted. The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. However, no single-focus OHV emphasis areas have been identified as a recreation designation.

I7-11 In response to this and similar comments, the management action in Section 2.4.15.1 of the Proposed RMP and Final EIS regarding special recreation management areas has been revised to reduce the number and size of proposed special recreation management areas. In addition, no special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP.

I7-12 Please refer to Response to Comment I7-11.

I7-13 The BLM deems the recreational use of OHVs to be a valid multiple use of public lands. Management actions are included in Section 2.4.14 and 2.4.15 of the Proposed RMP and Final EIS to ensure that OHV use would have acceptable effects on other uses and resources. As required by existing regulations, an EA or EIS would be prepared for specific developments or events, as appropriate.

I7-14 The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans are prepared or evaluated.

I7-15 Please refer to Response to Comment I7-14.

I7-16 Please refer to Response to Comment I7-14.

Letter I7 Continued

I7-17 In addition I endorse all points raised by the Red Rock Audubon Society.

Sincerely:

Dan Heinz

Responses to Letter I7

I7-17 Comment noted.

Letter I8

FROM :TRIPLE AUGHT FOUNDATION FAX NO. :7757611100 Nov. 28 2005 03:28PM P1

NOV 2005

MICHAEL AND MARY HEIZER
P.O. BOX 33
HIKO, NEVADA 89017
775-761-1100

November 28, 2005

Gene Drais
RMP Project Manager
Bureau of Land Management
HC 33 Box 33500
Ely, Nevada 89301-9408

Re: *Draft Resource Management Plan/Environmental Impact Statement for the Ely District*

Dear Mr. Drais:

We wish to submit our comments to the Bureau of Land Management (BLM) during the public review period of the *Draft Resource Management Plan/Environmental Impact Statement* (Draft RMP/EIS) for the Ely District. As residents of Garden Valley with property in both Lincoln and Nye Counties, we hope our comments will be seriously considered and that they will contribute to decisions which minimize environmental impacts in this area. Our specific concerns and comments regard the management of "Visual Resources," "Travel Management and Off-Highway Vehicle Use," "Recreation" and "Areas of Critical Environmental Concern."

"2.5.11 Visual Resources"

I8-1 Our primary interest is to protect a 1-1/2 mile long, 260 acre massive sculpture project know as *City*, located in Garden Valley and mentioned on page 2.5-111 of the Ely RMP.

> "Garden Valley is one of the few pristine, scenic valleys remaining in Nevada. It is surrounded by the Quinn Canyon, Grant, Worthington, and Golden Gate ranges and combined with those ranges, provides an excellent example of Nevada's Basin and Range ecological system. In addition, there is an internationally significant sculpture being completed within Garden Valley. The visual and sensory elements of the sculpture depend in large part on the pristine scenic quality of the land surrounding it. On completion, the sculpture is likely to attract many visitors annually to the area. The Visual Resource Management Class II for this special recreation management area would serve to preserve the existing character of the landscape."

Responses to Letter I8

I8-1 Thank you for expressing your concerns. The Proposed RMP does not propose the Garden Valley special recreation management area for scenic qualities. However, the Garden Valley area continues to be identified for visual resource management Class II and Class III objectives. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans are prepared or evaluated.

Letter I8 Continued

I8-1 We highly support "Map 2.4-5/Visual Resource Management Classes Alternatives B and E," designating Garden Valley and part of Coal Valley as a "Class II Objective." If this area is designated as such, we hope to work with the BLM to further protect the sculpture and these valleys from any physical developments to the surrounding landscape from man-made structures, utility corridors, water pipelines and rail lines.

I8-2 Within this "Class II Objective," we also recommend the BLM continue to allow livestock grazing (it was suggested in Volume 2 of the Ely RMP Draft [page 4.11-4] that livestock grazing will be prohibited). It is our opinion that livestock and wild horse populations in no way impair the visual character of the land. We support these traditional uses of the land and hope to see them continue into the future.

"2.5.14 Travel Management and Off-Highway Vehicle Use"

I8-3 The issue of managing off-highway vehicles within 11.4 million acres is necessary due to increased pressures from recreational off-highway vehicles. Managing invasive weed populations on terrain that has been abused by off-highway vehicles and motorcycles is impossible in this delicate, high desert environment. Off road vehicles and uncontrolled county road grading destroy vegetation, disturb topsoil and promote the spread of noxious weeds. Every year we see weed invasion increase upon these disturbed areas. As residents of Garden Valley who practice a comprehensive weed control program, we are disturbed by these influences around our property, the desert floor and the mountain terrain above.

I8-4 Considering the damage off-road vehicles impose upon the environment, we recommend that all vehicles be prohibited from traveling anywhere except maintained roads and trails, adhering to "Map 2.4-32 District Transportation Map/Alternative D." Although restrictive, we find the number of maintained roads and trails within the Ely District to be adequate, especially if there are areas designated for off highway vehicle use, such as "2.5.15.1 Parameter-Special Recreation Management Areas."

"2.5.15 Recreation"

I8-5 It is our desire to protect the *City* sculpture and its surrounding environment within Garden Valley. Therefore, we support "Map 2.4-33/Special Recreational Management Areas Alternatives B and E." With the proposed 'Garden Valley Special Recreation Management Area,' we hope to work with the BLM to further protect this unique American sculpture and the surrounding landscape from avoidable degradation.

I8-6 We also support, "Map 2.4-34/Off-highway Vehicle Use Emphasis Areas Alternative B," and "Map 2.4-37 Motorcycle Special Recreation Permit Areas Alternative B." However, we strongly object to "Map 2.4-38 Motorcycle Special Recreation Permit Areas Alternatives C and E" (also associated with "Map 2.4-33/Special Recreational Management Areas Alternatives B and E"). The introduction of the Alamo Motorcycle Special Recreational Permit Area within Coal Valley would be detrimental to the sculpture, the surrounding environment and the local ranching industry. We feel the

Responses to Letter I8

I8-2 Please refer to Section 2.6.16 of the Proposed RMP and Final EIS for a discussion of the subject livestock closures. As indicated in the text, these closures are included under Alternative B as protective measures related to desert tortoise and bighorn sheep. The anticipated effects to visual resources are strictly coincidental and are not the reason for the suggested closures.

I8-3 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify criteria that may be used when designating routes in a project-specific transportation plan.

I8-4 Please refer to Response to Comment I8-3.

I8-5 Please refer to Response to Comment I8-1.

I8-6 Thank you for expressing your concern. The special recreation permit area in the Coal Valley area is based on historic motorized event courses. The type of issues raised in your comment will be considered by the Ely Field Office when the project-specific plan is prepared.

Letter I8 Continued

I8-6 territory designated around Caliente ("Map 2.4-37 Motorcycle Special Recreation Permit Areas Alternative B") will be sufficient for motorcycle enthusiasts. Additionally, "The Silver State Off-Highway Vehicle Trail" (*Lincoln County Conservation, Recreation and Development Act of 2004*) will provide all off-highway vehicle enthusiasts with an enormous length of trails within the Ely District.

"2.5.22.1 Parameter - Areas of Critical Environmental Concern"

I8-7 Additionally, we would like to see further protection of the Mount Irish Archeological Site ("Map 2.4-55 Areas of Critical Environmental Concern Locations") and support "Alternative B" within the "Mount Irish ACEC Management Actions/Alternatives." This area has one of the greatest densities of ancient petroglyphs in the United States. The protection of prehistoric remains and artifacts is vital to the cultural legacy of this nation.

I8-8 It is our primary goal to protect the sculpture, Garden Valley and Coal Valley. Designating Garden Valley and part of Coal Valley as a "Class II Objective" within the "Visual Resource Management Class" and as a "Special Recreation Management Area" will begin the process of protecting *City* within a rapidly shrinking natural environment. We hope to work with the BLM in the future to further protect this unique American artwork, and the significant natural resources and traditional land uses that today occupy the lands surrounding the project.

Sincerely,

Michael Heizer

Mary Heizer

Responses to Letter I8

I8-7 Please refer to Section 2.4.22.1 of the Proposed RMP and Final EIS for a description of special management prescriptions for the Mount Irish Area of Critical Environmental Concern.

I8-8 Please refer to Response to Comment I8-1.

Letter I9

November 28, 2005

BLM Ely Field Office
Attn: Ely RMP Team
HC 33, Box 33500
Ely, Nevada 89301

Dear Ely RMP Team;

I have lived in Nevada for fourteen years now. I spend a great deal of time traveling the state and exploring its many wonderful natural areas, much of it on BLM lands, especially newly designated wilderness areas and wilderness study areas. I have a huge stake in how the BLM manages wild Nevada, and I am asking that you please accept my comments on the draft resource management plan for BLM lands in eastern Nevada.

I9-1 My primary concern in the draft plan is the protection of wilderness quality public lands. There is a lot of potential for wilderness designation in eastern Nevada. I believe the BLM should continue to restore eight WSAs, and manage them to keep them from damage from illegal off-highway vehicle use and other illegal activities, at least until Congress has a chance to decide their fate.

I9-2 I have been to Ely three times this year already, and may make a fourth trip before winter closes in completely. I am fully aware of the areas that could become designated wilderness and have visited a couple of them. These special places like Becky Peak, with its high meadows and rich habitat for elk, pronghorn, and other wildlife, are favorites of outdoors enthusiasts. The Antelope Range with its outstanding vistas, wildlife, and opportunities for solitude is equally deserving of protection. In the case of the spectacularly scenic Blue Mass/Kern Mountains, I would like to see the Area of Critical Environmental Concern proposal for this area expanded to include the entire area proposed by the Nevada Wilderness Coalition. I would urge the BLM to fully consider potential wilderness areas and put that in its plan.

The Ely area is hugely popular with hunters and anglers, and for good reason.
Hunting is a tradition here, as you can see in the many photographs in Ely's restaurants.
I9-3 Wilderness designation would only strengthen this tradition, like in the Government Peak area, adjacent to the Mt. Moriah Wilderness. Expansion of wilderness here would protect as wilderness to protect wildlife viewing and hunting opportunities, as well as habitat for wildlife. The expanded Heusser Mountain Bristlecone Pine area just outside of Ely also needs to be protected.

I9-4 Finally, there should be no oil and gas leasing or the placement of wind power facilities within their boundaries until the wilderness status of these lands has been determined. I further believe that
I9-5 these areas should be designated as Class 1 Visual Resource Management Units, which would enhance their wilderness resource value for visitors, whether they be hunters, hikers, or simply the curious.

Responses to Letter I9

I9-1 Please refer to Section 2.4.22.4 of the Proposed RMP and Final EIS for a description of the continuing management of existing wilderness study areas in the Ely RMP decision area. Existing wilderness study areas will continue to be managed under the BLM's Interim Management Policy. In addition, the Proposed RMP closes existing wilderness study areas to motorized and mechanized travel. No new wilderness study areas have been designated in the Proposed RMP.

I9-2 In response to your comment, the Ely Field Office considered the size of the Blue Mass Scenic Area ACEC but did not change the area proposed for designation. Please refer to Section 2.4.22.1 of the Proposed RMP and Final EIS for a description of the Blue Mass Scenic Area ACEC. As part of the ACEC regulations, the Ely Field Office may not use an ACEC designation as a substitute for wilderness suitability recommendation.

I9-3 The subject of this comment is beyond the scope of the Ely RMP. Only Congress can designate wilderness.

I9-4 No oil, gas, or wind energy projects will be allowed within existing wilderness study areas until Congress has made a determination on the wilderness designation of such areas.

I9-5 A combination of visual resource management classes have been assigned over these areas. Please refer to Section 2.4.11 in the Proposed RMP and Final EIS for clarification of visual resource management class designations.

Letter I9 Continued

I9-6 Designated roads and trails and all unnecessary vehicle routes should be restored, and off-road vehicles kept to strictly enforced corridors so the "untrammeled" qualities of these spectacular areas remains marred only by nature.

I9-7 I plan to live out the rest of my days here in Nevada, and in our spectacular backcountry as much as possible. So it stands to reason that I would ask that all the wilderness quality land managed by the BLM's Ely Field Office be protected in the long term for the life of this resource management plan.

Thank you for your consideration.

Sincerely,

William Huggins
430 Salzburg Ave
Las Vegas, NV 89123-7223
USA
feerlessw@earthlink.net

Responses to Letter I9

I9-6 The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. During site-specific transportation planning, the Ely Field Office will hold public scoping meetings to address completeness of the route inventory and public issues, concerns, and access needs.

I9-7 Comment noted. Congress has designated wilderness through the Lincoln County and White Pine County Conservation, Recreation, and Development Acts, 2004 and 2006 respectively.

Letter I10

Mr. Flinn

I10-1 It appears form the Maps provided with your draft plan you have either neglected roads that should remain open for public access or someone may be trying to pull a fast one on the public. one road that does not appear on your map (2.4-32) the road from Rolling Hills pond to Mud Springs needs to remain open. I am also opposed to any action in the

I10-2 RMP that will deny any right currently healed be it mining, grazing, hunting, or any access to the public for recreation.

Thank You

Arlin Hughes

175 west 500 north
Veyo Utah
84782

Responses to Letter I10

I10-1 Map 2.4.14-1 and Map 2.4.14-2 is based on roads currently known to be maintained by federal, state, and county agencies. To the extent that the road map files used were accurate and up-to-date, this map is inclusive of such roads. However, no warranty is implied regarding the completeness or data accuracy of those data sources, particularly at the small scale necessary for this document. The type of issues raised in your comment will be considered by the Ely Field Office when transportation plans are developed through coordination with local agencies, residents, and interest groups.

I10-2 Please refer to Section 1.5.1, Planning Criterion #12, in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of valid existing rights.

Letter I11

November 21, 2005

Mr. Gene Drais

RMP Project Manager

Bureau of Land Management

Ely Office

Re: Ely RMP/EIS

Dear Mr. Drais,

In reference to the RMP for Ely District (#1610 NV-910), we would like to make some comments about the land usage that falls under BLM jurisdiction.

I11-1 Section 2.5.14.1 Parameter - Transportation Plan Alternative B states that "All Wilderness Study Areas would be closed to motorized travel." We feel that this is inappropriate as Congress has not yet ruled on Wilderness Study Areas in White Pine County. It would be pre-mature to close access to roads that are still open and reasonable to use.

I11-2 Furthermore Alternative B states that, "Greater emphasis on ecological system restoration would be placed on road and trail designations." We would prefer to see the statement read, "Equal emphasis on ecological system restoration and responsible recreation would be placed on road and trail designations."

I11-3 The Alternative E contains the statement that "All Wilderness Study Areas would be closed to motorized travel.", again we think that this phrase should be removed, as Congress has not yet ruled on this area, and it would

be pre-mature to close access to roads that are still open and reasonable to use.

I11-4 Section 2.5.14.2 Parameter - Off-highway Vehicles Alternative B has several areas that we disagree with. "0 acres available to cross-country off-highway vehicle use", is drastic and unreasonable. At

the very least travel across dry lake beds and dry washes should remain open.

I11-5 Please change the second bullet point from "Off-highway vehicle use limited

Responses to Letter I11

I11-1 Vehicle routes that are excluded from wilderness study area boundaries by cherry-stemmed boundaries would remain open, providing motorized access routes to these areas.

I11-2 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes.

I11-3 Please refer to Response to Comment I11-1.

I11-4 The designation of dry lake beds as open was considered in the Draft RMP and EIS and Proposed RMP and Final EIS as part of Alternative C. However, it was not incorporated into the Proposed RMP. Not all dry washes would be suitable for OHV use; however, some may be designated as trails when transportation plans are prepared for a watershed or group of watersheds. The public will be invited to participate in the transportation planning process.

I11-5 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning will occur in the Ely RMP planning area.

Letter I11 Continued

I11-5 to designated roads and trails: 10,338,000 acres.", to Off-highway vehicle use limited to existing roads and trails: 10,338,000 acres.

I11-6 Also the final point concerning Wilderness Study Areas, should reflect our position on this matter. We feel that this is inappropriate as Congress has not yet ruled on Wilderness Study Areas in White Pine County. It would be pre-mature to close access to roads that are still open and reasonable to use.

I11-7 Alternative C states; "Open to cross-country off-highway vehicle use: 32,000
acres in dry lake beds". We do not wish to limit the scope of cross-country

off-highway travel in dry lake bed areas.

I11-8 Alternative E: We would like to re-iterate the same comments as in Alternative B.

I11-9 Section 2.5.15.1 Parameter - Special Recreation Management Areas

Table 2.5-11, (page 2.5-137, line three), should be revised to read "Heritage tourism and motorized recreation" in the "Primary Values" column.

I11-10 Alternative D recommends no special recreation areas, existing or future.
We strongly disagree with this, as this is not in the public interest and completely unreasonable.

I11-11 Alternative E should include Pahranagat along with the other five areas listed for motorized vehicle recreation. We are currently working in partnership with the Ely BLM office on a responsible recreation project that includes motorized recreation. To develop the proposed action, we ask that

you add the Pahranagat area to the list of five, (making a list of six).

I11-12 Section 2.5.15.2 Parameter - Special Recreation Permits

Alternative B states that "A maximum of two truck events would be permitted

Responses to Letter I11

I11-6 Please refer to Response to Comment I11-1.

I11-7 Comment noted. The Proposed RMP does not designate any areas as "Open" to off-highway vehicle travel.

I11-8 Please refer to responses to comments I11-1 through I11-7.

I11-9 In response to your comment, the text in Table 2.5-11 and Section 2.5.15.1 of the Proposed RMP and Final EIS has been revised to clarify the discussion of Special Recreation Management Areas. No special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP.

I11-10 Comment noted. Please refer to Response to Comment I11-2.

I11-11 Please refer to Response to Comment I11-9.

I11-12 In response to your comment, the text in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of competitive vs. non-competitive events.

Letter I11 Continued

I11-12 each year on race routs subject to NEPA analysis". This is unclear to us.
Are these competitive or non-competitive events?

I11-13 Alternative E recommends that "Four special recreation permit areas totaling approximately 1.38 million acres would be established to maximize opportunities for motorcycle recreation permit events. A maximum of two truck events would be permitted each year. Four routes would be established for all truck events." This sounds like competitive professional or amateur racing. Our usage is vastly different from any type of competitive event.
We are committed to slow speeds, and high traction travel, and as such, wish to be considered separately in any consideration for organized events. We would like to see low speed non-competitive events be added for consideration.

Please include me on your email list for any actions, requests or results concerning these parameters.

Finally please allow me to express our sincerest wishes that we will continue to have a long lasting and mutually beneficial relationship with the BLM, and the other users of our great lands. We have and will continue

to help in desert clean-up projects, tread lightly awareness, and of course

respect and manage the trails we enjoy.

Sincerely,

Don Larrick

5824 Kane Holly Street

Las Vegas, NV 89130

For the members of the Total Karnage Four Wheel Drive Club

Las Vegas, Nevada

Responses to Letter I11

I11-13 In response to your comment, the management action in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised to clarify non-competitive off-highway vehicle events. Such events will be evaluated on a case-by case basis and allowed if appropriate.

Letter I12

To Whom It May Concern:

I12-1 I would like to submit the following comments for public record: All existing roads, trails, racecourses and washes need to remain open for OHV use in the 11.4 million acres that this RMP will manage. These roads and trails are a necessity for quality OHV recreation. The closing of these trails would severely impact the OHV community in a negative way. The closures would create fewer opportunities to recreate and explore new areas; forces more people into 1 concentrated area and create an unsafe situation by having to many OHVs riding together. Given the fact that no new roads or trails are being established for use in these areas, the implementation of the Silver State Trail System invading existing racecourses, it would be detrimental to the off-road racing community to lose anymore trails in these areas. There needs to be an equal designation of OHV open use land that equals the other uses

(wilderness, ranching,

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I12-2 It saddens me that my children and grand children will not be permitted to explore areas of Lincoln county anymore on OHVs like when I was a child. Having been an OHV user for almost 30 years, I can honestly say that none of these new wilderness areas were ever damaged by an OHV. I have ridden in all areas of Lincoln County and everything is fine.

I12-3 The only damage I can remember seeing is damage caused by fires, springs trampled by wild horses and cattle and over grazing of areas due to poor management. I have revisited many of these areas over and over and there is no damage. I can only hope that the BLM will respect the rights of people and taxpayers to recreate and not create policy based on inconclusive scientific discovery or cater to environmental groups that want nothing more than to eliminate OHV use all together.

I12-4 Here are my suggestions of how this land should be managed. The BLM needs to designate 3 or 4 million acres that will be classified as open use much like the Wilderness designation to preserve and protect the OHV communities' recreation areas from environmental groups. You also need have a trail replacement program so that for every mile of trail

Responses to Letter I12

I12-1 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning will occur in the Ely RMP planning area. Not all dry washes would be suitable for OHV use; however, some may be designated as trails when transportation plans are prepared for a watershed or group of watersheds. The public will be invited to participate in the transportation planning process.

I12-2 Comment noted. All existing roads and trails will remain open until site-specific travel management plans have been completed with public input.

I12-3 Comment noted. The intention of the Ely Field Office is to manage not eliminate off-highway vehicle use.

I12-4 Please refer to Response to Comment I12-1.

Letter I12 Continued

I12-4 or racecourse you close there will be a new mile re-established to replace it and the word "designated" needs to be removed from the RMP and replaced with the word "existing", for example all existing trails, roads, race courses and washes will remain open for OHV use in the 11.4 million acres. This statement needs to be added to the RMP.

Thank you,

Anthony Z. Livreri
Title: American Citizen
Representing: MRAN, Bushwackers MC and OHV users
5113 wapiti point ct
las vegas, nv
89130

Letter I13

Sehi, Debby

From: Gene_Drais@nv.blm.gov
Sent: Thursday, September 29, 2005 4:26 PM
To: Ludwig, Andrew; Moore, Russ; Sehi, Debby
Cc: William_E._Dunn@nv.blm.gov; Gary_Medlyn@nv.blm.gov; Rick_Orr@nv.blm.gov; James_Perkins@nv.blm.gov; Jake_Rajala@nv.blm.gov; Stephanie_Trujillo@nv.blm.gov; Jeff_Weeks@nv.blm.gov; Stephanie_A_Connolly@nv.blm.gov
Subject: Comment on Draft RMP

Attachments: These comments pertain to the Draft.doc

These comments pertain to the ...

For your analysis and consideration.

Gene Drais
Acting Associate Field Manager
Ely Field Office
775-289-1880
----- Forwarded by Gene Drais/EYFO/NV/BLM/DOI on 09/29/2005 03:25 PM -----

"Robert K. Martinez" <robertm@water.nv.gov>
09/29/2005 12:45 PM

To <elyrmp@blm.gov>
cc
Subject Resource Management Plan comments.

The attached word document is comments on the Resource Management Plan for Ely BLM.
(See attached file: These comments pertain to the Draft.doc)

Letter I13 Continued

Attachment to e-mail from Robert Martinez

I13-1 These comments pertain to the Draft-Executive Summary, Resource Management Plan/Environmental Impact Statement for the Ely District. Page 3.3-8 states, "all surface water in Nevada is fully appropriated and no new applications for permits to appropriate surface water rights may be approved." Please note that there are numerous springs and small streams throughout the state for which no determination of water quantity or issuance of a water right has been made by the State Engineer's office. One must first make application on a particular source before this determination of a water appropriation of a specific quantity is made. The State Engineer may approve an application if he determines that there is sufficient water at the source for the proposed use, does not conflict with existing rights, and that given under NRS 533.370. You should also be aware that there might be vested claims on a various sources. Vested claims are those in which a beneficial use of the water can be established before the enactment of Nevada water law. It is not necessary for vested claims to be filed until such a time as so ordered by the State Engineer.

I13-2 Please be advised that Table 3.3-1, Water Availability in Shallow Alluvial Aquifers, which shows the perennial yield for various groundwater basins throughout White Pine and Lincoln counties, may be subject to change as more studies and tests are conducted in these areas. Additionally, the committed resource, as enumerated in the table, is subject to change for applications, permits and certificates due to actions by this office such as approval, denial, cancellation and forfeiture, etc. See NRS Chapters 533 and 534.

Responses to Letter I13

I13-1 In response to your comment, the text in Section 3.3.3 of the Proposed RMP and Final EIS has been revised to clarify the discussion of water rights and permit applications.

I13-2 In response to your comment, the text in Section 3.3.1, and the footnote to Table 3.3-1, of the Proposed RMP and Final EIS have been modified to clarify the discussion of water availability.

Letter I14

Nov 28th 2.5-133 Travel Plan Support

Ely Draft RMP/EIS
Comment Form

Informed decisions are better decisions: BLM believes that extensive public involvement will serve to improve communication, develop enhanced understanding of different perspectives, and identify solutions to issues and problems. We look forward to hearing from you!

Where to provide comments: You can hand this form in at The Ely BLM Field Office (702 N. Industrial Way) or mail it in using the address on reverse

Tips on providing effective comments: The BLM land use planning process is based on agency policy, science, and social value. Specific comments that deal with important management methods and decisions are extremely helpful to the BLM. Overly general statements of support or opposition are less effective. Also remember that this RMP will deal with broad management decisions, not site-specific actions.

Name Karen Mullen County Washoe

Title N/A Affiliation N/A

Mailing Address 16919 Mt Rose Hwy

City Reno State NV Zip 89511

Date 11/16/05 Meeting Location (if applicable) N/A

Sorry hope you can send me on dirt Rd in the Wild Mtn Area ☺

☒ Please check box if you do not want your name released when comments are made public.

COMMENT (use back side if you need additional space or attach additional sheets)

I14-1 Support Travel Plan restricting OHV use to existing roads & jeep trails and closure of roads that have been created that don't go anywhere or are steep w/ lots

I14-2 of erosion. Support Access to public land with increased trailheads for all types of use

I14-3 I am tired of ATV's destroying wildlife habitat. Please enforce that they stay on roads – confiscate their ATV's and maybe they will stop

I14-4 I do not support more than 200-300 acres going to the tribe for housing purposes or business that is non gaming. I do not support the 10,000-20,000 acres of spiritual land going to the tribe

I14-5 We were in dill hole road area near Basque Canyon in the Wilderness Study Area & ATV's were off Rd

November 28, 2005
To Return Via Mail:
Fold in thirds so that BLM address (on reverse) is showing, ad[illegible]stage, tape bottom of fold, and mail.

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prefer it be kept in BLM holding make it an area of environmental concern instead. Then it is for all to enjoy.

Responses to Letter I14

I14-1 Comment noted. For clarification, travel will be restricted to designated, not existing, roads and trails.

I14-2 The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans are prepared or evaluated.

I14-3 The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify criteria that may be used when designating routes in a project-specific transportation plan.

I14-4 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP and does not require further agency response.

I14-5 Thank you for your comment. The Ely Field Office is not aware of any Wilderness Study Areas in the vicinity of Basque Canyon south of Ely.

Letter I15

Gene,

The weight of the Ely DRAFT RMP has weighed heavily on my mind while I prepared for a three week trip of a lifetime. The Ely RMP lost out. But my reflections on the RMP include the extensive preparation that you and your staff, with the backing of Bob Abby and State Office staff, implemented in preparation for this process. And I believe that the process is finally as important as the document because documents are a step in time but an incluse process sets the tone. Gene, I want to thank you again and Bob Abby as well for developing this system.

The Ely District is a largely rural district but being hit with urbanization at the edges of Lincoln County with the demands for water to feed that urbanization now encompassing the entire district. Utility corridor rights of way, power plants with potential for air and water pollution, and unregulated recreation demands are some of the external issues impacting the district. Protection of natural, cultural, and historic resources is a challenge because everyhing going on appears to be against protecting these resources. In addition you are faced with the issue of range changes including expansion of the p-j forest, areas of dense stands of fire prone sagebrush, areas of declining aspen groves, invasion of cheat grass, and the threat of fire rapidly changing, mostly for the worst, the native ecosystems.

You contracted with The Nature Conservancy to provide a process to discuss and describe many of the basic natural systems occurring. The invitation to participate went out to a broad representation base. You helped to found the Easter Nevada Landscape Coalition, which also was an effort to include diverse interests, which through its annual meetings, membership, and executive group, maintained a diverse group and provide a forum for looking at the natural system. Finally, I recollect being invited to participate in the development of a public participation process which addressed some of the framing of discussion issues as well as the public process itself. In the long run the process of inclusiveness, if it can be continued into the future, holds the best hope for minimizing the damage to the land itself.

I15-1 What is the definition of a natural system? Natural systems change with the advent of a warmer climate, fire, uses such as livestock grazing and corridors, and development roads or transmission lines. I don't know whether in this EIS, because I have not read it that closely, whether you arrived at a definition of "natural". I do know that the word "natural" no longer means leaving the land alone. Restoration is a key component; in effect we are managing for a stage in succession.

This is what I would like to see:

I15-2 * Aspen Groves - Once aspen groves are lost, we are unlikely to invest the resources to rebuild them. Management of livestock, wildlife, plant invaders, wild horses and recreation need to be managed to protect them,

I15-3 * Range - we must protect those lands where a native understory of grasslands and forbs eixst and try to restore areas of where we have lost them. Management of livestock, ungulates, wild horses, recreation, manmade corridors must be limited to ensure this future

Responses to Letter I15

I15-1 In response to your comment, the term "natural system" has been added to the Glossary in the Proposed RMP and Final EIS.

I15-2 Maintenance and management of healthy aspen is one of the Ely Field Office's stated priorities in the Proposed RMP and final EIS. BLM's proposed management described in Section 2.4.5.3 is designed to maintain or improve the health of these sites.

I15-3 The Federal Land Policy and Management Act stipulates that the BLM manage public lands for multiple uses and sustained yield. Although the cost for projects such as fire rehabilitation and weed treatments are high in the short term, implementing projects of this nature in the long term would improve vegetation communities and lessen the cost of future maintenance. An objective of the Proposed RMP is restoration of a more natural burn cycle with smaller, cooler fires.

Letter I15 Continued

I15-3 health. The cost of fires and subsequent weed replacement is too expensive. As I recollect grasslands ensure cooler fires and provide habitat for insects, reptiles, small mammals, and birds, as well as livestock and ungulates,

I15-4 * Restore white sage and other plants damaged by livestock and other uses,

I15-5 * Costs of management - With BLM and other federal agencies being so severely in terms of funding, increased emphasis must be placed on work by NDOW and livestock operators. I would suggest that NDOW fund some studies, for instance, on elk impact. However, those studies would only have value if a science based institution was involved,

I15-6 * Continuation of organization like ENLC with increased emphasis on recreation and utility corridor impacts,

I15-7 * Protection of all threatened and endangered species. Since so many of them are dependent on vulnerable water sources, I would suggest that ENLC also take up the issue of inventorying existing surface and subsurface water sources and find out whether they are protectd under state water law and if not how they can be protected. We did not dwell on the issue of water source loss during our meetings several years ago, but currently, it seems to me, that a good portion of the White Pine and Lincoln county springs, seeps, streams, and subsurface ecosystems like the pinyon pines groves near Great Basin Park are threatened with extinction, and

I15-8 * Encourage NDOW to update its inventory of water sources and needs for wildlife on all water systems and to file for rights on behalf of wildlife.
NDOW can impact the State Engineer and it should be speaking up for all Nevada's wildlife.

These are a few of my early morning thoughts and hopes for the Ely District

"Tina Nappe"
<tnappe@nvbell.ne

Responses to Letter I15

I15-4 BLM's proposed vegetation treatments and watershed management will be designed to encourage the regeneration and increase of numerous native species. The term "white sage" is commonly used to refer to both Ceratoides lanata or winterfat and Artemisia ludoviciana, also known as western mugwort, sagewort, or silver wormwood. The former species, which often forms almost pure stands in the Great Basin, is included under the discussion of Salt Desert Shrub communities (see Section 2.4.5.5). The latter species is a widespread understory species occurring in association with sagebrush, pinyon-juniper, and other communities.

I15-5 The Ely Field Office agrees that there needs to be more participation from state agencies and livestock operators and understands that they suffer from budget issues as well. The Ely Field Office has established and will continue sound working partnerships with state agencies, collaborative partnerships, and others to accomplish the mission of the managing public lands.

I15-6 The existing assistance agreements with ENLC allow for collaborative work on all landscapes managed by the Nevada BLM.

I15-7 A priority for BLM management is protection of riparian systems. Through the assistance agreement with the ENLC, data has been provided and volunteers have assisted with wetland development and management. The Ely Field Office will continue in this effort as budget and workforce allow.

I15-8 The Ely Field Office will maintain a collaborative working relationship with NDOW on all vegetation systems. The Ely Field Office is updating its inventories of water resources, and this information is shared with NDOW. The Ely Field Office suggests that the commenter contact NDOW directly with your concerns.

Letter I16

November 23, 2005

BLM Ely Field Office
Attn: Ely RMP Team
HC 33, Box 33500
Ely, Nevada 89301

Dear Ely RMP Team;

These are my comments on the draft resource management plan for eastern Nevada.

I16-1 Protecting wilderness quality public lands is critical, especially Becky Peak, with its high meadows and rich habitat for elk; Antelope Range with its outstanding vistas; Blue Mass/Kern Mountains; Government Peak area, to protect hunting opportunities; and Heusser Mountain. These wilderness quality areas should be protected in the plan by strictly limiting the visibility and footprint of oil and gas and wind power facilities within their boundaries. Motor travel should be limited to only designated roads and trails.

I want to see some wilderness quality land protected. Thank you.

Sincerely,

Marc Roddin
1432 Ernestine Ln
Mountain View, CA 94040-2909
USA
roddim@gmail.com

Responses to Letter I16

I16-1 When the Ely RMP planning process was initiated, there was no requirement in the Land Use Planning Handbook to identify lands with wilderness characteristics. Under the new Planning Handbook (2005), the BLM no longer designates wilderness study areas as part of the land use planning process. While the new Handbook allows the Ely Field Office to consider information on wilderness characteristics as part of travel management and visual resources management, no lands with wilderness characteristics were identified during the Ely RMP planning process. In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify criteria that may be used when designating routes in a project-specific transportation plan.

Letter I17

To whom it may concern:

My name is Luke Rollins. I am representing myself in this letter. I was born in Ely, NV and was raised in Lincoln County. I spent many years in my youth riding on long time established trails all over the county. In all of my riding, I have noticed a few things that are consistent. One is that most of the people that I ride and race with, use trails that have been already established. There are the exceptions, as there are in any "unwritten" code. One other thing is that I have seen more lands ruined by cattle grazing than by any amount of off highway use. The proof is in the calculation. Consider the average width of an OHV trail and its length. The square miles in a versus calculation proves that more square miles are attributed to cattle dissemination than off highway use. The only thing is OHV use is not profitable. At least not to the BLM. Maybe a OHV registration would help any costs incurred for the management. I do know this, when you take the places away that can be ridden, you make criminals out of locals looking for positive fun. So much for helping the massive increase in rural drug abuse and crime.

I17-1

I17-2

I can be contacted @
spankie033@hotmail.com.

My address is 7th and Earnest Panaca, NV 89042.

Thanks for the consideration,
Luke Rollins

Responses to Letter I17

I17-1 Comment noted.

I17-2 The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning will occur in the Ely RMP planning area.

Letter I18

Received via email 7-30-05

7/30/05

I18-1 I would like the time to comment extended. I would like a hard copy of this plan sent to me for further investigation since I have no access to this on computer.

I18-2 I think the following should be totally banned in this entire area:
1. hunting
2. trapping
3. new roads
4. all two stroke vehicles
5. all mining, drilling, grazing and logging
6. all prescribed burning, in chich fine particulates are carried by wind thousands of miles ending up in human lungs and causing lung cancer, heart attacks, strokes, pneumonia and asthma.

I18-3 I also think this is the taxpayers land, not the politicians and friends land and the taxpayers have paid to save it for eons. they want it saved. only profiteers want to destroy it for their own bank account enrichment.

I18-4 I want the wild horses to live on it. I note that there are only 35,000 wild horses left and 4,000,000 cattle to enrich cattle barons have been put on blm lands - and that is atrociious and disgusting.

I18-5 I do not want wild horses sent to slaughterhouses to be killed at all ever in any place. They must be allowed to live on these blm lands.

B. Sachau
15 Elm Street
Florham Park, NJ 07932

Responses to Letter I18

I18-1 Copies of the Draft RMP and EIS were sent to those persons, organizations, and agencies that indicated they would like to receive one; and copies were also placed in local and regional libraries. The availability of the Draft RMP and EIS was also noticed in the Federal Register and the Newsletter distributed to approximately 3,000 recipients on the RMP/EIS mailing list. The required comment period on a Draft RMP and EIS is 90 days. BLM elected to set a 120-day comment period for the Ely Draft RMP and EIS and did not formally extend this period. Although the BLM did not elect to extend the official comment period for this document, comments received after the end of the comment period were considered as late as practicable within the overall document revision and publication process. Comments that were received after the close of the comment period have been accepted and considered in the preparation of the Proposed RMP and Final EIS.

I18-2 Comment noted. Please refer to Alternative D in the Draft RMP and EIS and Proposed RMP and Final EIS, which excludes many of the discretionary management actions you mention in this comment.

I18-3 Comment noted.

I18-4 Thank you for expressing your concerns. Please refer to Sections 3.8 and 3.16 in the Draft RMP and EIS and Proposed RMP and Final EIS for discussion of the actual numbers of wild horses and animal unit months of livestock use within the Ely RMP decision area.

I18-5 Law and policy prohibit the BLM from disposing of excess wild horses through slaughter. Nowhere in the Proposed RMP is slaughter identified, discussed, or analyzed. During the planning process, the Ely Field Office identified where to manage wild horses and an overall view of how to manage wild horses on the public lands. The management of wild horses is limited to Herd Areas identified after the Wild and Free Roaming Horse and Burro Act (PL-195) was passed in 1971. From these Herd Areas, designation of Herd Management Areas (HMA) occurs, which identifies areas that are suitable for the long-term maintenance of wild horses. Within these HMAs, wild horses are free to roam as one multiple-use of many under a specified appropriate management level, so as not to exceed the capacity of the rangeland to support a thriving natural ecological balance.

Letter I19

Received via email 9-16-05

09/05/05

I19-1 Peaceful uses of this land should prevail. wildlife "watchers" spend ten to one what wildlife killers spend - and it is time that they get priority at these nationally supported areas. tax dollars are used for these lands, and they should benefit the primary groups instead of people who still practice habits of 1860.

I19-2 these "advisory councils" are all local and this is a nationally supported area. i believe local profiteers may be populating these councils and coming up with biased decisions that will benefit only the local nevada area. when this is a national area, the decisions emanating MUST benefit the entire country. catering to local profiteers is not appreciated by national taxpayers who have been supported this land for eons and paying for it.

I19-3 i note a very very small number of horses being provided for in this plan. i note that wild horses seem to be only good for the slaughterhouse according to blm and urge blm to stop this practice. wild horses should get that land. throw out the grazers, the grazers are in fact destroying the land. the intensive use of this land by grazing has in fact destroyed it a great deal. wild horses are more dispersed and do not do as much damage. i note a real attempt by blm to put inaccurate information in this report to try to blame wild horses.

I19-4 d is the best of many bad alternatives. i also do not think any govt agency should be offering the american public only "choices" of their choice. i think the american public should be able to make its own complete choices without being told what to do by this agency, which has an extremely bad environmental record.

I19-5 i note game species being favored by this agency - WHY cater to gun nuts? i note killing of coyotes - which is abusive. there are so few there that they should be left alone.

I19-6 i note a "wind section" being proposed. how many migratory birds will be killed by those wind turbines every year - i note no number put in thiss plan to let the public know what the damage will be to the bird population.

I19-7 i also note that "cheatgrass" is an issue and know that cheatgrass problem is a problem because of the intensive grazing the intensive grazing that blm itself has allowed. So blm gets to make a problem and then say it is a problem and needs taxpayer money to fix it?

I19-8 also cheat grass was allowed into this country by the USDA ¬ perhaps you shoudl apply to the usda budget for money from their budget to cover this invasion of what they allowed to be imported into the u.s.

B. Sachau
15 Elm Street
Florham Park, NJ 07932

Responses to Letter I19

I19-1 The Ely Field Office recognizes that hunting is an acceptable use of public land wherever it is compatible with resource management objectives. The Ely Field Office has not prioritized multiple uses in the Proposed RMP.

I19-2 The Resource Advisory Councils (RACs) are nationally chartered by the Secretary of the Interior and are not populated by profiteers. The RACs consider a wide range of resource issues within the Ely RMP decision area.

I19-3 Law and policy prohibit the BLM from disposing of excess wild horses through slaughter. Nowhere in the Proposed RMP is slaughter identified, discussed, or analyzed. During the planning process, the Ely Field Office identified where to manage wild horses and an overall view of how to manage wild horses on the public lands. The management of wild horses is limited to Herd Areas identified after the Wild and Free Roaming Horse and Burro Act (PL-195) was passed in 1971. From these Herd Areas, designation of Herd Management Areas (HMA) occurs, which identifies areas that are suitable for the long-term maintenance of wild horses. Within these HMAs, wild horses are free to roam as one multiple-use of many under a specified appropriate management level, so as not to exceed the capacity of the rangeland to support a thriving natural ecological balance.

The Ely Field Office disagrees that a small number of wild horses are being provided for in the Proposed RMP. The plan identifies 1,695 wild horses that initially are to be managed within the Ely RMP planning area. This will still make Ely Field Office the third largest wild horse manager within the Federal Government.

The Ely Field Office disagrees that wild horses are not a grazer. All past and current scientific information states that wild horses are indeed a grazer. Further, the Ely Field Office has presented accurate information in the Proposed RMP and Final EIS based upon scientific data, current rangeland management principles, and professional field experience. The Ely Field Office disagrees that a small number of wild horses are being provided for in the Proposed RMP. The plan identifies 1,695 wild horses that initially are to be managed within the Ely RMP planning area. This will still make Ely Field Office the third largest wild horse manager within the Federal Government.

I19-4 Comment noted.

I19-5 The priority species listed in Section 2.4.6.2 of the Proposed RMP and Final EIS does include game species, but also includes migratory birds. In addition, Section 2.4.7 of the Proposed RMP and Final EIS addresses special status species most of which are not game species. The text of the Proposed RMP and Final EIS has been revised to take out any discussion regarding the killing of coyotes. The killing of coyotes is not the responsibility of the BLM, and therefore, not part of the Proposed RMP and Final EIS.

Responses to Letter I19

I19-6 In response to your comment, the text in Section 4.6 of the Proposed RMP and Final EIS has been revised to specifically include the potential for migratory bird mortality on wind turbines. While the potential impact is acknowledged, it is impossible to quantify anticipated impacts in the absence of specific development plans. That impact assessment would occur in the NEPA analysis associated with specific project reviews.

I19-7 Cheatgrass is an invasive species that has spread across both public and private lands throughout the Intermountain West. Although improper grazing management has contributed to its spread in some situations, fire has probably been a substantially greater factor in its distribution and dominance across large areas of the Great Basin.

I19-8 Comment noted.

Letter I20

> > To: Bureau of Land Management/Ely Office
> >
> > From: Russell Sherratt
> > Subject: Ely RMP/EIS
> > Date: November 18, 2005
> >
> > Comments on RMP Ely District (#1610 NV-910)

> > All comments made here in reflect changes or
> > additions I would like to see in the RMP Ely District draft.
> >
> >
> > Section 2.5.14.1 Parameter-Transportation Plan
> >
> >
I20-1 > > Alternative B: close no motorized travel till
> > congress makes a decision on W.S.A. A more reasonable wording would
read "Equal emphasis on ecological system restoration and responsible
recreation would be placed on road and trail designations."
> >
I20-2 > > Alternative E: close no roads till congress makes a decision on
W.S.A... Existing trails and roads are presently in use today to close
them when they are reasonable to use would be wrong and not in the
interest of local inhabitants.
> >
> >
> > Section 2.5.14.2 parameter-Off-highway Vehicles
> >
I20-3 > > Alternative B:
> >
> > Point 1 Please change this to include Dry lakebeds and dry washes
should remain open at a minimum.
> >
> > Point 2 Off-highway vehicle use limited to existing roads and
trails.
> >
> > Point 3 Congress has not yet ruled on Wilderness Study Areas I ask
please change this statement till congress rules
> >
I20-4 > > Alternative C:
> >
> > Point 1 Please change this to include All Dry lakebeds and dry
washes should remain open at a minimum.
> >
> > Point 2 Off-highway vehicle uses limited to existing roads and
trails.
> >
> > Point 3 Congress has not yet ruled on Wilderness Study Areas in
White Pine County I ask please change this statement till congress
rules.
> >
> >
I20-5 > > Alternative E:
> >
> > Reads same as Alternative B, My comments on Alternative E, are same
as Alternative B: please note that.
> >

Responses to Letter I20

I20-1 Vehicle routes that are excluded from wilderness study area boundaries by cherry-stemmed boundaries would remain open, providing motorized access routes to these areas.

I20-2 Please refer to Response to Comment I20-1.

I20-3 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify criteria that may be used when designating routes in a project-specific transportation plan. Not all dry washes would be suitable for OHV use; however, some may be designated as trails when transportation plans are prepared for a watershed or group of watersheds. The public will be invited to participate in the transportation planning process. Wilderness study areas will be managed under the BLM's interim management policy until Congress makes a decision on the designation of wilderness.

I20-4 Please refer to Response to Comment I20-3.

I20-5 Your comments will also be applied to Alternative E.

Letter I20 Continued

> >
> > Section 2.5.15.1 Parameter-Special Recreation
> > Management Areas
> >
I20-6 > > Table 2.5-11: page 2.5-137
> > Comment under the Primary Values column for the Pahranagat area change the primary value to include motorized recreation in the Primary Values column.
> >
> >
> > Alternative E:
> >
I20-7 > > Lists nine new special recreation management areas, five of which are areas in special recreation management areas, that emphasize motorized recreation (OHV emphasis areas) include my comment including the Pahranagat Area as one of these areas for motorized recreation (OHV vehicle emphasis areas). Phranagat area is an area that there is a working partnership with responsible parties and the BLM for responsible OHV recreational activities.
> >
> >
> > Section 2.5.15.2 Parameter-Special Recreation
> > Permits
> >
> > Alternative B:
I20-8 > >
> > Clarify are truck races competitive or non
> > competitive.
> >
> > Alternative E:
> >
I20-9 > > Event's which I attend are very slow speed and not competitive. I can't see how they can be included under what is listed in the events section of this paragraph and ask that you make a category or addition for slow speed non competitive events.
> >
> >
> >
> > Russell Sherratt
> > 6572 Shelter Lane
> > Las Vegas, Nevada 89103
> > Member Nevada United 4 Wheel Drive Ass.
> >
> >
> >

Responses to Letter I20

I20-6 Please refer to management actions REC-2 and REC-4 in Section 2.4.15.1 of the Proposed RMP and Final EIS for a discussion of recreation values/opportunities in Special Recreation Management Areas. Of particular note (in part) is the following component of management action REC-4: *"Using information from the interdisciplinary team and through public scoping, identify different recreation niches to be served in the special recreation management area. Write specific objectives for the recreation opportunities that would be provided and managed."* Thus, the appropriateness of motorized recreation in the proposed Pahranagat SRMA would be determined through the interdisciplinary and public process described.

I20-7 Please refer to Response to Comment I20-6.

I20-8 Please refer to Response to Comment I20-9.

I20-9 In response to your comment, the text in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of competitive vs. non-competitive events.

Letter I21

EDWIN SPEAR
<ladymoose@sbcglobal.net>
10/05/2005 06:57 PM

To elyrmp@blm.gov
cc
bcc
Subject DRMP/EIS

I21-1 I21-2 I21-3 I21-4

I am against any management plan that would limit our already limited hunting access or our ability to enjoy one of greatest heritages ever left to us. The right to bare arms and the right to hunt any were on public lands. It is after all our lands also.If some people do not wish in enjoy these rights, that's there right but that does not give them the right to take it from us. Or does it give the government that right.I am under the impression that the government works for all of us not just a select few. After all the government is all of us not just a select few .We not only enjoy hunting but also enjoy just being out to be able to see many things that most people will never see because they don't spend the time out in the outdoors that we do. And we belong to many organizations that promote the environment and also the management of our animals.So that they will be around for our grand kids and there grand kids and so forth and for you too. I personal belong to SCI, NRA, WITO, And the Wild Turkey Federation. So as you see I am very serious about our hunting lands & our public lands for everyone to be able to enjoy weather they hunt or just camp, hike , fish,ski, take pictures or maybe just sight see., that is there right there is allot for everyone to enjoy don't take that from us. Julie Spear Ely, Nv.

Responses to Letter I21

I21-1 The Ely Field Office recognizes that hunting is an acceptable use of public land wherever it is compatible with resource management objectives and public safety. The Proposed RMP will only limit motorized access off of designated roads and trails. Access by foot or horse will be allowed in all areas.

I21-2 Comment noted.

I21-3 Please refer to Sections 2.4.15, 3.15 and 4.15 in the Proposed RMP and Final EIS for a discussion of proposed recreation management actions, existing recreation conditions, and impacts to recreation resources.

I21-4 Comment noted. Outdoor recreation is an important consideration for the management of public lands by the Ely Field Office.

Letter I22

Craig Stevenson
3001 Nutwood St.
Las Vegas, NV
89108
(702) 645-2353

28 November 2005

Gene Drais
Project Manager
Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, NV 89301

Dear Mr. Drais:

I have reviewed most of your *Draft Resource Management Plan/Environmental Impact Statement for the Ely District*. I believe it is the better EISs I have seen. I am concerned about the allowances of OHV use, but the document should be sufficiently flexible to corral that use when it reaches its usual excess. My primary concern is the proposed management for paleontological resources.

1) Invertebrate Fossil Collecting Permits

I22-1 I have been involved in trilobite/invertebrate collecting for only a short time, but I have found the Ely District to contain significant trilobite and other paleontological resources. I am concerned that the regulations proposed in the preferred alternative of the *Ely RMP/EIS for the Ely District* will negatively affect amateur or hobby collecting on federal lands.

I22-2 The stated concern behind the proposal to require permits is misdirected. If commercial collection is a threat, I recommend that the Bureau and other federal agencies pursue it at market level. This can be easily done by targeting the sale of species which can be tied solely to federal lands. A quick search on the internet using "trilobite" and "Nevada" presents dozens of sites selling trilobites. Some collectors even list the sites, such as Ruin Wash or the Groom Range, on eBay or commercial sites.

I22-3 Without some enforcement effort, there would be no substantive resolution of resource misuse. These regulations also stands to affect paleontological research.

I22-4 One thing I have noticed, is that paleontologists rarely have great amounts of time to collect an adequate number of specimens. As a result, species classifications and faunal descriptions sometimes prove inadequate. Amateur collectors working with paleontologists often times have the advantages of proximity to study areas and ample time to better sample the areas.

Responses to Letter I22

I22-1 Comment noted. A registration system should not affect amateur or hobby collectors.

I22-2 In response to your comment, the text in Section 2.4.10.1 of the Proposed RMP and Final EIS has been revised to remove any link between permits and commercial collecting. In the Proposed RMP, the Ely Field Office is not proposing a permit system, but an on-site no-fee based registration system in order for the Field Office to better track use and inform the public of proper use and etiquette in collection of invertebrate fossils.

I22-3 The Proposed RMP contains management actions that set direction/standards for land use management; it does not impose regulations. The management actions contained in the Paleontology section allocate these resources to scientific and public use. Enforcement activities will be ongoing to ensure proper use.

I22-4 Comment noted. Amateur collecting will continue to be allowed under the Proposed RMP.

Letter I22 Continued

I22-4 Additionally, many localities which prove to be of paleontological value are discovered by amateurs. In just the past year, I have been involved in the discovery of a trilobite fauna in Nevada previously found only in northern Utah. At least two new species of *Olenoides* trilobites appear to exist only in this section. With some direction from Dr. Pete Palmer of the Institute for Cambrian Studies, I am helping to confirm and correlate a second locality of this fauna.

In another area, I have collected specimens from what appears to be several undescribed species of *Albertella* trilobites. One of these may correlate with *Albertella highlandensis* (Eddy and McCollum, 1998), extending the known range of this species.

I22-5 I agree that commercial (and amateur) collectors can tear up some areas. Even controlled collecting can result in the appearance of small mining excavations doting the landscape. More often these locations are off of the beaten path and go unobserved by the general public.

I22-6 I think you will find that most sites are not significantly disturbed until paleontologists have done some work, (Ruin Wash, Andies Mine, Telegraph Canyon, etc.) The publishing of theses and professional papers leads to the popularity of many sites. It is the follow up or secondary work at sites that stands to be negatively affected.

Yet, there is little chance of resources at any one site being eliminated. I have heard other collectors complain that Ruin Wash is played out. The truth is that the "easy" collections are being eliminated. It is often difficult work to uncover fossils locked in rock. Remote locations, limited muscle and age, all affect enthusiasm, which limits the threat to the resource. Depending on numerous factors, several hundred pounds of rock can be moved for little or no reward.

I22-7 Economic factors relating to fossil collecting are also overlooked in the Draft RMP. Trilobite and other fossil collectors contribute to the local economies. Many collectors camp out, but some stay in motels in Alamo, Caliente, Pioche and Ely. Most buy gasoline and supplies in these areas. I usually purchase gasoline and food in Lincoln or White Pine Counties when I travel to the Ely District to collect.

I22-8 Returning to the permit issue, if the Bureau is not willing to aggressively pursue illegal sales of invertebrate fossils, it should be hesitant to impose regulations which it will be unable to enforce. Before the Ely District suggests any restrictions on the collection of invertebrate paleontological resources I recommend the following:

1) *The Ely District should establish a working group to examine the situation.*
2) *Any regulations should be reasonably compatible with adjacent states, agencies and BLM districts.*
3) *The Ely District should have the time and resources to reasonably enforce any rules. The preferred alternative does not articulate reasonable goals and objectives that are attainable under current staffing.*

Responses to Letter I22

I22-5 Comment noted.

I22-6 Comment noted.

I22-7 Thank your for comment. The text in Section 3.23 of the Proposed RMP and Final EIS has been revised to expand the list of recreation and tourism activities that occur in the Ely RMP planning area. The economic contributions of all such activities is recognized collectively in both Sections 3.23 and 4.23. However, individual assessments are beyond the scope of the analysis. The revisions do not affect the basic impact conclusions presented in the Draft RMP and EIS.

I22-8 Please refer to Response to Comment I22-3 for a discussion of management actions for invertebrate fossil collecting. The Proposed RMP does not contain restrictions on the collection of invertebrate paleontological resources; however, enforcement activities will be ongoing to ensure proper use. In response to your comment, the management actions in Section 2.4.10 of the Proposed RMP and Final EIS has been revised to clarify the discussion of site-specific project plans. The Ely Field Office would be happy to work with any group interested in assisting with identifying and monitoring paleontological resources. Also in response to your comment, the text in Section 4.2 (Goals) has been revised to clarify the discussion of objectives attainable under current staffing.

Letter I22 Continued

I22-8 *4) This issue should be dealt with in a sub-plan so that a more specific interest group can be pursued.*

I22-9 **2) Lands Disposal**

Also of concern to me are the lands disposals shown on Map 2.4-21. The Lincoln County Land Act has already identified five square miles of land at Oak Springs, including the spring itself. This RMP suggests another five square miles for disposal to the north of that land. This RMP area contains sections studied by paleontologists Dr. Palmer, Dr. Linda McCollum and Dr. Mark Webster. This land includes or is immediately adjacent to the area promoted for trilobite collection by the Bureau. There are also unstudied *Glossopleura* biozone deposits within this suggested disposal area. Additional paleontological sites within lands suggested for disposal in the preferred alternative are:

- Lower Antelope Canyon, north of Caliente
- Arizona Peak northwest of Pioche
- Large portions of the Pioche Hills.

I22-10 One disposal area appears to contain some old mill tailings ponds below the Castleton site, which I believe remain somewhat toxic.

I22-11 **3) Groom Recreation Area**

I believe that the Bureau uses poor judgement to suggest a Groom Recreation Area. Recreation in that area would center upon the easier areas to access. The Andies Mine would certainly be one such activity area. The mine produced mercury. There would probably be a need to do some clean up before the area should be promoted for recreation.

I22-12 Because the Groom Recreation Area would be adjacent to the Groom Lake area of the Nellis Test and Training Range, I am primarily concerned about conflicts with the military mission. The Air Force has a history of over-reacting. Poorly controlled recreation stands a good chance of resulting in the loss of this area for all public use.

The northern Groom Range contains paleontological resources from the lower Cambrian Pioche/Carrara formations up to what appears to be upper Cambrian Dunderberg shale.

I22-13 In summary, I am strongly opposed to Alternative E, with regard to management of paleontological resources. The Bureau's concerns are somewhat overstated. It is not a reasonable solution to begin a permitting process that cannot be adequately managed by the Bureau.

Sincerely,

Craig Stevenson

Responses to Letter I22

I22-9 Please refer to Section 2.5.12.2 [lands] and 2.4.10 [paleo] in the Proposed RMP and Final EIS for a discussion of land disposals. Lands identified for disposal would have to be inventoried for resources (including paleontological resources) prior to disposal. If the lands contain resources eligible for National Natural Landmark status, they would not be subject to disposal. The paleontological resources mentioned in this comment would be identified during inventory and if they meet the National Natural Landmark criteria, they would be nominated to the NNL.

I22-10 In response to your comment, the land disposal legal descriptions and maps have been updated in coordination with the County. See Appendix I and Maps in 2.4.12 in the Proposed RMP and Final EIS.

I22-11 In response to your comment, the Area 51 special recreation management area has not been included in the Proposed RMP.

I22-12 Please refer to Response to Comment I22-11.

I22-13 Please refer to Responses to Comments I22-2 and I22-8.

Letter I23

Nov. -22- 2005

To whom it may concern

NOV

I23-1 I'm writing this letter to express my concern about the land use permits for the purpose of hunting going to open bid.

I do feel that there needs to be some restrictions on the number of permits for each given region. However I've not yet heard the best solution for this problem.

I23-2 I feel that the master guides that have been receiving permits for the last five years should be given the first chance also the master guides who are residents to the state or even to the county which they reside and do there guiding should be given first chance for permits in that area.
Example a master guide living in Lincoln co. Nevada should have first chance to receive permits to hunt the units in that county or units that overlap into the adjacent counties before a guide from another state or county.

I23-3 I don't know if this matter has been brought up to the Nevada guides association or not but this may be a way to receive more input.
If I can be of any help I will do my best to help.

THANK YOU

Lyle Shane Stever

Shane Stever
Box 234
Pioche NV. 89043
775-962-5898

I23-4 If a permit expires and is not renewed then that spot could go to bid.

Responses to Letter I23

I23-1 In response to this and similar comments, the management action in Section 2.4.15.2 of the Proposed RMP and Final EIS regarding outfitter and guide permits has been revised.

I23-2 Please refer to Response to Comment I23-1.

I23-3 Please refer to Section 5.5 in the Draft RMP and EIS and Proposed RMP and Final EIS for a listing of those organizations to which the Draft RMP and EIS and Proposed RMP and Final EIS were sent.

I23-4 Please refer to Response to Comment I23-1.

Letter I24

11/27/2005

Bruce Flinn
BLM Ely Field Office
RMP Project Manager
HC 33 Box 33500
Ely, NV 89301-9408

elyrmp@blm.gov

Thank you for this opportunity to comment on the Draft Resource Management Plan / Environmental Impact Plan for the Ely District.

I24-1 1. My first comment regards an inaccuracy in information. Mineral Survey No.1905 (MS 1905) is an irregularly-shaped group of 6 patented (privately owned) mining claims that is shown in the RMP to be located in T 6S, R 70E, section 31 and T 6S, R 70 E section 31 and T 7S, R 70E, section 31 and T 6S, R 70 E sections 5 and 6. MS 1905 is actually located in T 6S, R 70E, sections 32 and 33 (and perhaps 29). The actual location is noted on the Master Title Plat marginalia (9/2/2004) for the appropriate townships, was to be corrected in the Geographic Coordinate Data Base, and is documented in correspondence i.e. David J. Clark's letter dated August 11, 2004 [9600(NV-952)]. It is likely that this inaccurate information led to inappropriate decisions and recommendations in the past and may lead to additional inappropriate decisions in the future if not corrected. The accuracy of this information is potentially vital to BLM personnel as they consider actions as varied as fire planning and control, roads, vegetation planning and activities and I'm sure many other tasks. The accuracy of the information is vital to the general public as they plan activities as well (fuelwood, Christmas Trees, post and pole etc.). There has been at least one NEPA comment solicitation in which the location of this property has been a factor.

I24-2 2. re: 2.5.14 Travel Management and Off-Highway vehicle Use
Map 2.4-32 seems to represent the currently designated roads and trails (referenced as such in 2.5.14.2 Alternative D). A road currently exists that provides access to Mineral Survey No. 1905 (MS1905). The road begins in the vicinity of the Rolling Hills Reservoir in Section 31 of T 5S, R 70E and extends SSE, through Mud Springs Saddle, extends down and along what is labeled Mud Springs Wash on the 1:24K and BLM Surface Management Status maps. The road currently ends adjacent to MS1905. The road to MS1905 was originally a wagon road that dates possibly to the period of claim development before 1900. The road has been improved at various times and is clearly visible on aerial photographs. This road provides access for hunters and no doubt others in addition to providing access to MS1905. The road to MS1905 is not included on Map 2.4-32. It is likely that, if the location of MS1905 had been accurately located in BLM records, this road, which provides access to the privately owned MS1905, would be on the inventory of designated roads and trails. This "new" information should be included on the designated inventory of roads and trails and Map 2.4-32.

I24-3 There are some roads beyond (south of) MS1905 that were developed specifically for exploration or development and have been reclaimed. Those roads should remain closed and reclaimed.

I24-4 I spoke with the individuals* (see note at the end of my comments) who have grazing assignments in the Barclay allotment. Each of the three individuals feels it is important that this

Responses to Letter I24

I24-1 Thank you for your comment. These kinds of corrections need to be made in the Geographic Coordinate Database. Your comment has been forwarded to our Nevada State Office for resolution. During site-specific implementation of the RMP, the Master Title Plats and the Geographic Coordinate Database will be consulted to evaluate land status.

I24-2 Map 2.4.14-1 is based on roads currently known to be maintained by federal, state, and county agencies. To the extent that the road map files used were accurate and up-to-date, this map is inclusive of such roads. However, no warranty is implied regarding the completeness or data accuracy of those data sources, particularly at the small scale necessary for this document. The type of issues raised in your comment will be considered by the Ely Field Office when transportation plans are developed through coordination with local agencies, residents, and interest groups.

I24-3 Comment noted. The Ely Field Office does not normally reopen reclaimed roads.

I24-4 Please refer to Response to Comment I24-2.

Letter I24 Continued

I24-4 road to the area of MS1905 should be officially recognized and remain open. Each of them considered their own use of the road as well as the general public use for hunting and recreation.

I24-5 It is possible that other areas of the district also have unrecognized roads and trails that are not included on Map 2.4-32. The designation of roads and trails must be closely re-examined before far-reaching decisions are finalized.

I24-6 In general, this very important designation of roads and trails is not supported with a tabulation of information, the maps are marginally adequate for discerning what is designated as a road or trail, there is no indication of what criteria were used to designate a road or trail or what criteria were used to exclude a road or trail. It is also not clear what the long-lasting ramifications are of a road or trail being included on or excluded from Map 2.4-32. A classification of roads is presented in Section 3.14.1 but there is no indication of which roads found on Map 2.4-32 fit into any of the Levels presented.

I24-7 3. re: 2.5.12 Lands and Realty - Disposal
An inconsistency or inaccuracy is present between Maps 2.4-20 and 2.4-21, the text, and Appendix O which represent Lands Available for Disposal under Alternative E and perhaps others Alternatives.

I24-8 4. re: 2.5.12.2 Lands and Realty – Disposal
Some of the land that is proposed for disposal include maintained roads, and roads that provide access to privately held property (specifically MS1905). Although it is not discussed in the RMP, there is a need to preserve current travel options on existing roads and trails even in the event of the disposal of land including access to private property. This is addressed in part under 2.5.12.1 Lands and Realty – Retention where it indicates that "Lands which preserve public access to recreation opportunities would be retained.

I24-9 Also, I oppose the disposal of any BLM land in isolated locations and relatively small (or large) parcels as seems to be proposed. Some of the land proposed does not fit the description required for disposal. Nor is it sound based on the watershed management philosophy being adopted. Disposal of the indicated parcels in the FifeMountain/East Pass/Mudsprings/Sams Well area (T 6S, R 68E; T 6S, R 69E; T 6S, R 70E; T 7S, R 69E) is not appropriate.

I24-10 5. re: 2.5.14.2 Travel Management and Off-Highway vehicle Use – Off-Highway Vehicles
Motorized vehicles should be restricted to existing roads and trails – not necessarily only those roads shown on Map 2.4-32. I cited one example of a road which has been in place for probably 100 years. Travel must be allowed on those roads which currently exist but off-highway use should not be permitted in areas where no roads exist. The designation of scenic Byways could have a very large impact on accessibility for people into relatively trail-free areas. The No Off-Highway Vehicle policy is critical to preserving the current conditions throughout the district.

I24-11 6. re: 2.5.13.1 Renewable Energy – Solar and Wind Energy
Currently the benefits of wind energy are not close to the costs that would be incurred, particularly in the scattered and isolated areas available in the study area. The potential harm to wildlife and visual experiences of an operating windfarm in addition to the required building of

Responses to Letter I24

I24-5 Please refer to Response to Comment I24-2 regarding Map 2.4-32. In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning will occur in the Ely RMP planning area.

I24-6 Please refer to Response to Comment I24-2.

I24-7 In response to your comment, maps in 2.4.12 in the Proposed RMP and Final EIS have been modified.

I24-8 In response to your comment, the text in Section 2.5.12.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of land disposal and to specify that disposed lands would be subject to valid existing rights, such as maintaining public access.

I24-9 In response to your comment, all of the area for the indicated parcels has been removed from the Proposed RMP (see Appendix I).

I24-10 Please refer to Response to Comment I24-5.

I24-11 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. All applications will be subject to NEPA analysis and the Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS (Appendix F, Section 3, of the Ely Proposed RMP and Final EIS). The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for wind energy development are received and evaluated.

Letter I24 Continued

I24-11 roads and other infrastructure are too high a price. If it could provide a cost-effective solution I would be in favor but it currently does not make sensze.

I24-12 7. re 2.5.3 Water Resources
The water resources of the area are critical to long term life and health of every aspect of the district. Very little is known or quantified about the nature of the water resources in the area. State Engineer perennial yield values presented in Table 3.3-1 are based on what may be the best available information, but it is relatively untested models, not measurements, and the real effects of significant pumping are unknown. All models that I am aware of show a significant drop in water levels with time. Spring data shown in Map 3.3-1 is not supported with tabular data and is not comprehensive or representative of what actually exists. Additional baseline information should be collected before massive pumping begins to affect the water levels and spring output. This additional data should include a comprehensive inventory of springs, water level values, and precipitation/snowfall. There should be a comprehensive inventory of springs and other "green areas" that includes flora and invertebrates. Detailed aerial photos should be obtained as support for these inventory activities in color, infrared, and multispectral modes as well as black and white. Techniques such as InSar (Interferometric Synthetic Aperture Radar), currently being used by Nevada Bureau of Mines and Geology, should be used to establish baseline measurements for ground subsidence in all potentially affected basins.

I24-13

I24-14

I24-15 There is much existing information that could be collected on the springs, water sources, and areas where water is near to the surface and there is a great deal of new data that could be collected on a watershed level to provide a baseline of existing resources. The development of a baseline can provide a means to determine when and how natural cycles are impacting the water resources and how the pumping of these resources causes impacts as well. All information, data, and photographs concerning these water resources should be available to the public.

I24-16 8. re: 2.5.15.1 Recreation – Special Recreation Management Areas
No special recreation management areas are appropriate.

I24-17 9. re: 2.5.15.2 Recreation – Special Recreation Permits
No motorcycle events should be permitted off of currently designated roads and trails. No truck events should be permitted off of currently designated roads and trails.

I24-18 10. re: 2.5.16.1 re: Livestock Grazing
Grazing is a required management tool.

I24-19 11. re: 2.5.19 Watershed Management
Watershed management seems like a sound tenet of district-wide management but it must be acknowledged that many important aspects, such as water resources and wildlife, do not stop at watershed boundaries.

I24-20 12. re 2.5.22 Special Designations – Back Country Byways
It is unclear if roads as they exist today would receive the Byway designation or if construction/maintenance would be required. In either case the impact of increased travel could

Responses to Letter I24

I24-12 In response to your comment, the text in Section 3.3 of the Proposed RMP and Final EIS has been revised to emphasize the preliminary nature of these water yield estimates and that they will change over time as more groundwater investigations are conducted in the planning area.

I24-13 The map information is the most extensive available for the Ely RMP planning area. There are no "data" associated with the map; it is simply provided to generally depict the distribution of resources and to identify possible locations of interest for future water resources investigations and assessments. Investigations and assessments for other specific NEPA actions, as well as data from monitoring programs, would further characterize these resources and potential impacts to them from specific project proposals.

I24-14 No pumping of groundwater is proposed in the Ely RMP. NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP/EIS for the Ely planning area. Separate NEPA analyses will be prepared for any groundwater development projects, and data collection may be appropriate for those projects.

I24-15 Please refer to Response to Comment I24-14 for a discussion of data collection.

I24-16 Comment noted.

I24-17 Comment noted. Road designation is a process that will occur with public input subsequent to the approval of the RMP.

I24-18 Please refer to Appendix H in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Tools and Techniques, including grazing as a management tool.

I24-19 Please refer to Section 1.7.3 in the Proposed RMP and Final EIS for a discussion of Management by Watersheds. This management approach recognizes that many environmental factors and affected resources overlap multiple watersheds, but the watershed unit is the most practical geographic entity upon which to base resource management for the overall Ely RMP decision area.

I24-20 Please refer to Response to Comment I24-5. Designated Back Country Byways would be maintained as necessary to allow their designated use.

Letter I24 Continued

I24-20 have a tremendous impact conditions adjacent to the byways. Off-Highway travel must be limited, particularly in areas of increased road traffic such as would occur adjacent to the newly designated Byways.

I24-21 13. re: 3.3.1 Water Resources – Existing Conditions
It is unlikely that the carbonate aquifer and the basin fill aquifers are independent as implied. Pumping of either aquifer will impact the other. Comprehensive inventories of water resources and current uses must be developed to understand existing conditions.

End of comments.

*Note about privacy and need for more information.
I was reluctant to use the names of the individuals who are assigned the grazing in the Barclay allotment in this a potentially public document. If it is appropriate to use their names here it is OK but if it is not required, I respect their privacy. I spoke with Arlin Hughes, Fenton Bowler, and Ken Newby (Newby Cattle Co.) during the week of November 21, 2005. Each of them expressed a desire to have the road remain open and officially recognized. They may or may not write their own comments regarding the RMP. The chore of reading the RMP and responding seemed very daunting to some.

I would like to receive the Proposed RMP/Final EIS on CD when it is available.

Thank you,

Tim Vogt
9033 Sandy Shores Drive
Las Vegas, NV 89117

timv@earthlink.net

Responses to Letter I24

I24-21 The text in Section 3.3.1 of the Draft RMP and EIS and Proposed RMP and Final EIS does not imply that the aquifers are independent. Please see the third sentence of the second paragraph.

Letter I25

Please respond to <d.wade@metro-electric.net

Vegas Valley 4 Wheelers P.O. Box 95884 . Las Vegas, Nevada 89193-5884
www.VV4W.org

Attn: Ely fieldoffice BLM comments on land use decisions.

I25-1 We want to see more heritage tourism and motorized recreation in the more rural areas of Nevada. The Pahranagat area and the range between Alamo and Ash Springs, has a technical trail system and nice camping areas, my family has used since 1972. I want to be sure these trails and access roads remain open for future generations to explore and enjoy. This would be a great area to develop into a posted trail system for motorized recreation Kiosks showing plant, animal, native, historic, and other points of interest should be pstd or sef uied ous Al ros outr tavl i nrter Nead soud eminopn, uti Cnges acs po i. Cosngan o th nmeou wotrck, gadd,or

I25-2 hih lerace ou wee div tais. Wil seriously inhibit the ability, for less mobile persons, to enjoy the vast wilderness recourses our great state offers. For example, my father, a disabled Vietnam Vet who can hardly walk unassisted on flat concrete. It would be impossible for him to explore our wilderness areas without the use of a four wheel drive. Please keep in mind, not everyone can ride a horse, or hike even short distances Wheel chairs and walkers are not easy to negotiate over uneven terrain, a SUV is much safer and more comfortable for disabled Americans who want to explore. It is our responsibility to allow less fortunate persons the freedom to move freely through our state.

I25-3 Alternative (D) in your proposal is, " way out there," and I don't mean that in a good way. It is the exact opposite of Alternative (A) the current, " go do what you want, where you want, " Willy-Nilly roam free, who cares? I feel Alternative (E) shares enough in common with Alternative (B) and (C) to effectively get the most out of the land for responsible motorized recreation. As well as preserving our current trail resources and giving us the opportunity to restore the habitat with future projects.

I25-4 It is so important to keep a strong partnership with the organizations and appropriate entities who have helped the BLM field officesin the past (SloneCanyon). These organizations have the man power and resources to help, in getting into an area (hauling in personnel and equipment) On the same note, (we can haul out large items too heavy to carry.) If you close the trails and roads, how will you get the people and things (in) or (out) to complete any preservation or restoration projects? We want to keep the positive rapport we currently share with the BLM field office in Ely We want to remain available, willing, and able to help with future projects or recreational public events.

I25-5 In Alternative (B) what does open, limited, and closed mean and where? When talking about, "open to cross country off highway = 0 acres"…. OHV"limited to designated" (should say) "limited to (existing) roads and trails within the 10,338,000 acres. This should also be reflected in Alternative (E).

I25-6 Why would you close down Dry Lake Beds? They are a nice flat place to camp to enjoy the wonders of the desert that surround them.

Thank you for your time, and please consider my points before any Alternative is set in stone. I can be reached by phone for future help at (702) 353-7355.

DarrellWade, TrailBoss Vegas Valley 4Wheelers.

Responses to Letter I25

I25-1 The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans are prepared or evaluated.

I25-2 Comment noted.

I25-3 Comment noted. The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

I25-4 Please refer to Response to Comment I25-1.

I25-5 In response to your comment, the text in Section 2.4.14.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of off-highway vehicle use designations. Please note that the Proposed RMP would limit use to "designated" and not "existing" roads and trails.

I25-6 The designation of dry lake beds as open was considered in the Draft RMP and EIS and Proposed RMP and Final EIS as part of Alternative C. However, it was not incorporated into the Proposed RMP. Not all dry washes would be suitable for OHV use; however, some may be designated as trails when transportation plans are prepared for a watershed or group of watersheds. The public will be invited to participate in the transportation planning process.

Letter I26

Bureau of Land Management
Bruce Flinn, RMP Project Mgr
HC 33 box 33500 Ely, Nv 89301

Re: Comments on Ely District RMP

I26-1 I would like to record my comments on the transportation planning and OHV management alternatives outlined in the RMP draft. Specifically, I would like you to consider amending alternative E in sections 2.5.14.1, 2.5.14.2 and 2.5.15.1 to allow for the continued use of existing singletrack trails by motorcycles in certain areas. In general, these areas would be areas of historic motorcycle race courses, such as the area around Alamo, the area to the immediate south of Mail Summit, the area between Panaca and Caliente, the area west of Caliente towards Chief Mountain, the area near Jake's Wash, and area between Squaw Peak and Robinson summit on the north side of highway 50, as well as any other areas where motorcycle competitions have traditionally been allowed on existing roads and trails.

The reasons for this request are as follows:

I26-2 1. I believe that planning of motorized singletrack (closed to ATV's) has gone largely ignored in this district, yet this is of primary importance for off-road motorcycle recreation enthusiasts. Some emphasis on motorized singletrack is appropriate and justified considering the number of responsible motorcycle enthusiasts in this district.

I26-3 2. The BLM has been using ATV's to inventory roads and trails, but there are many trails that are not passable to ATV's without danger to the rider or the environment. Some of these trails are not often used, but have been on the ground for years, and are likely to be missed by a route designation process. This will probably result in unjustified closures of interesting and sustainable motorcycle routes.

I26-4 3. These trails are also generally very suitable for mountain bike use. The typical mountain bicyclist is much more interested in primitive singletrack trails than in the jeep roads that are so frequently designated as official bicycle routes. Currently virtually all interesting mountain bike routes in the Ely Distsrict originated as motorcycle trails, and there is no reason to close them to motorized use. In fact, for many trails, closure to motorized use would likely mean deterioration of the trail to the point that it became unreasonable for bicycle travel at the current level of use.

I26-5 Additionally, I would urge that only the more densely used areas be considered for management under a strict version of alternative E with respect to 'designated routes'. Much of the district could be managed under the same more permissive 'existing roads and trails' strategy with little worry of excessive impact. This strategy appears to be highly successful in many areas of Utah. Considering the size of the Ely district, and the available staffing, it will take decades of time and huge sums of money to go through a comprehensive route designation process. Trying to do this for the entire district makes it likely that the process will be done overly hastily, especially in the higher-density areas

Responses to Letter I26

I26-1 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning will occur in the Ely RMP planning area.

I26-2 Please refer to Response to Comment I26-1.

I26-3 In addition to four-wheel all-terrain vehicles and four-wheel-drive trucks, the Ely Field Office has also utilized motorcycles in accomplishing the inventory of existing routes and ways. During site-specific transportation planning, the Ely Field Office will hold public scoping meetings to address completeness of the route inventory and public issues, concerns, and access needs, such as single-track route management.

I26-4 Please refer to Response to Comment I26-1.

I26-5 Please refer to Response to Comment I26-1.

Letter I26 Continued

I26-5 that require the most careful management. I believe this process will be most effective if the BLM bites off chunks it can chew, and restricts the 'designated routes only' areas to those areas that require that level of management, and that the BLM has the resources to inventory, designate, and sign.

Sincerely,
11/22/05

Mark Weaver
850 Murry St
Ely, Nv 89301

Letter I27

Stephen Williams
987 Perfect Berm Ave.
Henderson, Nv, 89015
(702) 279-0326

I would like to start by saying I am 15 years old. I do not do drugs or anything bad like that. My favorite hobby is riding "OHV's" and racing my dirt bike. My friends and me get together and ride. We are not the kind of kids that cause trouble or do anything bad. I work hard in school so I can look forward to riding my OHV. I think, it is wrong that the BLM wants to close off our riding areas and make it so we cant ride. Riding "OHV's" is one of the best sports out there. It keeps you in shape, you work hard towards it and you don't sit around and do bad stuff. If the BLM closed all the riding areas, kids would have nothing good to do. They would most likely cause trouble and pick up bad habits. Also how would we see the sights we see when we ride? We wouldn't, if you can't ride to them there wouldn't be anything worth seeing. And exploring, that's how the people in this country have got us to where we are now. Without it there would be nothing.

I27-1

I27-2

I am not trying to change all the rules or anything. I just wanted The BLM to hear from my perspective; I know the BLM hears from thousands of angry adults, I am asking that you (the BLM) consider my comments when making your final decision on the RMP. Remember kids our age, are the future of this country and the future users of the public land, we should have a say in our future and how our public lands will be managed for our generation.

I27-3

I am asking that all existing trails, roads, race courses and washes remain open for OHV use and that equal amounts of 11.4 million acres that used to be classified as open remain classified as open. I would also ask that the word "designated" be removed from the RMP management plan and be replaced with the word "existing".

I27-4

Thank you for your time,

Stephen Williams

Yahoo! FareChase - Search multiple travel sites in one click.

Responses to Letter I27

I27-1 The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives and does not intent to "close off" most riding areas. In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning will occur in the Ely RMP planning area.

I27-2 Comment noted.

I27-3 Thank you for expressing your concerns. One of the goals of the Ely RMP is to maintain lands within the decision area for use by future generations.

I27-4 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify criteria that may be used when designating routes in a project-specific transportation plan. Not all dry washes would be suitable for OHV use; however, some may be designated as trails when transportation plans are prepared for a watershed or group of watersheds. The public will be invited to participate in the transportation planning process.

Letter I28

To whom it may concern,

I28-1 I have already sent in my comments but I left out one important issue. The BLM really needs to look at maintaining access to our public lands when they dispose of lands through auction or other means. Along Highway 93 between Panaca and Caliente for example since the release (disposal) of lands in this area some existing roads that were used for access to the Chief Mountain area were blocked. These roads were open until the public land was disposed of. Buck Board Canyon in the Caliente area is another access that has been blocked by a rancher. You can no longer access Buck Board Canyon from Rainbow Canyon. There are other areas also throughout the county that have been blocked. How does the BLM plan to do to ensure that these access points are not lost when you give Lincoln County there land from the Lincoln County Land Act or through future auctions? I hope that someone in your office is making sure no access points are going to be lost. Please make accommodations for this issue in your RMP. Public Land is not much use to the public if we cannot access it.

I28-2 I still believe that the best way to manage this land is by just keeping the land open and not changing anything, the current plan seems to have worked fine for many years, why change something that isn't broke.

Thank You

Anthony Z. Livreri

Responses to Letter I28

I28-1 In response to your comment, the text in Section 2.4.12.2 of the Proposed RMP and Final EIS has been revised to clarify access to public land following land disposals.

I28-2 Thank you for expressing your concerns. The current land use plans are more than 20 years old and need to be updated to address new issues and management directions.

Letter L1

November 22, 2005

Bureau of Land Management
Attention Gene Drais
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301

Dear Mr. Drais:

L1-1 In regards to the Resource Management Plan, I have concerns pertaining to the special recreation permit 2.5.15.2. Of the four alternatives proposed, I'm in favor of a revised version of Alternative E. I would like the wording to read as follows: "For the first three years following plan implementation, outfitter and guide permits for hunting would be limited to parties who have had a permit for the past 3 years. This permit would then remain with the outfitter until it is not renewed or until it is forfeited. The present number of outfitters who have had a permit for the past 3 years would serve as the cap. For any open permit that occurs, non-permitted outfitters would then be placed into a draw procedure to fill the position. Permits would limit the number of sub-guides that could operate. Any one outfitter would be eligible to obtain only one permit at a time."

L1-2 I definitely feel that we need to put a cap on the number of outfitters. Most importantly, however, I feel that it would be unfair to place the permits on a competitive bid process. It would make it very difficult for a small local business to compete against the huge nation-wide outfitters who currently guide or may desire to guide in the area.

Thank you very much for your consideration of this matter.

Sincerely,

Pat Gloeckner
LINCOLN COUNTY ADVISORY BOARD OF MANAGE WILDLIFE

Responses to Letter L1

L1-1 In response to this and similar comments, the management action in Section 2.4.15.2 of the Proposed RMP and Final EIS regarding outfitter and guide permits has been revised.

L1-2 Please refer to Response to Comment L1-1.

Letter L2

White Pine County
Advisory Board to Manage Wildlife

November 27, 2005

Gene Drais, RMP Project Manager
Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301

Re: Comments on the BLM's Draft Resource Management Plan for the Ely BLM District.

Dear Mr. Drais:

The White Pine County Advisory Board to Manage Wildlife would like to make the following comments to the Draft RMP/EIS for the BLM's Ely District.

L2-1 Our concerns fall with the inaccurate statements made toward the introduction of Rocky Mountain Elk being release in White Pine County in 1932. (Section 3.6-7, Paragraph 2). Historical Testimony reveals that Rocky Mountain Elk were in fact indigenous to the State of Nevada and their habitat included many areas within the Ely BLM's District.

Captain J.H. Simpson, in 1859, observed Elk in the Snake Range. (Report of Explorations across the Great Basin of the Territory of Utah for a direct wagon route from Camp Floyd to Genoa, in Carson Valley in 1859).

In 1849, Washington Irving stated that he encountered Rocky Mountain Elk in his travels from the Great Salt Lake Southwest to California. (Washington Irving, Bonneville's Edition 1849 P. 61)

L2-2 Based on these findings and other related historical comments, the statement should be changed to, "The Reintroduction Efforts for Rocky Mountain Elk ...."

L2-3 Therefore, Rocky Mountain Elk need to be recognized as an indigenous specials within this draft RMP/EIS. Habitat maintenance and restoration for Elk shall have the same priorities as the other indigenous big game species.

L2-4 Alternaties 2.5, 6.6
Parameter-Great Basin Big Game Habitat
(Mule Deer, Pronghorn and Elk)
Alternative B is our recommended alternative, with the following adjustments.
Section 2.5 – 61 paragraph 2.

Responses to Letter L2

L2-1 In response to your comment, the text in Sections 3.6.2 and 4.6 of the Proposed RMP and Final EIS has been revised to acknowledge the indigenous nature and historic reintroduction of elk in eastern Nevada. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

L2-2 Please refer to response to comment L2-1 for a discussion of text changes related to elk reintroduction.

L2-3 In response to your comment, corrections have been made in the Proposed RMP and Final EIS to recognize elk as a native species to the planning area throughout all alternatives. Text in Chapters 2 and 4 of the Proposed RMP and Final EIS has been revised to indicate that management of habitat for elk under the Proposed RMP and Alternatives B and C would conform to the county elk plans.

L2-4 Please refer to Response to Comment L2-3.

Letter L2 Continued

L2-4 Elk Habitat Management objectives would be developed to support elk, and as habitat improved and expanded, elk numbers would be allowed to increase to appropriate levels. The White Pine Elk Sub Plan shall be utilized as a guideline.

L2-5 Improvements to the Habitat in White Pine County pay a great role towards economic growth. As available habitat increases, so will the population of numerous wildlife species. This renewable resource is not only beneficial to this community, but to the people who come to utilize it as a recreation experience.

Should you have any further questions, please feel free to contact me at (775) 289 – 4907.

Sincerely

William Miller, Chairman
White Pine County
Advisory Board to Manage Wildlife
955 Avenue D
Ely, Nevada 89301

Board Members:

Wade Robinson
Steve Marich
Shane Boren
Jared Bybee

Responses to Letter L2

L2-5 Please refer to Section 4.23 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the linkage between the improvement of wildlife habitat and economic benefits in White Pine and Lincoln counties.

Letter L3

John A. Chachas, Commissioner
Brent Eldridge, Commissioner
David Pound, Commissioner
Gary Perea, Commissioner
Raymond Urrizaga, Commissioner
Donna M. Bath, Ex-Officio Clerk of the Board

Courthouse Annex
801 Clark Street, Suite #4
Ely, Nevada 89301
(775) 289-2341
Fax (775) 289-2544

White Pine County
Board of County Commissioners

November 23, 2005

NOV 2005
RECEIVED

Gene Drais, Project Manager
U.S. Department of the Interior
Bureau of Land Management
Ely Field Office
HC 33, Box 33500
Ely, NV 89301

Dear Mr. Drais:

On behalf of the White Pine County Commission, I am pleased to submit the following comments concerning the draft EIS on the Ely District Resource Management Plan.

L3-1 The Commission reviewed the draft and approved the comments unanimously at our November 9, meeting. The County Commission agrees with the request from the Baker Advisory Board to allow a thirty day extension for comments on the Draft EIS. The time extension would enable the Commission to continue its review and work with the communities throughout the County to solicit further comments.

L3-2 1. *Page 1.9.4 Consistency with other Programs, Plans, and Policies*, lists the planning documents reviewed for the Draft RMP process. The list represents the County planning documents approved at the time the Resource Management Plan process was initiated. It is already out of date. It does not include the White Pine County Comprehensive Economic Development Strategies completed from 2002 through 2005 or the 1999 White Pine County Water Resources Plan. In addition, the County recently completed and approved the White Pine County Open Space Plan (September, 2005), it is in the process of completing the Urban Interface Emergency Services planning effort, and the Water Advisory Committee is in the process of updating the 1999 White Pine County Water Resources Plan. The McGill Ruth General Improvement District is beginning a McGill/Ruth Wellhead Protection Plan. And, the County is working with State Lands Division to update the Public Land Use Policy, its Land Use Plan, and related planning documents. The Commission asks that the Final EIS include an updated review of the County's planning documents that have been completed and approved during the RMP process.

Responses to Letter L3

L3-1 The required comment period on a Draft RMP and EIS is 90 days. BLM elected to set a 120-day comment period for the Ely Draft RMP and EIS and did not formally extend this period. Although the BLM did not elect to extend the official comment period for this document, comments received after the end of the comment period were considered as late as practicable within the overall document revision and publication process. Comments that were received after the close of the comment period have been accepted and considered in the preparation of the Proposed RMP and Final EIS.

L3-2 In response to your comment, recent planning reports were obtained from White Pine County and reviewed. The text in Section 1.9 of the Proposed RMP and Final EIS has been updated to include White Pine County plans that were completed through March 2007. Planning studies and reports that are completed by the County after this date will be reviewed by the Ely Field Office during the RMP evaluation process, which will consult with the County and strive to be consistent with the new plans.

Letter L3 Continued

John A. Chachas
November 23, 2005
Page 2

L3-3 *Page 1.9.7. Consistency with Other Plans, Programs, and Policies:* Page 1.9.7 makes the statement that the Draft Resource Management Plan is consistent with existing planning documents. The Draft does not identify any land for disposal in the Lund/Preston area or adjacent to Baker. The County's approved Land Use Plan shows land Preston identified for public land disposal for new schools, recreational facilities, and a golf course; an airport and industrial park; and a public safety complex. Baker identified land south and east of the community for future recreational fields and the need for an additional 5 acres for expansion of its cemetery. The Draft EIS does not include an explanation for the omission of the public land disposals identified in the County's Land Use Plan for Preston and Baker.

L3-4 The concern has been raised by the Nevada State Engineer that there are not adequate water resources available in the Lund/Preston area to allow increased irrigation. The Commission believes that residential and community development projects are a valuable addition to the communities of Lund and Preston and the land needed for these activities should be made available through public lands disposals independent of the concerns regarding available water resources for irrigation.

L3-5 a. The County Commission asks that the Final EIS include the lands for disposal identified by White Pine County communities through our Land Use Plan process. (Please see attached maps and legal descriptions).

L3-6 b. Where the Resource Management Plan is inconsistent with approved local planning documents, the Final EIS should include an explanation for the inconsistency.

L3-7 2. *Adaptive Management Strategies*: Page 1.7.1 discusses the concepts to be used for Adaptive Management which will be based on new information as it becomes available.

L3-8 a. The County Commission asks that the Final EIS specifically identify newly completed County planning documents and updated reports on the County's economic and social conditions as new information to be considered through its Adaptive Management strategies.

L3-9 b. The County Commission asks that the newly completed County planning documents and updated reports of social and economic conditions in White Pine County be incorporated into the plan as part of the Bureau of Land Management's on-going program of plan maintenance.

L3-10 3. *Recreational Access:* One of the critical issues discussed during the Open Space Plan process is the need to maintain access to recreational areas and trails as the urban interface area surrounding Ely and McGill develops.

Responses to Letter L3

L3-3 In response to your comments, the land disposal legal descriptions and maps have been updated in coordination with the County.

L3-4 In response to your comment, the text in Section 2.4.12.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of land disposal. Land disposal is no longer linked to water availability.

L3-5 In response to your comments, the land disposal legal descriptions and maps have been updated in coordination with the County.

L3-6 Please refer to Section 1.9.3.3 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of inconsistencies with County plans and policies. Inconsistencies were noted where the counties adopted policies that are in conflict with the laws, regulations, and BLM policies under which the Ely Field Office must manage the Public lands in the Ely planning area. The inconsistencies noted relate to wilderness (White Pine and Lincoln counties), wetlands (Lincoln County), and land acquisition (Lincoln County).

L3-7 The Proposed RMP concentrates land disposals around the communities for economic development, and the Ely Field Office considers the disposal of the proposed acreage more than adequate to accommodate needs during the life of the Approved RMP.

L3-8 Please refer to Response to Comment L3-2 for a discussion of new White Pine County planning documents. The Ely Field Office will continue to cooperate with the County throughout the life of the plan.

L3-9 Please refer to Response to Comment L3-2 for a discussion of recently completed planning documents.

L3-10 Please refer to Section 2.4.14 in the Proposed RMP and Final EIS for a discussion of access to recreational areas and trails.

Letter L3 Continued

L3-11 a. The Commission asks that the Final EIS include recommendations consistent with the recommendations of the 2005 White Pine County Open Space Plan. In particular, the Open Space Plan recommends maintaining recreational access in the Urban Interface Area and it recommends development of a special emphasis recreational area and access corridor for OHV use in the Urban Interface to reduce conflicts between residential property owners and OHV users.

L3-12 b. The Commission asks that the Final EIS include a standard operating procedure for land disposals to require reservations of land for recreational access easements where the need is identified.

4. *Public Land Disposals in White Pine County:*

L3-13 a. The White Pine County Commission asks that Final EIS specify that the County Commission will be included as a Cooperating Entity on all Environmental Assessment and EIS processes for public land disposals in White Pine County to allow the Commission to identify services needed to support proposed development, participate in the mitigation strategies, and provide a public forum for discussion of the suggested development and timing for release of public lands.

L3-14 b. The White Pine County Regional Landfill is projected to have a thirty year life if the County's population and use patterns remain at the current level and if the landfill does not experience conditions that cause violations of the existing permit. The White Pine County Commission believes that the Resource Management Plan needs to include the potential for an alternative landfill site if the County's population grows or if the current landfill cannot maintain compliance with its permit requirements. The County Commission asks that the Final EIS address the need to work with the community to identify suitable landfill sites including the Copper Flat site (see attached) to be included in the inventory of lands identified for disposal.

L3-15 c. The White Pine County Commission does not support the recommendation to designate a utility corridor through Spring Valley from the White Pine/Lincoln County border to the White Pine/Elko County border as identified in Alternatives B, C, and E. The White Pine County Commission believes that the identification of a utility corridor is premature and asks that the Final EIS omit designation of the utility corridor in Spring Valley. The Utility Corridor should be designated only if the Record of Decision for the Ground Water Development Project EIS indicates that there is a need for the corridor.

L3-16 5. *Alternatives:* The White Pine County Commission supports Alternative C as its preferred alternative. Alternative C represents the most flexibility for development of current and potential economic development projects to benefit the County and its residents.

Responses to Letter L3

L3-11 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning will occur in the Ely RMP planning area.

L3-12 Please refer to management action LR-15 in Section 2.4.12.2 in the Proposed RMP and Final EIS for a discussion of recreational access. BLM is currently working on policy for easements.

L3-13 The Ely Field Office will continue to cooperate with White Pine County as management actions are implemented. This will include the disposal of public lands where County services may be required.

L3-14 In response to your comments, the land disposal legal descriptions and maps have been updated in coordination with the County. Recreation and public purpose leases and disposals would be allowed outside of designated disposal areas.

L3-15 In response to your comment, the Proposed RMP no longer designates a corridor in the northern end of Spring Valley. The Spring Valley corridor would begin near the Atlanta mine, where the Lincoln County Conservation, Recreation, and Development Act corridor ends, and would trend in a northerly direction along the west side of Spring Valley, ending at the Southwest Intertie Project corridor (see Map 2.4.12-5).

L3-16 Comment noted.

Letter L3 Continued

John A. Chachas
November 23, 2005
Page 4

L3-17 a. The County Commission strongly supports the Lands and Realty proposals for Alternative C (as amended to include the lands identified by White Pine County communities and the potential need for an alternate landfill site) rather than Alternatives B and E. The Commission asks that the Final EIS support the recommendation for public land disposals in Alternative C regardless of which alternative is selected as the preferred alternative overall.

L3-18 6. *Visual Resource Management*: The Draft Resource Management Plan, Alternatives B, C, and E, identify Visual Resource Management categories for all of the land in the District. In the past only specific areas of the County have been identified with Visual Resource Management classifications. The proposed classification system includes Class II and Class III areas near proposed economic development projects including the White Pine Energy Station, transmission lines, and wind energy projects. The County Commission opposes use of the proposed Visual Resource Management classification system if it will negatively impact energy development projects and the infrastructure required to support them. At the White Pine County Commission meeting on November 9, the Resource Management Plan Project Manager explained the process for determining Visual Resource impacts and identifying possible mitigation strategies.

L3-19 The County Commission asks that the Final EIS specifically address the process and limited impact of the proposed Visual Resource Management Classifications as explained in the November 9 Commission meeting (see attached minutes)

L3-20 7. *Special Designations:* Special designations including Areas of Critical Environmental Concern and Recreation Special Use Designations are identified in Alternatives B, C, and E. The County Commission is concerned that the proposed Goshute Canyon ACEC and the proposed special recreation use area in the Egan Range could negatively impact economic development projects in progress or that may be proposed. The County Commission asks that the Final EIS specifies that special designations identified through the Resource Management Plan will not negatively impact economic development projects in progress, especially energy development projects and the infrastructure required to support them.

Thank you for the opportunity to review and comment on the Draft EIS for the Ely District Resource Management Plan. We look forward to working with you through the adoption and implementation of the Ely District Resource Management Plan.

Sincerely,

John A. Chachas,
Chairman

cc: Senator Harry Reid
Senator John Ensign
Congressman Jim Gibbons

Responses to Letter L3

L3-17 The Proposed RMP concentrates land disposals around the communities for economic development, and the Ely Field Office has determined that the disposal of the proposed acreage will more than accommodate needs during the life of the plan.

L3-18 Visual Resource Management classes are established during the RMP planning process based on the existing visual resources within the planning area and the management considerations for other land uses.

L3-19 Please refer to section 2.5.11 in the proposed RMP and Final EIS for a discussion of visual resource management policy. The VRM classifications shown on Map 2.4.11-1 have been incorporated into the Proposed RMP and will be used during the life of the plan to manage visual resources. VRM management class objectives would be considered when evaluating BLM projects or private party proposals. Mitigation for potential visual resource impacts would be evaluated on a project-specific basis. VRM class objectives do not prohibit other multiple uses.

L3-20 As part of the White Pine County Conservation, Recreation, and Development Act of 2006, the Goshute Canyon proposed ACEC has been included in designated wilderness. In response to this and similar comments, the text in Section 2.4.15.1 of the Proposed RMP and Final EIS has been revised regarding special recreation management areas. The Telegraph special recreation management area proposal is not being carried forward. The Ely Field Office is not aware of any ACEC or SRMA designations that would negatively impact economic development projects, but it can not specify that no such effects would occur during the life of the plan.

Letter L4

BOARD of LINCOLN COUNTY COMMISSIONERS
P.O. Box 90 Pioche, Nevada 89043
Telephone (775)962-5390 FAX (775) 962-5180

29 November 2005

Mr. Gene Drais, Project Manager
U.S. Department of the Interior
Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301

Dear Mr. Drais:

Thank you for giving Lincoln County the opportunity to participate in the drafting of and being able to reply to the Draft of the Resource Management Plan/Environmental Impact Statement for the Ely District.
It is important for our county to have input into this plan as every decision made will affect Lincoln County for years to come.

We will address the area of the Plan 2.4-1

Vegetation: Goal: where possible, manage vegetation resources to achieve or maintain resistant and resilient ecological conditions while providing for sustainable multiple uses and options for the future across the landscape.

Pinyon-Juniper Woodland

L4-1 Lincoln County supports alternative C. We support the concept of commodity production. We believe that the communities can be managed in a way that could provide more projects for commercial use. Our pinyon population within Lincoln County in some areas has taken over and become so dense that little or nothing else will grow. It has also been hit hard with drought and beetle infestation. We need to actively treat a higher population to keep down the over growth and to keep the rest of the population healthy.

Aspen

L4-2 Lincoln County supports alternative C.

High Elevation Conifer Species (White fir, Ponderosa Pine, Limber Pine, Bristlecone Pine, Engelmann Spruce, etc.)

Responses to Letter L4

L4-1 Thank you for expressing your position on the alternatives analyzed in the Draft RMP and EIS. The response to this and the following comments will indicate which alternative from the Draft RMP has been incorporated in the Proposed RMP. The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-2 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

Letter L4 Continued

L4-3 **Salt Desert Shrub**
Lincoln County Supports alternative B.

L4-4 **Sagebrush**
Lincoln County Supports alternative B. This would help in restoring and maintaining healthy community and satisfy wildlife habitat requirements.

L4-5 **Mountain Mahogany**
Lincoln County Supports alternative B.

L4-6 **Mojave Desert Vegetation**
Lincoln County Supports alternative C. We would hope that you NOT consider eliminating all livestock grazing within desert tortoise habitat. As you have seen, when there is an exceptional growing year, no grazing at all could and does raise the fire hazard significantly.

L4-7 **Riparian/Wetlands**
Lincoln County Supports alternative C.

L4-8 **Nonnative Seedlings**
Lincoln County supports alternative C.

Fish and Wildlife
Goal: In cooperation with the Nevada Department of Wildlife, manage suitable aquatic habitats to sustain nonnative fisheries and minimize conflicts between nonnative and native fish species.

L4-9 **Aquatic Habitat and Fisheries**
Lincoln County supports alternative C.

Terrestrial Wildlife
Goal: In cooperation with Nevada Department of Wildlife, provide habitat for wildlife (i.e., forage, water, cover, and space) that is of sufficient quality and quantity to support productive and diverse wildlife populations, in a manner consistent with the principles of multiple-use management, to enhance biological diversity, and to sustain the ecological, economic, and social values necessary for all species.

L4-10 **Wildlife Habitat Management**
Lincoln County supports alternative D. We would request that multiple-use on all water developments be considered. We support that no existing water developments would be removed and that, where necessary, new water developments be created.

L4-11 **Migratory Bird Habitat**
Lincoln County supports alternative E.

Responses to Letter L4

L4-3 The management actions in Alternative B have been incorporated into the Proposed RMP presented in this document.

L4-4 The management actions in Alternative B have been incorporated into the Proposed RMP presented in this document.

L4-5 The management actions in Alternative B have been incorporated into the Proposed RMP presented in this document.

L4-6 Management actions in the Proposed RMP include the allotments in desert tortoise habitat outside ACECs as lands available for livestock grazing.

L4-7 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-8 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-9 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-10 This comment appears to be internally inconsistent since it voices support for Alternative D which would, in fact, remove most of the water developments supported by other portions of the comment. The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-11 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

Letter L4 Continued

L4-12 **Nonnative Upland Game Bird Habitat**
Lincoln County supports alternative E

L4-13 **Great Basin Big Game Habitat (Mule Deer, Pronghorn, and Elk)**
Lincoln County would support alternative E. We request that the wildlife be managed in balance with game and non-game species. The needs of both wildlife and non-wildlife needs to be factored in.

L4-14 **Great Basin (Sagebrush, Salt Desert Shrub, Woodlands, conifer Forests. And Riparian Habitat Types) (Rocky Mountain Big Horn Sheep)**
Lincoln County supports alternative E.

Special Status Species
Goal: Manage public land to maintain, restore, improve, or enhance populations and habitats which lead to the recovery of federally listed species and preclude the need for listings of proposed, candidate, state-protected, or sensitive species.

L4-15 **General Special Status Species**
Lincoln County supports alternative E.

L4-16 **Bats**
Lincoln County supports alternative C.

L4-17 **Great Basin Riparian Habitats**
Lincoln County supports alternative C.

L4-18 **Mojave Desert and Great Basin Riparian Habitats**
Lincoln County supports alternative C. We would request that the ACEC be managed to support multiple-use. When we have very productive forage years and you restrict livestock grazing altogether, then you compound the problems in the area through fire hazards.

L4-19 **Mojave Desert Mountain and Desert Scrub Habitats**
Lincoln County supports alternative E.

L4-20 **Mojave Desert Mountain and Desert Scrub Habitats**
Lincoln County supports alternative E.

L4-21 **Mojave Desert and Great Basin Desert Scrub and Salt Desert Shrub Habitats**
Lincoln County supports alternative A.

L4-22 **Great Basin (Sagebrush Obligates Habitat)**
Lincoln County supports alternative C. Lincoln County has worked a long time on its Sage-grouse plan and is willing to do what is necessary to preserve this species.

Responses to Letter L4

L4-12 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-13 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. This will provide for balanced management of both game and non-game species.

L4-14 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-15 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-16 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-17 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-18 Areas of Critical Environmental Concern are designated where special management is required to protect and prevent irreparable damage to: important historic, cultural, and scenic values; fish or wildlife resources; or other natural systems or processes.

L4-19 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-20 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-21 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-22 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. The Ely Field Office will continue to coordinate with Lincoln County on sage-grouse issues.

Letter L4 Continued

L4-23 **Great Basin Desert Shrub Habitat**
Lincoln County supports alternative A.

Wild Horses
Goal: Maintain and manage healthy and genetically viable wild horses inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple use relationship with other uses and resources.

L4-24 **Herd Management Area Establishment**
Population management
Genetic Health/Viability
Lincoln County supports alternative B. on the above three parameters.

Cultural Resources
Goal: Identify, protect, and classify at-risk archaeological resources, significant historic properties, and cultural landscapes.

L4-25 **Cultural Resource Use Allocation-Historic roads, trails, railways, highways, and associated sidings and stations.**
Lincoln County supports Alternative E.

L4-26 **Cultural Resource Use Allocation-Rock Art sites**
Lincoln County supports Alternative E.

L4-27 **Cultural Resource Use Allocation-Historic Town sites, Historic Mining Camps, Historic Mining Districts, and related Historic Buildings & Historic Standing Structures, and Historic Racetracks.**
Lincoln County supports alternative E.

L4-28 **Cultural Resource Use Allocation-Historic Cemeteries and isolated Historic Gravesites.**
Lincoln County supports Alternative E.

L4-29 **Cultural Resource Use Allocation-Ethnic Arboreal Narratives and Graphics and Bow Stave Trees.**
Lincoln County supports Alternative B.

L4-30 **Cultural Resource Use Allocation-Paleo-Indian Sites.**
Lincoln County supports Alternative B.

L4-31 **Cultural Resource Use Allocation-Formative Puebloan Sites.**
Lincoln County supports alternative C with the changes: Take out "Allocate no more than one site per watershed to Public Use."

Responses to Letter L4

L4-23 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-24 The management actions in Alternative B have been incorporated into the Proposed RMP presented in this document.

L4-25 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-26 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-27 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-28 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-29 The management actions in Alternative B have been incorporated into the Proposed RMP presented in this document.

L4-30 The management actions in Alternative B have been incorporated into the Proposed RMP presented in this document.

L4-31 In response to your comment, the text in Section 2.4.9.8 of the Proposed RMP and Final EIS has been revised to clarify the discussion of formative Puebloan sites.

Letter L4 Continued

L4-32 **Cultural Resource Use allocation-Rock shelter and Cave Sites.**
Lincoln County supports alternative C .

L4-33 **Cultural Resource Use Allocation-Prehistoric Complex Sites, Campsites, or Specialized Activity Areas.**
Lincoln County supports alternative C.

L4-34 **Cultural Resource Use Allocation-Tool stone Sources or Quarries.**
Lincoln County supports alternative C.

L4-35 **Cultural Resource Use Allocation-Historic Ranching and Livestock related Historic Sites, Buildings, Standing Structures, and Landscapes.**

Cultural Resource Use Allocation-Ethnohistoric Sites.

Cultural Resource Use Allocation-"Other" sites.
Lincoln County supports alternative B. on the above three parameters.

Paleontological Resources
Goal: Identify and manage at-risk paleontological resources; preserve and protect vertebrate fossils through best science methods; and promote public and scientific use of invertebrate and paleobotanical fossils.

L4-36 **Trilobite Collecting.**
Lincoln County supports a no-fee based registration system.

Visual Resources
Goal: Manage public land actions and activities consistent with District visual resource management class objectives.

L4-37 **Visual Resource Management**
Lincoln County supports alternative C.

Lands and Realty
Goal: Manage public lands in a manner that allows the retention of public land with high resource values and consolidates public land patterns to ensure effective administrations and improve resource management. Make available for disposal public lands that promote commodity development. Meet public needs for use auth0rizations such as right-of-way, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values. Utilize withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the desired purpose.

L4-38 **Retention of Public Lands**
Lincoln County supports alternative B.

Responses to Letter L4

L4-32 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-33 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-34 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-35 The management actions in Alternative B have been incorporated into the Proposed RMP presented in this document.

L4-36 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-37 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-38 The management actions in Alternative B have been incorporated into the Proposed RMP presented in this document.

Letter L4 Continued

Disposal of Public Lands

L4-39 Lincoln County generally supports some of alternative C and E. Lincoln County sent in new disposal request maps depicting where we see the areas that would best help development in our county. This addressed the 90,000 acres that is in the Lincoln County Conservation, Recreation, and Development Act. We would hope that the latest map given to BLM quite awhile ago would be taken into consideration. In alternative C, it shows Lincoln County with 200,243 acres up for disposal. Our new map depicts acreage in line with the 90,000 acres. We would like to keep Lincoln County within the range of the 90,000 acres that the Act allowed us. We also realize that there are still requests on your books from ranchers for DLE's. The county supports those requests.

L4-40

L4-41

L4-42 In alternative B, BLM identifies only 65,156 acres. That is 25,844 acres less than what the Act allows. Why such a large disallowance? You have never come to the county to say which lands asked for would be disallowed. We feel that there can be some middle ground reached. With our modified request into the BLM, and theses existing requests for DLE's, we feel that 65,156 acres is not an acceptable balance. We do not support the lesser acreage.

L4-43 Also, the portion showing the open space conveyance to Lincoln County is inaccurate. Through the Lincoln County Conservation, Recreations, and Development Act, it was identified that Lincoln County could receive up to 15,000 acres for parks and natural areas. Lincoln County will have requests for parks from all different parts of the county and not just the one identified.

Acquisitions

L4-44 Lincoln County supports alternative A.

Withdrawal of Public Land

L4-45 Lincoln County supports alternative C with the exception of differences in acres mentioned above on the Lincoln County side for the mineral entry.

Corridor Designations

L4-46 Lincoln County supports a designation of a ½ mile instead of 0.5. We feel that 3 miles is excessive. However, with the same explanation as above, we support the newer acreage request and feel that there needs to be acreages closer to our requested amount.

It also needs to be noted that Lincoln County created a Resolution in opposition to the Wind Generation proposal for Table Mountain and Mt. Wilson. If the new corridor proposed is to support this proposal, then we are in opposition to land withdrawal for that corridor also.

Communication Sites

L4-47 Lincoln County supports alternative C.

Land Use Authorizations (Rights-of-way, Permits, Leases, and Easements)

L4-48 Lincoln County supports alternative C.

Responses to Letter L4

L4-39 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-40 In response to your comment, the land disposal maps and legal descriptions have been changed in coordination the Lincoln County Commissioners. See Map 2.4.12-1 through 2.4.12-4.

L4-41 In response to your comment, the land disposal maps and legal descriptions have been changed in coordination the Lincoln County Commissioners. See Maps 2.4.12-1 through 2.4.12-4 and Appendix I. Desert Land Entry (DLEs) are addressed in the criteria for disposal in the Proposed RMP presented in this document.

L4-42 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management direction would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes.

L4-43 Please refer to Section 2.4.12.2 in the Proposed RMP and EIS for a discussion of conveyance of lands for parks.

L4-44 The management actions in Alternative A have been incorporated into the Proposed RMP presented in this document.

L4-45 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-46 BLM's proposed corridor designations would be 0.5 or 1/2 mile wide as opposed to the 3-mile width considered in Alternative C. Proposed corridors are not intended to support any specific wind energy project.

L4-47 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-48 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

Letter L4 Continued

Renewable Energy
Goal: Provide opportunities for development of renewable energy sources such as wind, solar, biomass, and other alternative energy sources while minimizing adverse impacts to other resources such as wildlife and visual resources.

Wind and Solar Energy
L4-49 Lincoln County would support wind and or solar energy in our County. However, even though your map 2.4-25 does not show wind energy into to Lincoln County, we know that Mt. Wilson and Table Mountain are under consideration. Lincoln County has adopted a Resolution in opposition to those two sites. BLM has copies of those Resolutions. There are other sites that could be looked at within our county without tearing up those two mountain tops.

L4-50 Lincoln County has never been contacted as far as solar projects.

Travel Management and Off-Highway Vehicle Use
Goal: Provide and maintain suitable access to public lands. Manage off-highway vehicle use to protect resource values, promote public safety, provide off-highway vehicle opportunities where appropriate, and minimize conflict.

Transportation Plan
L4-51 Lincoln County supports alternative C.

Off-highway Vehicles
L4-52 Lincoln County supports alternative C. We do not support restriction of all cross country off-vehicle travel. If you restrict 100% of all cross country off-highway vehicle use,
L4-53 limiting off-highway vehicles to only designated roads then how do you plan to enforce these restrictions? What is BLM's designation as a designated road? Also, since Lincoln County Road Department maintains a good percent of all BLM roads in Lincoln County, who do you expect to maintain these designated roads that will be getting a tremendous amount of usage?

Recreation
Goal: Provide quality settings for developed and undeveloped recreations experiences and opportunities while protecting resources.

Special Recreation Management Areas.
L4-54 Lincoln County supports alternative C. As Lincoln County is now and will continue to be the recreation destination of Clark County and surrounding areas, we would encourage alternative C. As the population of Lincoln County grows, we will need more recreation opportunities. If we can offer diversified recreation opportunities in different areas, then maybe there won't be such over use in concentrated areas.

Special Recreation Permits
L4-55 Lincoln County supports alternative C. However if you choose to take the guides through a competitive bid process, here are our thoughts. If there is a competitive bid,

Responses to Letter L4

L4-49 Please refer to Section 2.4.13 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of wind and solar energy development. Potential development areas for these forms of renewable energy have not been designated in the Proposed RMP, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Applications received for wind or solar energy development would be subject to NEPA analysis in coordination with local, state, and other federal agencies. Impacts to visual resources and recreation would be analyzed. Please also refer to Appendix F, Section 3, in the Proposed RMP and Final EIS for the BLM Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS.

L4-50 Please refer to Response to Comment L4-49.

L4-51 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-52 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. Your comment has been noted.

L4-53 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify criteria that may be used when designating routes in a project-specific transportation plan. The public will be invited to participate in the transportation planning process.

L4-54 Please refer to Section 2.4.15.1 in the Proposed RMP and Final EIS for a discussion of recreation management on BLM-managed public land in Lincoln County.

L4-55 In response to this and similar comments, the management action in Section 2.4.15.2 of the Proposed RMP and Final EIS regarding outfitter and guide permits has been revised.

Letter L4 Continued

L4-55 only the outfitters with the largest bank accounts will ever secure a permit. That would effectively take out all of the local guides. This is not a fair way. We would recommend that if you elect to go out to restricting permits, then you do it on a draw basis… not monetary.. Draw for ten permits, using the idea that the draw would come from those parties who have had a permit for the past 3 years. The guides that have hunted in the areas for the past three years and who receive a permit through a draw, would hold that permit for a period of five years. If someone drops out, that permit could be replaced and would continue for the remainder of the five year period of time. After five years, the permits could be re-drawn for another five years.

Livestock Grazing

Goal: Manage the public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health.

L4-56 **Lands Available for Livestock Grazing**
Lincoln County supports alternative E.

L4-57 **Permit Administration**
Lincoln County supports alternative C.

L4-58 **Kind of Livestock.**
Lincoln County supports alternative A

L4-59 **Livestock Management in Bighorn Sheep Ranges**
Lincoln County supports alternative A.

L4-60 **Non-use Relinquished Permits**
Lincoln County supports alternative C.

L4-61 **Temporary Nonrenewable**
Lincoln County supports alternative A.

L4-62 **Water Hauling**
Lincoln County supports alternative A.

Management Common to All Alternatives

L4-63 **Fuel wood Collection**
Lincoln County supports alternative E.

L4-64 **Pinyon Pine Nut Harvesting**
Christmas Tree Harvesting
Post and Pole Harvesting
Lincoln County supports alternative A on all three of the above.

Responses to Letter L4

L4-56 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-57 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-58 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-59 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-60 The management actions in Alternative C have been incorporated into the Proposed RMP presented in this document.

L4-61 The management actions in Alternative A have been incorporated into the Proposed RMP presented in this document.

L4-62 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-63 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-64 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

Letter L4 Continued

L4-65 **Seed Collection**
Lincoln County supports alternative B and C

L4-66 **Cactus and Yucca Collection**
Lincoln County supports alternative E

Geology and Mineral Extraction
Goal: Allow for meeting the Nation's energy needs while providing environmentally responsible productions of fluid leasable minerals, and geophysical exploration for energy resources on Public Lands. Allow development of solid leasable and locatable minerals in a manner to prevent undue and unnecessary degradation, meet public demand, and minimize adverse impacts to other resource values.

L4-67 **Fluid Leasable Minerals**
Lincoln County supports alternative C, with the notation that the 200,243 acres is more than is being asked for by Lincoln County. Our request is that we have the opportunity to have up to 90,000 acres for disposal within our County which is in accordance with the legleslative action taken in 2004.

L4-68 **Solid Leasable Minerals**
Lincoln County supports alternative C. Same notation as above.

L4-69 **Locatable Minerals**
Lincoln County supports alternative C. Same notation as above.

L4-70 **Saleable Minerals**
Lincoln County supports alternative C. Same notation as above.

Watershed Management (2.5.19)
Goal: Manage watersheds to restore and maintain resistance and resiliency to disturbances.

L4-71 Allocation of additional Forage as a Result of Restoration Actions
Lincoln County supports alternative E.

Fire Management (2.5.20)
Goal: Provide and appropriate management response to all wildland fires, with emphasis on firefighter and public safety, consistent with overall management objectives.

L4-72 **Fire Management**
Lincoln County supports alternative E. Within this district we have

Responses to Letter L4

L4-65 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-66 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-67 Thank you for expressing your support for Alternative C for fluid leasable minerals, solid leasable minerals, locatable minerals, and saleable minerals. The Proposed RMP for minerals (Section 2.4.18) has been revised to allow mineral activities in some areas proposed for closure or withdrawal in the Draft RMP and EIS. Where necessary, additional restrictions have been developed to ensure protection of the environmental features of concern. Thus, the difference between Alternative C and the Proposed RMP has been reduced. The acreage identified for disposal in Lincoln County has been reduced from the Draft RMP and EIS through consultation with the Lincoln County Commission. The Proposed RMP concentrates land disposals around the communities for economic development, and the Ely Field Office has determined that the disposal of the proposed acreage will more than accommodate needs during the life of the plan.

L4-68 Please refer to Response to Comment L4-67.

L4-69 Please refer to Response to Comment L4-67.

L4-70 Please refer to Response to Comment L4-67.

L4-71 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-72 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

Letter L4 Continued

Monitoring of Noxious and invasive Weeds (2.5.21.2)
Goal: Evaluate areas of interest for special designation and appropriately manage those areas that meet necessary requirements.

L4-73 **Areas of Critical Environmental Concern**
Lincoln County supports alternative E.

L4-74 **Condor Canyon**
Lincoln County supports alternative B.

L4-75 **Lower Meadow Valley Wash**
Lincoln County supports alternative C. We want to ensure that the existing roads be maintained through this area. We recommend that all existing roads and trails be left open, and that you clarify your statement that "off-highway vehicles are closed. If there are roads being left open, are you stating that there will be no allowances for a 4-wheeler or a jeep to travel on these roads? This should be re-stated.

L4-76 We would also like to ensure that if there is a right of way needed through this area, it is still possible. As our Lincoln County is growing, the need for existing roads and the possibility of needed rights of way are in the future. We also do not want to close this entire area to the possibility of grazing, so we strongly request that you keep those options open.

L4-77 **Mount Irish**
Lincoln County supports alternative A.

L4-78 **Pahroc Rock Art**
Lincoln County supports alternative B.

L4-79 **Shooting Gallery**
Lincoln County supports alternative B. We would like to make sure that the grazing option is kept open.

L4-80 **Shoshone Ponds**
Lincoln County supports alternative B. We would like to make sure that the grazing option is kept open.

L4-81 **Back Country Byways**
Lincoln County supports alternative C. We would like to continue with our existing byway; we support the Silver State Trail and have done a lot of work on that trail, and we support bring on the Rainbow Canyon Byway.

L4-82 **Wilderness Study Areas**
While Lincoln County went through the process of our Lincoln County Bill, we had a lot of meetings with a lot of input on the wilderness study areas. We worked hard to have the areas opened back up to multiple uses. We support Alternative C.

Responses to Letter L4

L4-73 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-74 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-75 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning will occur in the Ely RMP planning area. As discussed in Section 2.4.22.1 of the Draft RMP and EIS and Proposed RMP and Final EIS, off-highway vehicle use would be limited in the Lower Meadow Valley Wash ACEC. This would not include secondary county and BLM roads. Minor roads and trails could be closed. These closures would be developed during preparation of the management plan for the ACEC, which is an implementation-level activity. BLM anticipates that Lincoln County would want to be involved in the preparation of this management plan.

L4-76 This ACEC would be an avoidance area for rights-of-way; however, proposals will be considered by the Ely Field Office when project-specific plans for rights-of-way are submitted by the County and evaluated by the Field Office. Livestock grazing would be controlled through terms and conditions on the grazing permit.

L4-77 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-78 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-79 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. As noted in the Draft RMP and EIS, livestock grazing in this proposed ACEC would continue under this alternative with some limitations.

L4-80 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. As noted in the Draft RMP and EIS, livestock grazing in this proposed ACEC would continue under this alternative with some limitations.

L4-81 Please refer to Section 2.4.22.2 in the Proposed RMP and Final EIS for a discussion of both the Silver State Trail and Rainbow Canyon for designation as Backcountry Byways.

L4-82 In response to your comment, the text in Section 2.4.22 of the Proposed RMP and Final EIS has been revised to remove discussion on management of lands with wilderness characteristics outside of designated wilderness.

Letter L4 Continued

L4-82 Lincoln County feels that there has been a tremendous amount of wilderness designated in our County, with the potential of even more through the White Pine bill. In alternative B, although it stipulates that other multiple uses would be emphasized, it also states that management restrictions would be applied to reduce impacts to **some** or **all** of the wilderness characteristics **outside of designated wilderness or Wilderness Study Areas**. This statement is so broad and the areas undefined that it comes close to re-doing the wilderness boundaries. The way this reads is: BLM will, under its selection, put as many restrictions as it wants to and enlarge any of the areas around wilderness and study areas as it elects to. Lincoln County disagrees with this. There are no limitations on boundaries or restrictions.

Table 4.1-1

Climate Air Quality

Goal: Meet all applicable local, state, Tribal, and National Ambient Air Quality Standards under the Clean Air Act (as amended), and prevent significant deterioration of air quality within the Ely District from all direct and authorized actions.

L4-83 Lincoln County supports alternative E.

Water Resources

Goal: Restore and maintain the chemical, physical, and biological integrity of the waters in the Ely District to maintain healthy ecological systems while sustaining multiple uses.

L4-84 Lincoln County supports alternative E.

Soil Resources

Goal: Maintain or improve long-term soil quality.

L4-85 Lincoln County supports alternative C. However, under Fire Management, we don't feel that all wildland fires should be suppressed. Although we support the use of more woodland products, we also understand that with full suppression comes the possibility of high-intensity fires. This possibility does not support our ideas for woodland products. We would support the Fire Management under alternative B.

L4-86

Vegetation

Goal: Where possible, manage vegetation resources to achieve or maintain resilient ecological conditions while providing for sustainable multiple uses and options for the future across the landscape.

Responses to Letter L4

L4-83 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-84 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-85 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-86 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. Under this alternative, full suppression will not be applied to all wildfires in Lincoln County.

Letter L4 Continued

L4-87 Lincoln County supports alternative E.

Fish and Wildlife (4.6)

Interactions with Other Programs

Goal: In cooperation with the Nevada Department of Wildlife, manage suitable aquatic habitats to sustain nonnative fisheries and minimize conflicts between nonnative and native fish species. (Bonneville cutthroat trout are discussed under Special Status Species.) Native nongame fisheries are discussed in the Special Status Species section.

L4-88 Lincoln County supports alternative C, however, we would prefer that fires and prescribed burning would continue to be used in combination with other resource programs to actively reduce fuels. We do not agree with full suppression of wildfires.

Goal: In cooperation with Nevada Department of Wildlife, provide habitat for wildlife (i.e. forage, water, cover, and space) that is of sufficient quality and quantity to support productive and diverse wildlife populations in a manner consistent with the principles of multiple-use management; to enhance biological diversity; and to sustain the ecological, economic, and social values necessary for all species.

L4-89 Lincoln County supports alternative E.

Special Status Species (4.7)

Plant Species

Goal: Manage public land to maintain, restore, improve, or enhance populations and habitats which lead to the recovery of federally listed species and preclude the need for listings of proposed, candidate, state-protected, or sensitive species.

L4-90 Lincoln County supports alternative C. However, we do not support full suppression of wildfires.

Aquatic Species

Goal: Manage public land to maintain, restore, improve, or enhance populations and habitats which lead to the recovery of federally listed species and preclude the need for listings of proposed, candidate, state-protected, or sensitive species.

L4-91 Lincoln County supports alternative C.

Responses to Letter L4

L4-87 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-88 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. Under this alternative, full suppression will not be applied to all wildfires in Lincoln County.

L4-89 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-90 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. Under this alternative, full suppression will not be applied to all wildfires in Lincoln County.

L4-91 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

Letter L4 Continued

Wildlife Species (4.7.3)

Goal: Manage public land to maintain, restore, improve, or enhance populations and habitats which lead to the recovery of federally listed species and preclude the need for listings of proposed, candidate, state-protected, or sensitive species.

L4-92 Lincoln County supports alternative E.

Wild Horses (4.8)

Goal: Maintain and manage healthy and genetically viable wild horses inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple use relationship with other uses and resources.

L4-93 Lincoln County supports alternative E.

Cultural Resources (4.9)

Goal: Identify, protect, and classify at-risk archaeological resources, significant historic properties, and cultural landscapes.

L4-94 Lincoln County supports alternative E.

Paleontology (4.10)

Goal: Identify and manage at-risk paleontological resources (scientific value), preserve and protect vertebrate fossils through best science methods, and promote public and scientific use of invertebrate and paleobotanical fossils.

L4-95 Lincoln County supports alternative E. However, again we request that the corridors are ½ mile wide.

Visual Resources (4.11)

Goal: Manage public land actions and activities consistent with District visual resource management class objectives.

L4-96 Lincoln County supports alternative C. However, again we request that the corridors are ½ mile wide.

Lands and Realty (4.12)

Goal: Manage public lands in a manner that allows the retention of public land with high resource values and consolidates public land patterns to ensure effective administration and improve resource management. Make available for disposal public lands that

Responses to Letter L4

L4-92 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-93 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-94 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-95 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. BLM's proposed corridor designations would be 0.5 or 1/2 mile wide as opposed to the 3-mile width considered in Alternative C.

L4-96 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. BLM's proposed corridor designations would be 0.5 or 1/2 mile wide as opposed to the 3-mile width considered in Alternative C.

Letter L4 Continued

promote community development. Utilize withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the desired purpose.

L4-97 Lincoln County supports some of alternative C. Lincoln County sent in new disposal request maps depicting where we see the areas that would best help development in our county. This addressed the 90,000 acres that is in the Lincoln County Conservation, Recreation, and Development Act. We would hope that the latest map given to BLM quite awhile ago would be taken into consideration. In alternative C, it shows Lincoln County with 200,243 acres up for disposal. Our new map depicts acreage in line with the 90,000 acres. We would like to keep Lincoln County within the range of the 90,000 acres that the Act allowed us. We also realize that there are still requests on your books from ranchers for DLE's. The county supports those requests also.

Goal 2: Meet public needs for use authorizations such as rights-of-way, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values.

L4-98 Lincoln County supports alternative C. However, we feel that the width of the corridors could be ½ mile wide.

Renewable Energy (4.13)

Goal: Provide opportunities for development of renewable energy sources such as wind, solar, biomass, and other alternative energy sources while minimizing adverse impacts to other resources such as wildlife and visual resources.

L4-99 Lincoln County supports alternative E. Please note that Lincoln has signed a resolution stating that we do NOT support wind energy on top of the Mt. Wilson area nor on the Table Mountain area. We are not in opposition to wind energy, however just not in those two areas. We have sent copies of those Resolutions to all of our Nevada Delegation as well as BLM in the Ely Office.

L4-100

Travel Management and Off-highway Vehicle Use. (4.14)

Goal: Provide and maintain suitable access to public lands. Manage off-highway vehicle use to protect resource values, promote public safety, provide off-highway vehicle opportunities where appropriate, and minimize conflict.

L4-101 Lincoln County supports alternative C.

Recreation (4.15)

Goal: Provide quality settings for developed and undeveloped and recreation experiences and opportunities while protecting resources.

L4-102 Lincoln County supports alternative C.

Responses to Letter L4

L4-97 Please refer to Responses to Comments L4-40, 41, and 42.

L4-98 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. BLM's proposed corridor designations would be 0.5 or 1/2 mile wide as opposed to the 3-mile width considered in Alternative C.

L4-99 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-100 Please refer to Response to Comment L4-49.

L4-101 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-102 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

Letter L4 Continued

Livestock Grazing (4.16)

Goal: Manage the public lands to provide for a level of livestock grazing consistent with multiple-use, sustained yield, and watershed function and health.

L4-103 Lincoln County supports alternative C. Again, we do not agree with full suppression of wildland fires.

We would like to make sure that grazing is still maintained and that it is noted that Lincoln County is not asking for 200,243 acres of land disposals.

Woodland and Native Plant Products (4.17)

Goal: Provide opportunities for traditional and non-traditional uses of vegetation products on a sustainable, multiple-use basis.

L4-104 Lincoln County supports alternative C. We have in certain areas, over populated areas with pinyon-juniper trees. These areas especially need to be thinned out. However, under the fire management section fire suppression is the part that we do not agree with. Although it would help with the availability of the product in the front end, with full suppression, it could destroy most of the product in the long run. We would request the fire management be somewhere in the middle of A, B, and C.

Geology and Mineral Extraction (4.18)

Goal: Allow for meeting the Nation's energy needs while providing environmentally responsible production of fluid leasable minerals, and geophysical exploration for energy resources on Public Lands.

L4-105 Lincoln County supports alternative C.

Goal 2: The development of solid leasable minerals would occur in a manner to prevent undue and unnecessary degradation.

L4-106 Lincoln County supports alternative E.

Salable Minerals (4.18.3)

Goal: Allow development of saleable minerals in a manner that would prevent undue and unnecessary degradation, meet public demand, and minimize adverse impacts to other resource values.

L4-107 Lincoln County supports alternative E.

Responses to Letter L4

L4-103 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. As mentioned in responses to previous comments, the Proposed RMP does not require full suppression of wildfires, will continue to allow grazing, and is designating approximately 90,000 acres of land for disposal in Lincoln County.

L4-104 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. Under the Proposed RMP, managed and prescribed fire will continue to be a tool used for vegetation management and watershed restoration.

L4-105 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-106 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-107 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

Letter L4 Continued

Watershed Management (4.19)

Goal: Manage watersheds to restore and maintain resistance and resiliency to disturbances.

L4-108 Lincoln County supports alternative E.

Fire Management (4.20)

L4-109 Lincoln County supports alternative C. Again without the use of full suppression.

Noxious and Invasive Weed Management (4.21)

L4-110 Lincoln County supports alternative C.

Special Designation (4.22)

L4-111 Lincoln County supports alternative C.

Economic Conditions (4.23)

L4-112 Lincoln County supports alternative C.

Lincoln has been involved with the Resource Management Plan/ Environmental Impact Statement for the Ely District for almost three years. We hope our comments will be taken into consideration and if there are any questions on our response, please feel free to contact myself or Commissioner Ronda Hornbeck.

Sincerely,

George T. Rowe

George T. Rowe, Chairman
Lincoln County Commission

Responses to Letter L4

L4-108 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

L4-109 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document. Also refer to Response to Comment L4-104.

L4-110 The management actions in Alternative C have been incorporated into the Proposed RMP presented in this document.

L4-111 The management actions in Alternative C and E have been incorporated into the Proposed RMP presented in this document.

L4-112 The management actions in Alternative E have been incorporated into the Proposed RMP presented in this document.

Letter N1

Dear Gene,

N1-1 At a meeting of the Baker Area Citizens Advisory Board on Tuesday, November 22, a decision was made to request an additional 30-day extension of the scoping period for the Draft RMP/EIS.

We realize that this is asking a great deal. However, a community meeting in the Baker area was not held heretofore, and a sizeable group of Snake Valley residents expressed intense interest in our having time to consider the Draft RMP very carefully together.

We are remiss in having failed to register the deadline for our comments; I can only say that the SNWA pipeline EIS has taken precedence, and effectively blinded us to other concerns.
We do recognize the tremendous amount of work that you and your staff have put into the Draft document, and we are determined to contribute in kind with comments about the long-range interests and concerns of the Baker area community.

Thanks for your kind consideration.

Jo Anne Garrett
Baker Area Citizens Advisory Board
775/ 234-7205

Responses to Letter N1

N1-1 The required comment period on a Draft RMP and EIS is 90 days. BLM elected to set a 120-day comment period for the Ely Draft RMP and EIS and did not formally extend this period. Although the BLM did not elect to extend the official comment period for this document, comments received after the end of the comment period were considered as late as practicable within the overall document revision and publication process. Comments that were received after the close of the comment period have been accepted and considered in the preparation of the Proposed RMP and Final EIS.

Letter N2

Gessnscott@aol.com

To whom it may concern:

My name it Scott Wilson, I am the Vice President of the Bushwhacker Motorcycle Club of MRAN. I believe that we need to have access to our public lands for racing and riding. The Blm needs to have let us use existing dirt roads, trails, washes and race course. Some land needs to be classified as open, it is unfair to OHV users to go from having 11.4 million acres designated as open to Zero. Our OHV use has provided valuable time with our family and close friends. We also provide valuable commerce to rural Nevada towns that we might not otherwise visit without our racing.

Sincerely,
Scott Wilson

N2-1

N2-2

Responses to Letter N2

N2-1 The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. Areas are designated as "open" for cross country vehicle use where there are no compelling resource protection needs, user conflicts, or public safety issues. No areas managed by the Ely Field Office were determined to meet those criteria. The Ely Field Office is designating a majority of the planning area as "limited" in the Proposed RMP. The "limited" designation would still provide for off-highway vehicle opportunities, including potential new off-highway vehicle trails, while managing for public safety and resource protection needs. In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify criteria that may be used when designating routes in a project-specific transportation plan. Not all dry washes would be suitable for OHV use; however, some may be designated as trails when transportation plans are prepared for a watershed or group of watersheds. The public will be invited to participate in the transportation planning process.

N2-2 Comment noted.

Dia:

Letter N3

November 28, 2005

Gene Drais
RMP Project Manager
U.S. Department of the Interior
Bureau of Land Management
HC33 Box 33500
Ely, Nevada 89301

Re: Draft Resource Management Plan/Environmental Impact Statement for the Ely District

Dear Mr. Drais,

Thank you for the opportunity to comment on the Department of the Interior's Draft Resource Management Plan and Environmental Impact Statement for the Ely District. Dia, a nationally-based non-for-profit art foundation, is the primary conduit for funding the construction of a significant sculpture in Garden Valley, Nevada, Michael Heizer's *City* project. Our primary interest is protecting this cultural resource, and our specific concerns regard the management of Visual Resources and Recreation.

I. 2.5.11 Visual Resources

> *City* is intrinsically connected to the valley that surrounds it. The monumental artwork, acclaimed as one of the great masterpieces of our time even in its unfinished state, spans over a mile-and-a-half by 1000' feet, and its abstract-sculptural forms are made largely by materials found at the site. Garden Valley was chosen by the artist over 30 years ago for its remote location and natural beauty, and the scale, isolation, and emptiness offer a sense of timelessness that is essential to experiencing the artwork.
>
> The sculpture is addressed in the BLM document on page 2.5-111, where it states:
>
> *Garden Valley is one of the few pristine, scenic valleys remaining in Nevada. It is surrounded by the Quinn Canyon, Grant, Worthington, and Golden Gate ranges and combined with those ranges, provides an excellent example of Nevada's Basin and Range ecological system. In addition, there is an internationally significant sculpture being completed within Garden Valley. The visual and sensory elements of the sculpture depend in large part on the pristine scenic quality of the land surrounding it. On completion, the sculpture is likely to attract many visitors annually to the area. The Visual Resources Management Class II for this special recreation*

Dia Art Foundation
535 West 22nd Street New York New York 10011
212 989 5566 Fax 212 989 4055 www.diaart.org

Letter N3 Continued

management area would serve to preserve the existing character of the landscape.

N3-1 We appreciate the BLM's recognition of the rare confluence of cultural and natural resources in Garden Valley, and highly support "Map 2.4-5/Visual Resource Management Classes Alternative B." If this area is designated, Dia will look forward to working together with the BLM to further protect the sculpture, and to maintain it for the future as a public resource.

N3-2 We also support livestock grazing, and recommends the BLM reconsider its statement that such traditional land uses be prohibited (page 4.11-4), within a Class II designation.

II. 2.5.15 Recreation

N3-3 Garden Valley is a delicate, high desert environment, and we support BLM's Map 2.4-33/Special Recreation Management Areas Alternatives B and E. In the proposed Garden Valley special recreation area, we look forward to working with the BLM to protect *City*, and to maintaining the surrounding pristine landscape from avoidable degradation. Further, we support Map 2.4-34/Off-highway Vehicle Use Emphasis Areas Alternative B and Map 2.4-37/Motorcycle Special Recreation Permit Areas Alternative B which provide motorcycle enthusiasts sufficient areas to ride.

N3-4 However, we strongly object to Map 2.4-38/Motorcycle Special Recreation permit Areas Alternatives C and E (also associated with Map 2.4-33/Special Recreational Management Areas Alternatives B and E). The introduction of the Alamo Motorcycle Special Recreation permit within Coal Valley would be detrimental to the sculpture, the surrounding environment, and the local ranching industry.

N3-5 It might be impossible to find in the entire United States such a union of majestic natural and manmade beauty as that represented by Garden Valley and the artwork within it, and its overall scenic qualities—combining desert, mountains, and cultural monuments—provide a rare cultural opportunity that should be protected. We support its inclusion, and that of Coal Valley, in a BLM Visual Resource Management class, and look forward to working together to maintain and preserve the existing character of this landscape for future generations.

Yours sincerely,

Michael Govan
President & Director

Responses to Letter N3

N3-1 Thank you for expressing your concerns. The Proposed RMP does not propose the Garden Valley special recreation management area for scenic qualities. However, the Garden Valley area continues to be identified for visual resource management Class II and Class III objectives. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans are prepared or evaluated.

N3-2 Thank you for your comment. Visual Resource Management classes do not restrict livestock grazing.

N3-3 Please refer to Response to Comment N3-1.

N3-4 Thank you for expressing your concern. The special recreation permit area in the Coal Valley area is based on historic motorized event courses. The type of issues raised in your comment will be considered by the Ely Field Office when the project-specific plan is prepared.

N3-5 Please refer to Response to Comment N3-1.

Letter N4

Project Manager
U.S. Dept. of the Interior
Bureau of Land Management
Ely field Office
HC 33 Box 33500
Ely, NV 89301

FRIENDS OF NEVADA WILDERNESS

September 28, 2005

RE: Ely Field Office RMP-EIS Comment Period

Dear Folks:

Thank you for the opportunity to provide comments on the Ely Field Office RMP. As you know, Friends of Nevada Wilderness has been around for 21 years working to protect our wild Nevada heritage. We have many members who live in or near lands managed by the Ely Field Office. Our members enjoy hiking, hunting, fishing, camping, wildlife watching, star gazing, photographing natural landscapes, painting, participating in special events, driving for pleasure and just plain exploring the wonderful backcounty of our public lands in eastern Nevada. Well managed public lands are important to our members for many, varied reasons. On behalf of our members, we welcome the chance to participate in these important planning decisions affecting our public lands.

Our comments will be addressed by topic with the bulk of the comments focused on Special Designations.

Wilderness Study Areas

The Ely Field Office has received copies both in hard copy and electronically of the wilderness proposals from the Nevada Wilderness Coalition during this comment period. I am incorporating them by reference into this document as well. Below is a summary of the proposals that involve BLM managed lands in White Pine County.

Nevada Wilderness Coalition

White Pine County Proposed Wilderness
(Amended: October 21, 2005)

Mount Grafton WSA (additions on the east)	76,948 acres
South Egan Range WSA	82,472 acres
Highland Ridge (FS/BLM)	78,808 acres
Government Peak	10,895 acres
Becky Peak	23,533 acres
Goshute Canyon WSA (additions to north & west)	55,846 acres
Blue Mass/Kern Mts.-	31,336 acres
Baldy Peak/Antelope Range-	33,147 acres
Bristlecone/Huesser Mt.	14,468 acres

Friends of Nevada Wilderness • P.O. Box 9754 • Reno, NV 89507 • phone 775 324-7667 • fax 775 324-2677
www.nevadawilderness.org • fnw@nevadawilderness.org
1700 East Desert Inn Road #406 • Las Vegas, NV 89109 • phone 702 650-6542 • fax 702 784-0616
Printed on recycled paper

Letter N4 Continued

N4-1 All lands identified by the Nevada Wilderness Coalition as having wilderness values should be managed with the following management prescriptions:

- ROS – Primitive category –to retain the previously identified wild character of the land.
- VRM-Class 1 - to retain the previously identified visual wild character of the land.
- Designated closed to off road vehicle use except for designated routes.
- Identified as closed to leasable mineral entry or closed after current leases have expired.
- Identified as closed for mineral entry for locatable minerals
- Identified as closed to saleable mineral entry.
- Should not be identified for land disposal– to be permanently retained in public ownership

N4-2 Alternative D under Wilderness Study Areas would be supported by Friends of Nevada Wilderness.

N4-3 In the Ely RMP/EIS on page 2.5-266, the document states that "The BLM would not designate new wilderness study areas through the land use planning process." BLM in fact has been designating WSAs as part of planning efforts well outside of the original inventory directed by FLPMA. We argue that the Ely Field Office does have the legal authority to identify wilderness study areas under section 202 of FLPMA as part of this planning process.

N4-4 As you know, the original April 2003 settlement agreement (Utah Settlement) between Secretary Norton and the State of Utah, where BLM abdicated its authority to designate any additional WSAs and subsequently rescinded Handbook H-1630-1 has been vacated by Judge Benson on September 9, 2005 and no longer has the force of a court consent decree.

Friends of Nevada Wilderness continues to be a part of the on-going litigation and we would be remiss to our members who use public lands managed by the Ely Field Office if we did not bring this to your attention again, during this comment period.

Other Special Designations

N4-5 We support converting some of the older special designated areas to ACECs but are concerned with what seems to be diminished protection for some of these areas. Specifically we would like to see:

- The Blue Mass Scenic area converted to an ACEC that encompasses the area that the Nevada Wilderness Coalition identified as having wilderness values including but not limited to its highly scenic and important archeological resources.

N4-6
- We are very supportive of the ACEC for the North Creek/Mt. Grafton area

N4-7
- A much expanded ACEC for the Huesser Mountain/Bristlecone Pine area

N4-8
- We support the creation of an ACEC for the Shooting Gallery

Responses to Letter N4

N4-1 The lands referenced in this comment have been addressed in the Lincoln County Conservation, Recreation, and Development Act of 2004 and the White Pine County Conservation, Recreation, and Development Act of 2006. The only remaining wilderness study areas managed by the Ely Field Office are found in eastern Nye County. Until Congress makes a determination on designation or release, these wilderness study areas will be managed by the Ely Field Office under the Bureau's Interim Management Policy for Lands Under Wilderness Review (BLM Handbook, H-8550-1) to preserve their wilderness characteristics.

N4-2 Comment noted.

N4-3 Please refer to Section 1.6.2.1 in the Proposed RMP and Final EIS for a discussion of the designation of wilderness.

N4-4 Comment noted.

N4-5 In response to your comment, the Ely Field Office considered the size of the Blue Mass Scenic Area ACEC but did not change the area proposed for designation. Please refer to Section 2.4.22.1 of the Proposed RMP and Final EIS for a description of the Blue Mass Scenic Area ACEC. As part of the ACEC regulations, the Ely Field Office may not use an ACEC designation as a substitute for wilderness suitability recommendation. As part of the White Pine County Conservation, Recreation, and Development Act of 2006, the Heusser Bristlecone Research Natural Area has been included in designated wilderness.

N4-6 The Shooting Gallery proposed ACEC are being carried forward in the Ely Proposed RMP. As part of the White Pine County Conservation, Recreation, and Development Act of 2006, the Mount Grafton proposed ACEC has been included in designated wilderness.

N4-7 Please refer to Response to Comment N4-5.

N4-8 Please refer to Response to Comment N4-6.

Letter N4 Continued

N4-9
- The cave resources in the Ely District are very special and need to have maximum resource protection. We believe they should all be protected as ACECs unless they are located within designated wilderness. We support their segregation from disposal and the general mining laws but these areas need to be withdrawn from all the mineral leasing and material sale laws. It is critical to protect these fragile underground resources and not let them be damaged by extractive activities.

N4-10
- The antiquities and archaeological sites should be withdrawn from mineral as leasing and remain segregated from disposal under the public land laws. These sites should receive maximum protection in the RMP management actions.

N4-11 Generally, we support Alternative B and the management actions outlined under this alternative for ACECs.

Transportation Plan

N4-12 Overall, we support Alternative B for solving the many and varied travel management issues facing the Ely Field Office. This will be a big step forward to helping to reduce the creation of more roads and the further fragmentation of important wildlife habitat.

N4-13 The recreation resource on our Nevada public lands is becoming increasing valuable: more people including our members want to recreate on a finite amount of public land. Many recreationists desire solitude, clean air, clean water, vast undeveloped landscapes, and a place to witness healthy natural systems thriving with native plants and wildlife

Special Recreation Management Areas

N4-14 We are very supportive of the creation of several of the Special Recreation Management Areas in Alternative B, especially those focusing on scenic, non-motorized recreation and hunting opportunities.

Special Recreation Permits

N4-15 We support the issuance of outfitter and guide permits for hunting and other special uses. We have concerns with the issuance of permits for truck events however. These can be extremely damaging to the resource. We would prefer that motorized events were limited to motorcycles.

Land Tenure

N4-16 While we strongly support privatizing lands adjacent to communities for needed community services and development, we are opposed to lands leaving public ownership for non-public reasons. We support lands being made available to the counties for parks or open spaces.

Responses to Letter N4

N4-9 Cave resources in the Ely RMP decision area are protected through a variety of means including the Ely Cave Management Plan, ACEC designation, wilderness and wilderness study area designation, Best Management Practices, and permit terms and conditions.

N4-10 Cultural resources in the Ely RMP decision area are afforded protection under a number of existing regulations, which the Ely Field Office must implement. In addition to the existing regulations, several ACECs are proposed to provide special management attention to protect cultural resources. The management prescriptions for these ACECs will protect them from mineral development and land disposals. Please refer to Section 2.4.22.1 in the Proposed RMP and Final EIS for management prescriptions by ACEC.

N4-11 Comment noted.

N4-12 Comment noted.

N4-13 Comment noted. Outdoor recreation is an important consideration for the management of public lands by the Ely Field Office.

N4-14 Comment noted. The management direction in Alternative B has been incorporated into the Proposed RMP presented in this document.

N4-15 In response to this and similar comments, the management action in Section 2.4.15.2 of the Proposed RMP and Final EIS regarding outfitter and guide permits has been revised. Special Recreation Permits for off-highway vehicle events are issued following site-specific environmental analysis and may contain special stipulations, such as a requirement to notify other permittees or a requirement to rehabilitate damaged roads in a timely manner.

N4-16 Comment noted.

Letter N4 Continued

In summary, we look forward to continuing to work with the Ely Field Office as this planning and implementation process goes forward. Please contact us if you have any questions or need additional information.

Sincerely,

Shaaron Netherton
Executive Director
Friends of Nevada Wilderness

Letter N5

Nevada Archaeological Association

P.O. Box 73145 Las Vegas, NV 89170-3145

November 23, 2005

Gene Drais, Project Manager
U. S. Department of the Interior
Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, NV 89301

NOV 2005

Dear Mr. Drais,

Enclosed please find comments concerning the Draft Resource Management Plan/Environmental Impact Statement for the Ely Field Office, Bureau of Land Management, from the Nevada Archaeological Association. We appreciate the opportunity to provide input for the management of cultural resources on public lands in Nevada. I have also submitted a copy of these comments as an attachment in an email to you as the web site listed for comments is not available at this time.

We offer our thanks for your efforts, and the efforts of your entire team, to design a meaningful and complete document to improve the conditions and ensure a healthy future for our public lands.

Sincerely,

Eva A. Jensen
Treasurer
Nevada Archaeological Association
P.O. Box 73145
Las Vegas, NV 89170-3145

Letter N5 Continued

Comments on the Ely District RMP Draft Plan

The Nevada Archaeological Association is concerned with the conditions and actions affecting archaeological sites and cultural resources on public as well as private lands. Our comments are directed toward the Cultural Resource sections of the Draft RMP.

Overall Impressions

N5-1 For a reputed public document, this is not very user friendly. For instance, there are numerous references to use categories used for cultural resource management, but these categories are not defined in the document. For parties outside the Federal Government the language is confusing and terms are not well defined. Perhaps an appendix with definitions of the categories and other cultural resource management terms, such as "level 1 documentation," should be added to the document. Including Information Memos NV-2004-004 and NV-2004-006 in this appendix would also be useful.

N5-2 The document also gives the impression that cultural resources are only managed through two national laws, the National Historic Preservation Act (NHPA) and the Archaeological Resources Protection Act (ARPA). The Native American Graves and Repatriation Act, the American Indian Religious Freedom Act, National Environmental Policy Act, regulations pertaining to the theft or destruction of government property, Bureau of Land Management policies, or the Nevada BLM/Nevada State Historic Preservation Office (SHPO) Protocol also have direct implications for management of Cultural Resources? Other state or local laws and regulations may also be applicable, such as state laws protecting graves? It may also be useful in discussion of NHPA, to consider information about the differences between Sec 106 and Sec. 110?

N5-3 From examination of the document, it appears as though there are four use categories for the Cultural Resource sections: Scientific Use, Public Use, Conservation, and Discharged from Management. These categories seem to be linked to National Register of Historic Places (NRHP) eligibility. It would be advisable to address the designation of sites that do not reach a national level of significance, but might be important as a State Register eligible property or a resource important to the local population. Those should also be considered in a management plan. Other questions that could be clarified are: If a site is placed into Public Use, but is being vandalized, does it need to be transferred to the Scientific Use category to mitigate impacts? How difficult is it to move a site from one use category to another?

N5-4

N5-5 The plan does not seem to be very flexible. Often, entire site types, or very high percentages of a site type, are going to be placed into a specific use category. This does

Responses to Letter N5

N5-1 Please refer to the Cultural section of the Glossary in the Draft RMP and EIS and Proposed RMP and Final EIS for definition of the cultural resource use categories mentioned in the text. The text in the Glossary has been expanded to include definitions of cultural resource inventory levels and HABS/HAER Level I documentation. In addition, in response to your comment, the text in Section 2.5.9 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of Cultural Resource Use Categories. As a standard practice, the BLM has chosen not to append the numerous IMs and similar documents referenced in the text, except in limited situations where they are critical to key management issues or would likely be of concern to a broad segment of the affected public.

N5-2 Please refer to Sections 1.8 (Relationships that are Key to the Ely RMP), 2.5.9 (Cultural Resources), and 3.9.3 (Cultural Management) in the Proposed RMP and Final EIS for a discussion of laws directing Federal cultural resource management.

N5-3 The Ely Field Office and Nevada SHPO have been coordinating with each other throughout the Ely RMP process, with the SHPO participating as a formal Cooperating Agency. This coordination will continue in the event a cultural site that does not reach a national level of significance, but may be important as a State-registered eligible site or resource important to the local population, is identified as a result of Ely Field Office land management activities.

N5-4 Please refer to Section 2.4.9 in the Proposed RMP and Final EIS for a discussion of moving a site from one use category to another use category.

N5-5 Please refer to Section 2.4.9 (management action CR-2) in the Proposed RMP and Final EIS for a discussion of cultural resource use allocation. The BLM Land Use Planning Handbook requires allocation of all cultural sites to a primary, but not exclusive, use category. It also recognizes that these are not exclusive use categories for any given site or type of site. In response to your comment, the text in Sections 2.4.9.9, 2.4.9.10, 2.7.9.7, 2.7.9.8, 2.7.9.9, 2.7.9.10, 2.8.9.8, 2.8.9.9, and 2.8.9.11 (management actions) has been revised to clarify the discussion of assigning cultural resources to use categories. There is no conflict between cultural resource use allocations and National Register status. Use allocations need to minimize conflict with National Register status. These conflicts will be addressed in the watershed management plan or site-specific activity plan where conflicts occur.

Letter N5 Continued

N5-5 not appear to be good management. Sites are potentially eligible under one or more of four criteria, which may or may not be an appropriate fit to the aforementioned use categories. Perhaps the alternatives should emphasize one management category over another, but not talk about absolute percentages when assigning the categories. The approach of assigning entire site types to a single category is not even consistent within the document. For example, in Chapter 4 there is a statement about placing sites in a category that fits the "specific uses according to their nature and relative preservation values."

N5-6 There is some discussion of "encouraging" site stewardship within the Ely Field Office area (EFO). With the recent appropriations for the hiring of a Site Stewardship Coordinator by the SHPO and progress by the Nevada Archaeological Association towards making site stewardship a state-wide program, there is hope that site stewardship is here to stay in Nevada. The new RMP is an excellent opportunity to use site stewardship for an adaptive management approach. Categories assigned to sites can easily be moved from one category to another based on site condition and use determined from monitoring data provided by site stewards. This is more flexible than the one use category fits all approach used in most of the alternatives.

Chapter 2

N5-7 Throughout the section, under the heading "Threats:", additional potential threats that are not considered are: Incidental damage from hunting/trapping activities, competing management activities: ie: cattle grazing, wild horse management activities, watershed development etc., fire suppression and fuels reduction projects.

N5-8 What is the definition (or definitions) of "inventoried" under this section? Throughout the section under the heading "Priorities for Inventory:" the statement "Potential threats identified in Cultural Resource Project Plans" does not make sense. 'Sites or areas endangered by potential threats' can be inventoried but, can "potential threats" be inventoried?

N5-9 If sites have been determined eligible for the NRHP, some sort of inventory or documentation has already been done? The NRHP eligibility determination process usually follows an inventory, rather than the other way around. Clarifying the term "inventory" or rewording the priorities would be helpful.

N5-10 2.5.9.1: Hill Beachy is the man's name, so it shouldn't be referred to as the Hill-Beachy mail line.

N5-11 Alt. B: What does "National historic trails would be allocated to Public Use and should have Cultural Resource Project Plans prepared to better balance Public, Scientific, and Conservation Use" mean? If the trails are allocated to just Public Use, why are they still being managed under scientific and conservation uses?

Responses to Letter N5

N5-6 Please refer to Sections 2.4.9.1 through 2.4.9.13 in the Proposed RMP and Final EIS for a discussion of the use of site stewards at cultural sites. Site stewards will assist in monitoring the condition of sites as specified in the management action section for each site type. Please refer to Section 2.4.9 (management action CR-2) for a discussion of the flexibility of cultural resource use allocation categories.

N5-7 In response to your comment, the text in Section 2.4.9 of the Proposed RMP and Final EIS has been revised to clarify the discussion of threats to cultural resources. Identification of specific threats has been removed; however, threats and risks will still be used to prioritize actions as stated in Section 2.4.9.

N5-8 In response to your comment, the text in Sections 2.4.9.1 through 2.4.9.13 of the Proposed RMP and Final EIS has been revised to clarify the discussion of priorities for inventory for National Register eligible sites.

N5-9 In response to your comment, the text in the cultural resources portion of the Glossary of the Proposed RMP and Final EIS has been expanded to clarify the discussion of the term inventory.

N5-10 In response to your comment, the text in Section 2.4.9 of the Proposed RMP and Final EIS has been revised and the name Hill Beachey removed.

N5-11 Please refer to Response to Comment N5-1.

Letter N5 Continued

N5-12 2.5.9.2: Management common to all cultural resource use allocations states that, "Any rock art site with evidence of public use would be allocated to Public Use." What if the public use is vandalism or looting? What if the evidence is a single set of footprints from a passing hunter? It would be appear the statement under Scientific Use on page 2.5-87 should be moved to Management common to all use allocations, since the surface collection is presented as mitigation for impacts.

N5-13 Public Use: Many rock art sites are eligible under criterion C, and some are also eligible under criterion A. As such, impacts to their setting need to be taken into account. How will all of the proposed signs, kiosks, footpaths, etc., etc. impact the setting, and how will that be mitigated?

N5-14 Alternative D is already presented in Management Common to all alternatives.

N5-15 2.5.9.4

How do state laws pertaining to the protection of graves fit into your proposed management? It is the NAAs understanding that the BLM is not really in the business of managing graveyards. How does BLM policy fit into your proposed management? The NRHP only allows for the listing of cemeteries under special circumstances. If sites that are only eligible to the NRHP can be placed into use categories, how does that fit into your proposed management alternatives? This is one of the few sections where Discharged from Management is mentioned as an alternative, but the circumstances of this use allocation are not clearly defined.

N5-16 2.5.9.5

What is an "ethnic arboreal narrative and graphic"? Please define.

N5-17 How can the sites be in the Scientific Use category when you're promoting public access? Wouldn't that be the Public Use category?

N5-18 2.5.9.6

This is the best defined cultural resource category. Why aren't the other resources given this level of definition?

N5-19 The statement "Due to sensitivity, no sites would be allocated to public use, unless there is a better option to conserve the site" makes no sense. Perhaps it is missing a word or two.

N5-20 2.5.9.8

Why a Class II inventory and not a Class III?

Responses to Letter N5

N5-12 Please refer to the cultural resources portion of the Glossary in the Draft RMP and EIS and Proposed RMP and Final EIS for the definition of Public Use at rock art sites.

N5-13 The subject of this comment will be addressed on a site-specific basis according the Nevada BLM/SHPO Protocol.

N5-14 In response to your comment, the text in Section 2.5.9.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of Alternative D (rock art sites).

N5-15 In response to your comment, the text in Section 2.4.9.5 of the Proposed RMP and Final EIS has been expanded to clarify the National Register eligibility of historic cemeteries. The text in Section 2.4.9 of the Proposed RMP and Final EIS has been expanded to clarify sites Discharged from Management use.

N5-16 In response to your comment, the text in Section 2.4.9.6 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of Ethnic Arboreal Narratives & Graphics and Bow Stave Trees.

N5-17 Please refer to Response to Comment N5-1.

N5-18 Effort was put into defining the site type in Section 2.4.9.7 of the proposed RMP and Final EIS, as this site type is not well understood by the public. While professionals understand the term "Paleoindian", the definition is used for clarification purposes. Examples were provided in the Draft RMP and EIS to help clarify what sites would be managed under each site type. With the exception of the "Paleoindian" and the "Other" site types, all other site types are self defining.

N5-19 In response to your comment, the text in Section 2.5.9.7 (Paleoindian Sites: Management Actions) of the Proposed RMP and Final EIS has been revised to clarify the discussion of Paleoindian sites and Public Use allocations.

N5-20 In response to your comment, the text in the cultural portion of the Glossary of the Proposed RMP and Final EIS has been expanded to clarify the discussion of Class II and Class III cultural inventories.

Letter N5 Continued

N5-21 Under Scientific Use, why is estimating cost of restoration and repair only encouraged? Why is a partnership for this needed? Shouldn't this be done as part of an ARPA investigation? Paleo-environmental information recoverable from caves and shelters is important, but what about the archaeological record?

N5-22 Under Conservation, the cost of restoration and repair would be evaluated as soon as vandalism is detected. What about actually implementing restoration and repair?

N5-23 2.5.9.12

This states that no sites of these types have been identified in the EFO, but the Snake Creek Indian Burial Cave is discussed under Alt. A, Chapter 3 discusses these types of sites in various geographic locations in the EFO, and access to these types of sites is an issue identified in Chapter 4. Why the inconsistency? If these types of sites have not been identified, what are the steps that Ely is taking to identify them?

N5-24 Why does it appear that are these sites the only ones that will be verified with GPS?

N5-25 Alt. A discusses protection for the Snake Creek Indian Burial Cave under the Fire Management Action Modification Plan. What other steps are being taken to protect this site? What about state laws pertaining to burials?

N5-26 2.5.9.13

Intaglios and geoglyphs are often considered to be rock art, and have many of the rock art management issues. Why are they in this section, and not with rock art?

N5-27 2.5.10, Paleontology

Why is only trilobite management discussed in any depth? Chapter 3 discusses numerous paleontological resources beyond trilobites.

N5-28 Chapter 4

Page 4.9-2—How does geology threaten archaeology the same way as mineral extraction?

N5-29 Alt. B. This states that sites "already recorded or projected to occur" will be placed into one of three cultural use categories. What about sites not projected to occur or identified through additional inventory? There is some discussion of additional protection of sites that are placed in ACECs. Why is and the ACEC section the only place this is discussed? This should also be included in the appropriated discussion areas in Chapter 2.

N5-30 As it currently stands, it appears as though Alt. B is the best for cultural resource management.

Responses to Letter N5

N5-21 In response to your comment, the text in Section 2.4.9.9 of the Proposed RMP and Final EIS has been revised to clarify the discussion of restoration and repair of vandalized cave and rockshelter sites.

N5-22 Please refer to Response to Comment N5-21 for a discussion of restoration and repair of vandalized cave and rockshelter sites. Implementing restoration and repair of vandalized cultural sites is beyond the scope of the Proposed RMP. Implementation of restoration and repair of vandalized sites would be handled under an ARPA case. BLM is required to do restoration under ARPA. Implementation of restoration and repair is part of BLM's annual targets for which the BLM receives funding and for which results are audited.

N5-23 In response to your comment, the text in Section 2.4.9.13 of the Proposed RMP and Final EIS has been revised to clarify the discussion of Ethnohistoric Sites, Sacred Sites, Traditional Use Areas, and Traditional Cultural Properties. Also, please refer to Section 3.9.3 (Traditional Cultural Properties) for a discussion of steps the Ely Field Office has taken to identify Traditional Cultural Properties.

N5-24 In response to your comment, the text in Section 2.4.9.13 (Management Actions) of the Proposed RMP and Final EIS has been revised to clarify the discussion of GPS use on ethnohistoric sites, sacred sites, traditional use areas, and traditional cultural properties.

N5-25 Please refer to Sections 2.4.22, 2.5.9.12 and 2.5.22.5 in the Proposed RMP and Final EIS for a discussion of steps proposed to protect the Snake Creek Indian Burial Cave.

N5-26 In response to your comment, the text in Section 2.5.9.14 of the Proposed RMP and Final EIS has been revised to clarify the definition of "Other" and the reference to intaglios or geoglyphs has been removed

N5-27 In response to your comment, the text in Section 2.4.10 (Paleontological Resources) of the Proposed RMP and Final EIS has been expanded to clarify the discussion of trilobite management (Section 2.4.10.1). Please refer to Section 1.6.1 (Issues Addressed) in the Proposed RMP and Final FEIS for a discussion of why only trilobite management is covered in Chapter 2.

N5-28 In response to your comment, the text in Section 4.9 (Interactions with Other Programs) of the Proposed RMP and Final EIS has been revised to clarify the discussion of cultural resource management interactions with other programs. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N5-29 Please refer to Section 2.4.22 in the Proposed RMP and Final EIS for a discussion of proposed ACECs for the protection of cultural resources.

N5-30 Comment noted.

Letter N6

CONVERSATION RECORD | Time 2:00 pm Date 8/10/2005

Comment [COMMENT1]: When you start to fill in this document, you need to be in the Type over mode. The button left of your screen should read Ins to Type over.

TYPE
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Location of Visit/Conference:

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[X] OUTGOING

NAME OF PERSON(S) CONTACTED	ORGANIZATION	TELEPHONE NO
Charles Watson	NORA	775-883-1169

SUBJECT/FILE DESIGNATION
Golden Gate Range ACEC nomination as RMP public comment.

SUMMARY

N6-1 On July 22, 2005 Mr. Watson submitted field report on the Golden Gate Range in Lincoln and Nye counties suggesting they be designated as Wilderness, National Conservation Area or as an Area of Critical Environmental Concern. I called Mr. Watson to explain that the BLM could not designate either Wilderness or NCA's, and that the Ely Field Office had just released a draft Land Use Plan that was in the public comment period. Mr. Watson requested that his field report be considered a public comment on the plan recommending the area as an ACEC. I told Mr. Watson I would submit the report to the project manager for the Land Use Plan.

ACTION REQUIRED

Submit Mr. Watson's Field Report to Gene Drais to be entered as a public comment to the draft land use plan.

SIGNATURE [signature] 8/10/2005 DATE

OPTIONAL FORM 271 (12-74)
DEPARTMENT OF DEFENSE

Responses to Letter N6

N6-1 The Ely Field Office has reviewed the field report that you submitted as part of your comment (not published here but available for review in the Ely Field Office) and added the Golden Gate Range as an ACEC nomination. The ACEC review process determined that while the Golden Gate Range area met relevance, it did not meet importance. The archaeological, geological, and scenic resources found in the Golden Gate Range were not considered to be more than locally significant when compared with other similar resources found in Eastern Nevada. The Proposed RMP and Final EIS contains management actions, and references the Ely Cave Management Plan, BLM policy, and law, which would allow protective actions to occur for the archaeological and geological resources should the need arise, without highlighting these locations to the public. In addition, no threats were identified that would require additional site-specific special management to protect those resources found in the proposal area.

Letter N6 Continued

A note from
Charles S. Watson

Mr. Gene Kolkman July 22, '05
Field Manager
BLM, HC 33 Box 33501
702 N. Industrial Way
Ely, NV 89301-9408

Dear Gene:

I'm a geologist and enclosed looks like no mining prospect I've ever seen. It's man-made alright; but, definitely something archeological and "paleohuman". I trust you + your staff agree(?)

Many thanks,
Charlie Watson

Charlie Watson, Jr
NORA
P.O. Box 1245
Carson City, NV 89
watson@nora.org

see enclosed slides!

Letter N7

Hi Gene,

I am sorry I didn't finish this letter BEFORE Thanksgiving! I hope I am squeaking in under the deadline. I apologize for this being late. I am attaching the letter on PIC letterhead and I am copying the text of the letter below, in case your software doesn't accept our letterhead in Lotus/Word Pro. Thanks so much for the copies of everything—I did get info out to people in our area and I will do the same for the Final RMP/EIS and for anything else you send. Thanks so much, Elise

November 28, 2005

RE: DRAFT ELY DISTRICT RMP/EIS

ATTN: GENE DRAIS, RMP PROJECT MANAGER

Dear Gene,

Thank you for the opportunity to comment on the Ely District Draft RMP/EIS and for the workshop you and your staff scheduled in the Virgin Valley/Moapa Valley area. Partners In Conservation would like to submit a few comments regarding the Preferred Alternative and we would like to request that we be included in future mailing lists (or continue to be left on the mailing lists we are already on) and to request that we receive a copy of the Final RMP/EIS.

N7-1 Partners In Conservation focuses our attention and our comments today on maintaining traditional access for multiple users and on working cooperatively to encourage responsible OHV use and responsible use of our public lands in general. Many of the rural residents in northeastern Clark County have long-standing ties to Lincoln County and the Ely District. Many residents have close relatives or friends living in the Ely District, many rural residents hunt, fish, camp, ride ATVs or otherwise enjoy your beautiful public lands. Residents in Moapa Valley and Virgin Valley in particular enjoy the public lands in the southern part of your district-namely the Mormon Mountains, Clover Mountains, the Tule Desert region, Meadow Valley Wash area, the Delmars, etc. With the recent wilderness designations, we feel strongly that many areas have been preserved and that remaining areas need to be available for responsible use. We understand and support your new programmatic approach to manage public lands on a watershed basis. We however, have heard disconcerting rumors about the watersheds on Clover Mountain; these rumors seem to indicate some support for closing vast numbers of roads and severely restricting access to much of Clover Mountain, especially the northern part. We have heard rumors that some of Clover Mountain (OUTSIDE of the already designated wilderness areas) would be designated for non-motorized use and that some of Clover Mountain would be set aside for dirt bike racing only. We are opposed to any designations that do not allow

N7-2

N7-3

Responses to Letter N7

N7-1 The Ely Field Office appreciates your comment.

N7-2 Comment noted.

N7-3 The only areas of the Clover Mountains that will be closed to motorized access are the areas designated as wilderness in 2004. For additional information, please refer to Section 2.4.14.1 of the Proposed RMP and Final EIS for clarification of how comprehensive travel management planning will occur in the Ely RMP planning area.

Letter N7 Continued

N7-3 multiple use and access and we strongly urge you to continue the management policies that currently exist regarding roads; the ones that are open to motorized use now, continue to be open for motorized use.

N7-4 We support road management policies that provide for continued use on existing roads and favor a restrictive approach regarding open use as much of the public land has adequate roads and access already and traveling across the land is not necessary and is destructive if it happens on a large scale and continuous fashion. urge you to manage the watersheds of Clover Mountain, and indeed all areas, without restricting access to existing, current roads. In regards to restoration activities after the recent fires, we again urge you to

N7-5 keep existing, current roads open. There are numerous incidences where roads have stopped fires and closing any roads, even for a short time, not only restricts the public's right to use and enjoy the public lands, but could also add to the spreading of fires. Vegetation can

N7-6 quickly grow in roads that are closed and this regrowth eliminates the fire break that open roads provide. Partners In Conservation can provide pictures of many areas showing fire on one side of the road and the other side, unburned. Please carefully consider our comments in this area.

N7-7 In closing, Partners In Conservation respectfully asks you to consider our comments on the areas in the southern part of the Ely District; in particular we ask you to leave existing, current roads open to multiple use.

N7-8 We request being on any mailing list regarding any issue affecting the southern part of the Ely District, especially road management and travel management plans. We request being kept informed on any and all issues regarding Clover Mountain. In return, Partners In Conservation promises to work with the BLM Ely District cooperatively on any issue; we commit to providing information to the citizens of northeastern Clark County, and we look forward to positively assisting the BLM Ely District in many areas where we can be effective, i.e., education, getting information to residents, providing volunteers to assist with projects, promoting responsible use, etc. Thank you for the opportunity to comment.

Sincerely,

Elise McAllister

Administrator

Elise McAllister
Administrator
Partners In Conservation
PO Box 298
Moapa, NV 89025
702-864-2464 (voice mail)
702-864-2579 (home)
702-219-2033 (cell)
702-864-2253 (fax)
picorg@mvdsl.com

(See attached file: letter, draft RMP for Ely District.lwp)

Responses to Letter N7

N7-4 Please refer to Response to Comment N7-3 for a discussion of OHV management in the Clover Mountain area.

N7-5 The Ely Field Office will continue to conduct watershed analyses on the 61 watersheds in the Ely RMP decision area over the next several years. During these analyses, a careful evaluation of the role fire plays in a particular watershed will be made. Although roads can play a positive role during the suppression of a wildland fire, they may also contribute to greater problems in a watershed, such as erosion, than fire would. There are times when fires are beneficial to a watershed, and a road in that instance may stop a fire that is having a beneficial effect to the overall health of the watershed.

N7-6 Please refer to Response to Comment N7-5.

N7-7 Comment noted. Road designation is a process that will occur with public input subsequent to the approval of the RMP.

N7-8 The Ely Field Office appreciates your comments and will maintain you on the mailing list.

Letter N8

November 22, 2005

Bruce Flynn, Project Manager
U.S. Dept. of the Interior
Bureau of Land Management
Ely field Office
HC 33 Box 33500
Ely, NV 89301

RE: Ely District RMP-EIS Draft

Dear Sirs:

N8-1 Thank you for the opportunity to comment on the Draft RMP/EIS for the Ely District. I strongly support the basic theme of the plan, namely ecosystem health. The success or failure of the plan, however, will rest on the detailed plans and actions set in motion by this programmatic document. A document of this magnitude must necessarily be written in parts by a team of people and then assembled into a final plan.

N8-2 Unfortunately many of the sections don't track their predecessor section. I suggest that it is absolutely critical that a professional document editor be hired to reconcile the inconsistencies and produce a final coherent plan.

N8-3 Although the focus is on ecosystem health, other aspects of public land usage need detailed consideration in order to successfully implement the primary objective. Off highway vehicle (OHV) use is growing rapidly and will be a major obstacle to achieving ecosystem health if not dealt with effectively. Limiting the entire District to designated roads and trails is an excellent move. However, no details as to how or when this will be accomplished are offered. The plan creates OHV emphasis areas and motorcycle race areas but offers no details of how these areas will be managed to avoid conflicts and further the goal of ecosystem health.

N8-4 Grazing is a very important aspect of management for ecosystem health. The plan states that the goal is to meet standards and guidelines for rangeland health but no information is offered as to how much of District meets the standards at present and how much of it doesn't. What will be the consequences of meeting the standards as far as ranchers are concerned?

The following detailed comments are offered:

N8-5
- Table 2.4-1, p 2.4-7 Alt. E, Wildlife Water Developments: The proposal to install wildlife water developments because the public would like to have more animals sounds suspiciously like game farming. Wildlife is a key component of a healthy ecosystem and artificial water developments need to be based upon the carrying capacity of the land based upon pre-settlement water availability. Replacement of natural waters which have been lost is one thing, creating water sources just to increase the number of animals is suspect.

N8-6
- Table 2.4-1, p 2.4-9 Alt. E Great Basin Big Game Habitat: Habitat should be managed for healthy animal populations, not just to provide more animals for hunting. Hunting is a benefit of healthy game populations not the purpose for same.

N8-7
- Table 2.4-1, p 2.4-10 Alt. A and E. Rocky Mountain Bighorn Sheep. The document says that Rocky Mtn. Bighorns would be maintained only on Mts.

Responses to Letter N8

N8-1 Comment noted.

N8-2 The format for the Draft RMP and EIS was developed to meet CEQ requirements for EISs, BLM Land Use Planning Handbook guidelines for RMPs, and the Ely Field Office's need to have the RMP organized by resource program. Consistency concerns were raised by a number of commenters. Chapters 2 and 4 in the Proposed RMP and Final EIS, in particular, have been revised to correct inconsistencies among resource programs.

N8-3 Please refer to Section 2.4.14.1 of the Proposed RMP and Final EIS for clarification of how comprehensive travel management planning will occur in the Ely RMP planning area. Travel plans for the entire planning area are expected to be completed about 10 years after the RMP is approved. In addition, no off-highway vehicle emphasis areas would be designated by the Proposed RMP, and no special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP. Management of motorcycle event areas will be considered by the Ely Field Office when plans for specific events are submitted and evaluated.

N8-4 Please refer to Section 3.16 in the Draft RMP and EIS and Proposed RMP and Final EIS for discussion the number of grazing allotments in various condition categories, which is the best current summary of where standards are being met. Allotment evaluations have been completed on 102 allotments since 1990. Grazing management practices or levels of grazing use were changed if needed to achieve allotment objectives or progress toward achievement of the standards. It can be reasonably expected that livestock grazing on the 102 allotments administered by the Ely Field Office is progressing toward or meeting the standards for rangeland health. The most relevant question is not what the consequences are to ranchers for meeting the standards, but rather what the consequences are for not meeting the standards, since that is the situation in which additional grazing restrictions may be necessary.

N8-5 Although the BLM may install artificial wildlife water developments to "Meet the public demands for increased recreational opportunities ..." as stated in Section 2.4.6.7 of the Proposed RMP and Final EIS, that decision must still meet the goal of wildlife habitat management, which is listed at the beginning of Section 2.4.6.

N8-6 In response to your comment, the text in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to clarify the discussion of big game habitat management for increased game species distribution and densities.

N8-7 In response to your comment, the text in Table 2.9-1 and in Section 2.4.6.2 of the Proposed RMP and Final EIS has been revised to include the entire Snake Range.

Letter N8 Continued

N8-7 Grafton and Moriah. The population in the Snake Range (Great Basin NP) also needs to be considered in relation to domestic sheep grazing. Just because the Bighorns aren't on BLM land doesn't mean that they should be ignored.

N8-8
- Section 2.5.5.1, Pinyon-Juniper woodlands: Canopy cover is not the only measure of system health. Stem density and tree age are also important. There is no real discussion of mosaic patterns found under natural fire regimes where some areas have no tree cover while others have high density. Simply reducing canopy cover by thinning, as suggested, would be ineffective as the remaining trees would soon expand to fill the available space. Also, the use of the term "old-growth" to describe high percent canopy cover rather than stand age will be confusing to the public.

N8-9
- Section 2.5.5.2, Aspen: Healthy aspen stands, especially young stands, often have a high percent canopy cover and a relatively sparse understory. Percent canopy cover is not the only measure of stand health. In Alt. B and E, p 2.5-19 paragraph 3, grazing management is suggested as a tool to control conifer encroachment. This is nonsense, grazers eat aspen, not conifers.

N8-10
- Section 2.5.5.3, High Elevation Conifers: I trust that this section will be thoroughly revised as per the errata sheet. However, Alt B still does not accurately portray how high-elevation conifer communities behave. The natural fire interval in the Great Basin is typically measured in centuries. Proposing to initiate a disturbance regime which would disturb half the total ecosystem in just the life of this plan doesn't make sense. Old growth conifers support a diverse grouping of birds and animals which would be heavily impacted by large scale cutting or burning. This section is badly in need of a re-write.

N8-11
- Section 2.5.5.5 Sagebrush, Table 2.5-5, p 2.5-31 lists the number of acres of non-native seedings as 112,400 acres presently to be expanded to 168,600 under Alt. B and E. Does this mean that more acres will be seeded to non-natives or will seedings in other vegetation types be somehow converted to sagebrush? The number of acres in this table doesn't seem to agree with the figures in Table 2.5-8, p 2.5-48.

N8-12
- Section 2.5.5.7, Mojave Desert Vegetation: Alt A,E p2.5-43: The statement that resource uses (e.g., livestock grazing) would be managed to improve vegetation composition and protect critical desert tortoise habitat." is either a gross error or a cruel hoax. Livestock grazing has already been eliminated from the Desert Tortoise ACEC's to protect the tortoise and clearly more than a century of grazing has not improved the health of the Mojave Desert vegetation.

N8-13
- Section 2.5.5.9, Non-native Seedings, p 2.5-48 Alt B: The section talks about treating approximately 30% of the area and maintaining the other 70%. All vegetatation regimes are dynamic and cannot easily be maintained without some sort of disturbance (treatment). This section needs to be expanded. According to table 2.5-8, 40,400 acres of seedings (15%) are in the tree state while 132,00 acres (49%) are in the shrub state. In my experience virtually none of the seedings have reverted to trees and the sagebrush coming into seedings is in a very healthy young state. The objective in terms of vegetative composition needs to be clearly stated. Also, the statement "Areas would be seeded with species resistant to grazing." needs to be explained. Resistant to grazing generally means unpalatable

Responses to Letter N8

N8-8 The available data at this time is canopy cover. As further data collection continues, stem density and tree age can be collected. The desired range of conditions is the mosaic of a vegetative community. Desired future conditions will define the mosaic at the landscape scale. Refer to the revised text in the vegetation section and proposed monitoring plan in Section 2.4.23. The terms "overmature" and "old-growth" have been carefully defined and consistently used in the document in accordance with Natural Resource Conservation Service Ecological Site Descriptions and are not used interchangeably.

N8-9 As indicated in Section 2.4.5.3, percent canopy cover is only one of several parameters that would be used in the assessment of health conditions within this vegetation type. Grazing management (including protection from) is one of the most logical tools for encouraging aspen regeneration. The text related to Alternatives B and C has been revised to clarify this approach.

N8-10 In response to your comment and similar comments, the text in Section 2.4.5.4 has been revised in the Proposed RMP and Final EIS to clarify the proposed management of the high elevation conifer communities.

N8-11 The text in this and other vegetation sections has been revised in the Proposed RMP and Final EIS to clarify that native and nonnative seed would be used as appropriate to the management objectives of various vegetation types and individual situations. Nonnative species in seedings will be decided on a case-by-case basis.

N8-12 Although one may debate whether the objective is being achieved, the current management direction regarding vegetation management (including livestock grazing and other uses) in the Mojave Desert is as stated for Alternative A in the Draft RMP/Draft EIS (Section 2.5.5.7) and the Proposed RMP and Final EIS (Section 2.5.5.8). In response to this and other comments regarding vegetation management within the Mojave Desert the text in Section 2.4.5.8 in the Proposed RMP and Final EIS has been revised to provide additional clarification of the proposed management actions for these vegetation communities. In response to changes in vegetation condition that resulted from the South Desert Complex Fires of 2005, substantial additonal areas of the Mojave have been temporarily closed to livestock grazing while vegetation communities recover.

N8-13 The text for Section 2.4.5.10 has been revised in the Proposed RMP and Final EIS to clarify minor issues associated with the Draft RMP and EIS. The existing distribution of states shown in the Draft RMP and EIS is reasonably accurate and no changes have been made. Vegetation treatment methods and maintenance techniques will be selected on a case-by-case basis as the RMP is implemented.

Letter N8 Continued

N8-13 to grazing animals and this would seem to be inconsistent with the objective of non-native seedings.

N8-14
- Section 2.5.5.10, Monitoring of Vegetation, p2.5-49. This very important aspect of management gets short shrift. No detail is given as to how monitoring on the scale needed will be accomplished nor is there any mention of data archival, an area where the BLM has historically been very weak. The Bureau is very much in need of some new rapid assessment and monitoring techniques which can be done with the limited personnel available.

N8-15
- Table 2.5-11, p2.5-137, The map designations for the alternatives are reversed. Alt C should be map 2.4-31 and Alt B and E should be map 2.4-33.

N8-16
- Section 2.5.16.1, Lands Available for Livestock Grazing. p 2.5-142 Alt C and E. The Haypress allotment should be treated like any other allotment, even though it is managed for wild horses. To propose disposal of that allotment so that someone can graze wild horses on it would be a terrible precedent. By that logic all grazing allotments should be disposed of. I don't object to horses on that allotment but I strongly object to disposal.

N8-17
- Section 2.5.22.1 Areas of Critical Environmental Concern: There doesn't seem to be a consistent policy about what activities are permitted and which are not. For example fuelwood cutting is allowed in the Condor Canyon ACEC while prohibited in the Lower Meadow Valley Wash ACEC; both might benefit from removal of tamarisk but no other trees should be cut.

N8-18
- p 2.5-237, Heusser Bristlecone ACEC, Alt B and E are open for Saleable minerals. It doesn't make much sense that a high elevation Bristlecone ACEC would be open to gravel extraction.

N8-19
- p 2.4-259, Snake Creek Indian Burial Cave ACEC. Alt B and E. Plant materials may be collected by permit only yet it is open to fuelwood cutting. This doesn't make sense.

N8-20
- Section 2.5.22.4 Wilderness Study Areas, Alt. B and E: This section doesn't make sense. Wilderness Study Areas are to be managed so as to preserve Wilderness characteristics in a non-impaired state until Congress either designates or releases these areas. Emphasizing other multiple uses with restrictions doesn't fit with the goal of non-impairment. I strongly suggest a re-write of this section.

N8-21
- Table 4.1-1, p 4.1-23, Travel Management and OHV use, Alt E: The document states that" The designation of 734,000 acres emphasizing motorized recreation on designated roads and trails would help off-set the elimination of areas open to cross-country OHV use". This language suggests that there will be something different about designated roads and trails in the emphasis areas than in the rest of the District. What is it? OHV issues need to be dealt with in a very clear and unambiguous manner.

N8-22
- Table 4.4-1, p 4.1-24, Alt E: This section states:" while designating motorized trails could enhance recreation opportunities." What exactly does this mean? Enhanced compared to what?

N8-23
- Table 4.1-1, p4.1-27, Noxious and Invasive Weed Management, Alt E: It is not immediately clear how expanding the scale of vegetation treatments reduces the risk of establishment of noxious and invasive plants, especially if prescribed fire is a major treatment modality. This needs to be explained somewhere.

Responses to Letter N8

N8-14 The text of the Proposed RMP and Final EIS has been revised to address monitoring in more detail in Section 2.4.23. The content of this section, however, is not meant to substitute for the detailed monitoring plan that will be prepared following issuance of the Record of Decision.

N8-15 The comment is partially correct: Alternatives B and E are shown on Map 2.4-33; Alternative C is actually shown on Map 2.4-35. Maps have been renumbered in the Proposed RMP and Final EIS to reflect the chapter and section of their first appearance.

N8-16 Aliquot parts of the Haypress Allotment have been identified in the Proposed RMP for potential disposal but not specifically for a wild horse preserve. Any disposal would be in accordance with the Lincoln County Conservation, Recreation, and Development Act, would be a public process, and would be analyzed in accordance with the National Environmental Policy Act.

N8-17 Thank you for expressing your concerns. Special management actions are specific to each ACEC to protect the relevant and important values for that particular ACEC. With regard to tamarisk, it is not managed under Woodland and Other Plant Products (Section 2.4.17 of the Proposed RMP and Final EIS). Tamarisk is considered a noxious weed and will be managed as described in Section 2.4.21 of the Proposed RMP and Final EIS.

N8-18 As part of the White Pine County Conservation, Recreation, and Development Act of 2006, the Heusser Bristlecone Research Natural Area has been included in designated wilderness. Therefore, this area will be closed to saleable minerals.

N8-19 In response to your comment, the footnotes on Table 2.4-30 (Management Prescriptions for Proposed ACECs) in the Proposed RMP and Final EIS have been revised to clarify the discussion of collection of plant materials and fuelwood cutting in the Snake Creek Indian Burial Cave ACEC. Collection of plant materials and fuelwood cutting would be allowed in the ACEC, because these two activities would not impact the important values being protected by the special designation.

N8-20 In response to your comment, the text in Section 2.4.22.4 of the Proposed RMP and Final EIS has been revised to describe the interim management policy for Wilderness Study Areas, and the non-impairment criteria.

N8-21 In response to this and other comments, no special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP.

N8-22 In response to your comment, the text in Section 4.15 of the Proposed RMP and Final EIS has been revised to clarify the discussion of recreation impacts. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

Responses to Letter N8

N8-23 In response to your comment, the text in Section 4.21 of the Proposed RMP and Final EIS has been expanded to clarify that while treated areas are expected to increase the short-term vulnerability to weed establishment, this negative impact is more than offset by the long-term resistance of these areas to weed infestations following reestablishment of resilient perennial vegetation. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

Letter N8 Continued

N8-24
- Section 4.3, Water Resources, p 4.3-6, Alt B and E Recreation: Document states: "Additional overland travel opportunities may affect runoff and water quality". Restricting OHV use to designated roads and trails doesn't seem like it should offer "greater overland travel opportunities". Mistake?

N8-25
- Section 4.5, p 4.5-15 Alt B Management of Mojave Desert and Salt desert shrub vegetation. Non-native invasives are the single greatest threat to the vegetation of the Mojave but this subject is not addressed here. It should be.

N8-26
- Section 4.5, p 4.5-24, Alt E, Impacts From Other Programs, Line 6 states "Impacts from travel management and OHV use ....would be similar to Alt C." This would contradict section 2.5.14.2 Alt E which states that management of OHV use will be the same as Alt. B.

N8-27
- Section 4.7 Special Status Species, p4.7-9 Alt E, Travel Management and OHV use: This section states that vehicular traffic will be limited to designated roads and therefore there will be no impact to special status plants within OHV use emphasis areas. Limiting vehicles to designated roads in OHV use emphasis areas will be very difficult. The public will have a hard time understanding that in an OHV use area the restrictions are the same as everywhere else. Enforcement will be a management nightmare.

N8-28
- Section 4.7, p 4.7-10, Assumptions for Analysis, Line 1. The Muddy River is located in Clark County, outside the Ely District. See also p4.7-26.

N8-29
- Section 4.8 Wild Horses, p 4.8-14, Travel Management and OHV use. Line 4. States:" 4 of 6 areas still open of OHV use". This is inconsistent with OHV policy as stated in Section 2.5.14.2 Alt E.

N8-30
- Section 4.10 Paleontology, p 4.10-1 Goal: States "...and promote public and scientific use of invertebrate and paleobotanical fossils". Promoting the use means collecting, removing and eventually destroying the resource. There is no way to promote collection of a non-renewable resource without destroying that resource. This is not a good policy.

N8-31
- Section 4.10, p 4.10-3 Alt B Recreation. A no fee registration system is unlikely to prevent over collecting and destruction of the resource. Those people abusing the resource are unlikely to register.

N8-32
- Section 4.12 Lands and Realty, Alt E. p 4.12-7 Livestock Grazing. To identify the Haypress allotment for disposal sets a terrible precedent for disposing of public lands. I strongly object.

N8-33
- Section 4.14 Travel Management and OHV Use, Alt E. p 4.14-5. Why would effects associated with recreation and special designation management activities be similar to Alt C when the preferred Alternative for OHV use is Alt B as identified in Section 2.5.14.2, p 2.5-135?

N8-34
- Section 4.23 Economic Conditions, Table 4.23-1. The projected population growth for Lincoln and White Pine Counties fails to take into account any of the recent project approvals or trends. It is hopelessly out of date.

N8-35
- Table 4.28-1, p 4.28-7 Comins Lake expansion will increase water demand due to increased evaporation.

N8-36
- Section 4.28, p 4.28-16 first paragraph: states that: noxious and invasive weeds now infest approximately 168,000 acres of the Ely District and that cheatgrass and red brome are the primary problem. In fact, most of the Ely District is infested if cheatgrass and red brome are considered

Responses to Letter N8

N8-24 In response to your comment, the text in Section 4.3 of the Proposed RMP and Final EIS has been revised to clarify the effects of off-highway vehicle travel on water resources. Per Sections 2.4.14 and 2.6.14, there would be restriction of areas open to off-highway vehicular travel under the Proposed RMP and Alternative B. In addition, no special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP.

N8-25 In response to your comment, the text in several paragraphs related to Noxious and Invasive Weed Management in Section 4.5 of the Proposed RMP and Final EIS has been expanded to clarify the threat of non-native species within the Mojave ecosystem. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N8-26 In response to your comment, the text related to the Proposed RMP (Impacts from Other Programs) in Section 4.5 of the Proposed RMP and Final EIS has been revised. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N8-27 Please note that there are no off-highway vehicle use emphasis areas presented in the Proposed RMP. In addition, no special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP.

N8-28 The Muddy River watershed extends into Lincoln County via the tributary Dead Man Wash.

N8-29 In response to your comment, the text in appropriate paragraphs for the Proposed RMP and Alternative B and C in Section 4.8 of the Proposed RMP and Final EIS has been revised to clarify that the discussion relates to off-highway vehicle emphasis areas rather than to open areas. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N8-30 Following BLM policy, vertebrate fossils such as dinosaurs, mammals, fishes, and reptiles, and uncommon invertebrate fossils may be collected only by trained researchers under BLM permit. Collected fossils remain the property of all Americans and are placed in museums or other public institutions after study. Common invertebrate fossils, such as plants, mollusks, and trilobites, may be collected for personal use in reasonable quantities, but may not be bartered or sold.

N8-31 Registration will allow the Ely Field Office to enforce the BLM invertebrate collection policy (see Response to Comment N8-30). Anyone who is apprehended and has not registered, may be subject to penalties. This will give the Field Office a better ability to track use and reduce illegal commercial collection.

N8-32 Please refer to Response to Comment N8-16 for a discussion of the Haypress Allotment.

Responses to Letter N8

N8-33 In response to your comment, the text in Section 4.14 of the Proposed RMP and Final EIS has been revised to clarify the effects of recreation and special designations on travel management.

N8-34 The population projections presented in Table 4.23-1 were prepared by the State of Nevada Demographer and generally reflect continuation of long-term demographic trends, absent any major new developments. Reference to those projections was appropriate given that insufficient information was available regarding the timing, level of development, likelihood, and other characteristics about other new projects to develop an independent set of long-term population projections. More current projections are now available, and Table 4.23-1 in the Proposed RMP and Final EIS has been modified. However, the new projections do not alter the fundamental conclusions associated with the RMP alternatives.

N8-35 In response to your comment, the text in Table 4.28-1 of the Proposed RMP and Final EIS has been modified to address your comment. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N8-36 The 168,000 acres of weed infestation are derived from annual noxious weed and invasive species inventories that are conducted in the Ely RMP decision area. The 168,000 acres are an approximation of the acreage where the understory is dominated by cheatgrass, red brome, or other Nevada noxious or invasive species.

Letter N8 Continued

N8-37
- Section 4.28, p.4.28-26 paragraph 4. This section states that pumping of up to 7,000 acre-ft/year of bedrock groundwater would be expected to have no impact on bedrock springs. I don't know of any factual basis for making that statement. The Tule Desert is very dry and withdrawal of 7,000 acre-ft/year for 50 years will almost certainly impact some existing spring discharge somewhere.

N8-38
- Section 4.28.15, p 4.28-54, Impacts of the proposed action (Alt E): this section states that 656,000 acres would be designated as four motorcycle recreation permit areas, yet earlier in the document Alt E lists 1.6 million acres dedicated to motorcycle permit areas. Which is it? I strongly advocate for the lower acreage amount.

N8-39
I think that there are hundreds more inconsistencies and inaccuracies in the RMP/EIS but those listed above certainly give a strong indication of the work that needs to be done I have focused almost exclusively on the preferred alternative but the other alternatives also need to be written in a coherent and consistent manner to make this plan something that the Ely District can operate by for the next two decades.

Sincerely,

John E. Hiatt

John E. Hiatt
Conservation Chair
Red Rock Audubon Society
8180 Placid Street
Las Vegas, NV 89123
702-361-1171

Responses to Letter N8

N8-37 The discussion of the Toquop Energy Project in Section 4.28.3 of the Proposed RMP and Final EIS has been revised to reflect the potential change from a gas-fired plant to a coal-fired plant. Water demand would be reduced from 7,000 acre-feet/year to 2,500 acre-feet/year. The conclusion on the impact of groundwater pumping on bedrock springs is based on the analysis conducted for the original Toquop Energy Project EIS (as cited in Section 4.28.3), using the 7,000 acre-feet/year pumping rate. The lower pumping rate would be expected to have a lesser impact on springs; however, this conclusion will be confirmed in the EIS being prepared for the modified project.

N8-38 In response to your comment, the text in Section 4.28.15 of the Proposed RMP and Final EIS has been revised to reflect the amount of 1.6 million acres dedicated to motorcycle permit areas. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N8-39 Please refer to Response to Comment N8-2 for a discussion of inconsistencies within the Draft RMP and EIS.

Letter N9

Rocky Mountain Elk Foundation

ELY, NEVADA CHAPTER P.O. Box 151682 Ely, Nevada 89315

November 23, 2005

Gene Drais, RMP Project Manager
Bureau of Land Management
Ely Field Office, HC 33
Box 33500
Ely, Nevada 89310

NOV 2005 RECEIVED

Re: Comments on BLM's Draft Resource Management Plan/Environmental Impact Statement for the Ely District

Dear Mr. Drais:

The Ely, Nevada Chapter of the Rocky Mountain Elk Foundation has reviewed the Draft RMP/EIS for the BLM's Ely District and provides the following comments:

General Comment

N9-1 The proposed management of elk addressed in the draft contains contradictions and inaccurate information. The draft addresses elk in several sections, some as a non-indigenous species, and some where elk are included as an indigenous species. However, in at least one section of the draft, elk would be granted the same status as other indigenous wildlife. The fact is that very little, or no, research was done to determine if elk were in fact an indigenous wildlife species in the area encompassed by the Ely District. Attached documentation in exhibit form provides evidence that elk are in fact indigenous to Nevada, as well as White Pine County; therefore making it necessary to include elk as an indigenous wildlife species consistently throughout the draft.

Specific Comment

N9-2 2.5.6.6 *Parameter – Great Basin Big Game Habitat (Mule Deer, Pronghorn, and Elk):* The information in paragraph four on Page 2.5.60 under Alternative A, contradicts the information in paragraph two on Page 2.5.61 under Alternative B and in paragraph five on page 2.5-62 under Alternative E. Should either Alternative A or Alternative E be adopted elk would not be granted status as indigenous wildlife; however, in Alternative B elk are more appropriately included as indigenous wildlife.

N9-3 Despite the contradiction we maintain that elk are very much indigenous wildlife by definition. There is supporting documentation that elk were very much a part of the native wildlife species in White Pine County. Written documentation (Exhibit 1) in 1859 by Captain J.H. Simpson, Engineer Department of the U. S. Army titled "Explorations" "Great Basin of the Territory of Utah". Captain J. H. Simpson wrote, "An elk was seen yesterday in Stevenson's Canon and one to-day in Red Canon". These sightings were on

Responses to Letter N9

N9-1 In response to your comment and similar comments, corrections have been made in the Proposed RMP and Final EIS to recognize elk as native species to the area throughout all alternatives.

N9-2 Please refer to Response to Comment N9-1.

N9-3 Please refer to Response to Comment N9-1.

Letter N9 Continued

N9-3 the northern end of the Snake Range east of Ely. Despite the fact that Capt. Simpson was developing a direct wagon route from Camp Floyd to Genoa in the Carson Valley in 1859 his observation of elk in White Pine County is documented in the Snake Range. We submit that elk were present in other ranges of White Pine County as early as 1859, if not before. This documentation is proof that elk were indigenous species to White Pine County and therefore granted indigenous species status accordingly. Additional testimony (exhibit 2) continues to demonstrate that elk are indigenous to Nevada.

N9-4 Statements made referring to the introduction of elk in White Pine County in 1932 are erroneous, when in fact it was a reintroduction of elk in an area in which elk where an indigenous species (native), as documented, almost a century earlier

N9-5 *4.6.1 Aquatic Habitat and Fisheries*
The information contained in paragraph 6 on page 4.6-28 under Alternative E referring to the "reduction in population growth of elk on the District in the long-term" is not consistent with inclusion of elk as an indigenous species as it so deserves based upon above information and attached exhibits which document elk as indigenous wildlife in White Pine County.

Summary

N9-6 We feel that the RMP/EIS should properly address elk as an indigenous (native) species for the purpose of future planning of habitat enhancement projects and just maintain a status equal to that of the mule deer, pronghorn, and big horn sheep. Documentation has been provided to demonstrate that elk were present in White Pine County over a century ago, and due to their reintroduction in 1932 continue to flourish through proper management. We agree that the elk numbers must be managed in relationship to available habitat through harvest, transplant, etc. We feel that of the alternatives provide in the draft the only one we could support is **Alternative B.**

N9-7

N9-8 Recreation which includes hunting and wildlife viewing contribute a sizable portion to the economy of White Pine County. Not including elk as an indigenous wildlife species and enhancing habitat to maintain or expand heard growth in order to provide recreational opportunities for present and future generations as a part of the BLM's Mission.

N9-9 The Rocky Mountain Elk Foundation (RMEF) through annual events like the annual Big Game Banquet held in Ely since 1987 has raised hundreds of thousands of dollars that are provided to federal, state and private organizations for the purpose of habitat conservation, enhancement and expansion. The BLM Ely District has been the benefactor of a sizable amount of funding from the RMEF for habitat projects. The projects funded by RMEF are beneficial to elk, other wildlife and their habitat. The funding provide by RMEF to cooperators such as the BLM in White Pine County through April of 2005 (exhibit 3) can best demonstrate the commitment of RMEF to wildlife habitat enhancement projects. Additionally, RMEF funds have been dedicated to several

N9-10

Responses to Letter N9

N9-4 Please refer to Response to Comment N9-1.

N9-5 The current population growth rate of elk in the Ely RMP planning area will logically decrease over time as the population reaches the carrying capacity of available habitat. Text in Chapters 2 and 4 of the Proposed RMP and Final EIS has been revised to indicate that management of habitat for elk under the Proposed RMP and Alternatives B and C would conform to the county elk plans.

N9-6 Please refer to Response to Comment N9-1.

N9-7 Please refer to Response to Comment N9-1 regarding elk as a native species. Your comment regarding a preferred alternative is noted.

N9-8 Please see Responses to Comments N9-1 and N9-5.

N9-9 The BLM appreciates your comment.

N9-10 The BLM appreciates your comment.

Letter N9 Continued

N9-10 categories in Nevada (exhibit 4) through 2004 resulting in a total effort of $11,758,204 in Nevada, with a substantial amount of funding being provided to cooperators in White Pine County. The recommended RMEF projects for 2005 (exhibit 5) dedicate and additional $414,300 for wildlife habitat projects.

Should you have question, please feel free to contact me at (775) 289-2033 or at (775) 289-3519.

Sincerely,

Mike Simon, Chairman
Rocky Mountain Elk Foundation
Ely, Nevada Chapter

Letter N10

The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

THE NATURE CONSERVANCY OF NEVADA

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November 28, 2005

Mr. Gene Kolkman
Bureau of Land Management
Ely Field Office
HC 33, Box 33500
Ely, Nevada 89301-9408

Dear Mr. Kolkman:

The Nevada Chapter of the Nature Conservancy appreciates the opportunity to review the draft Resource Management Plan (RMP)/Environmental Impact Statement (EIS) for the Ely District. The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on earth by protecting the lands and waters they need to survive. In Nevada, our vision is to ensure the long-term survival of all viable native species, natural communities, and ecological systems through the design and conservation of functional conservation areas.

In 2000-2001, we completed conservation assessments of the Great Basin and Mojave Desert, both among the most biologically diverse and imperiled ecoregions in the United States. Through this process, we identified areas in these ecoregions that fully represent the ecological systems, natural communities, and specific characteristics of this ecoregion. Not surprisingly, we found that Eastern Nevada, including the BLM's Ely District, is particularly rich in terms of biological diversity. Accordingly, we recognize that this RMP's focus and preferred alternative are key to the implementation of maintenance and restoration actions that will increase the viability and functionality of these resources.

In this letter, we provide both general and specific comments on the draft RMP. Our comments are focused on elements of the RMP that could potentially enhance the integrity of large and small ecological systems, provide the best science, and support the economy of working landscapes. First off, we are pleased to see that this version of the RMP is significantly improved from previous versions that we have had the opportunity to review through our participation in the Eastern Nevada Landscape Coalition Science Committee. However, we have concerns about several major continuing and new issues in the draft document. We summarize our general concerns below, and in addition, we provide specific comments in Enclosures B and C.

Areas of Critical Environmental Concern (ACECs)

N10-1 We recommend reevaluating the decision not to further consider ACEC nominations that were rejected on the basis that an ACEC designation would not provide added management for sensitive species. ACEC designations for these areas would highlight to resource staff their importance in harboring one of a few occurrences in the world for rare species or ecological

Responses to Letter N10

N10-1 Combined with Comment N10-3.

Letter N10 Continued

N10-1 communities. Without such designations, it is not clear how BLM will prioritize and focus limited staff and funding on protecting the unique resources that occur in these areas.

N10-2 The RMP is silent on whether or not special law enforcement, protection, or monitoring strategies would be implemented as a result of the RMP. Many, if not most, BLM staff are generally unaware of the presence and locations of the sensitive species on the district. ACEC designations would highlight to staff (as well as the public) the most important sensitive species areas, as well as the ecological communities in which those species reside. If the goal is to keep more species from being added to the endangered species list, this is an excellent step in achieving that goal proactively. Accordingly, we recommend that the following ACEC nominations be reconsidered: White Rock Ponderosa, Steptoe Valley Crescentspot, Turnley Spring, Schlesser Pincushion, Sunnyside, Baking Powder Flat, Flat Spring, and Highland Range. Enclosure A provides our original nominations of these areas. In addition, we recommend that Condor Canyon, an area proposed for designation as an ACEC, should be managed for its biological resources, as well as for the geological and cultural resources listed in Table 2.5-22. These areas contain populations of the following species that are listed under the Endangered Species Act, are designated as special status species by the BLM, or that otherwise meet the definition of sensitive based on global rarity rankings:

- White Rock Ponderosa: Scarlet buckwheat (*Eriogonum phoenicium*), BLM Special Status Species
- Steptoe Valley Crescentspot: Steptoe Valley crescentspot (*Phyciodes cocyta arenacolor*), BLM Special Status Species
- Turnley Spring: Bifid duct springsnail (*Pyrgulopsis peculiaris*), BLM Special Status Species
- N10-3 Schlesser Pincushion: Schlesser pincushion (*Sclerocactus schlesseri*), BLM Special Status Species
- Sunnyside: Tiehm blazingstar (*Mentzelia tiehmii*), Parish phacelia (*Phacelia parishii*) Charleston grounddaisy (*Townsendia jonesii* var. *tumulosa*), Sunnyside green gentian (*Frasera gypsicola*), White River catseye (*Cryptantha welshii*); all BLM Special Status Species
- Baking Powder Flat: Baking Powder Flat blue (*Euphilotes bernardino minuta*), BLM Special Status Species
- Flat Spring: Transverse gland springsnail (*Pyrgulopsis cruciglans*), BLM Special Status Species
- Highland Range: Basin waxflower (*Jamesia tetrapetala*), BLM Special Status Species; intermediate Colorado hairstreak (*Hypaurotis crysalus intermedi*) and broadlined saepium hairstreak (*Satyrium saepium latilinea*), regarded as globally imperiled by Nevada Natural Heritage Program.
- Condor Canyon: Big Spring spinedace (*Lepidomeda mollispinis pratensis*); listed threatened; Meadow Valley Wash desert sucker, *Catostomus clarki* (ssp. unnamed), BLM

Responses to Letter N10

N10-2 Combined with Comment N10-3

N10-3 In response to your comment, the Ely Field Office has completed an additional review of the eight ACEC nominations that you requested be reconsidered. The following four proposed ACECs with some boundary modifications have been included in the Proposed RMP: White River Valley, Schlesser Pincushion, Baking Powder Flat, and Highland Range. The Proposed RMP was found to contain sufficient management prescriptions for the remaining three nominations. The proposed Condor Canyon ACEC includes management prescriptions for protection of biological resources as well as cultural and scenic values.

Letter N10 Continued

N10-3

Special Status Species; Meadow Valley speckled dace, *Rhinichthys osculus* (ssp. unnamed), BLM Special Status Species

- Spring Valley Swamp Cedar: Slender thelypody (*Thelypodium sagittatum* ssp. *ovalifolium*)
- The Cedars: Dark sandhill skipper (*Polites sabuleti nigrescens*), regarded as globally imperiled by the Nevada Natural Heritage Program.

N10-4

Regarding the ACEC nominations mentioned above that are not being further considered by BLM, the rationale from Table 2.5-22 is "under all alternatives, the BLM is directed by bureau policy to prevent listing of sensitive plants. The plan includes numerous standard operating procedures identified in the appendices to protect special status species..." This rationale is curious in light of the many ACECs which are being proposed to protect cultural resources. BLM regulations exist to protect both cultural and biological resources, and it seems arbitrary to assume that those regulations are sufficient in the case of biological resources, but not in the case of cultural resources.

N10-5

In reviewing the public draft of the RMP, we had the opportunity to compare maps in the draft with maps of the sites we submitted as "biologically irreplaceable sites" for consideration as potential ACECs. We found that among TNC's ACEC nominations which were not forwarded by BLM; there are several conflicts with proposed projects that could damage the resources present in these biologically irreplaceable sites. For example, our "Highland Range" site overlaps with both the Pioche Special Recreation Permit area for motorized recreation, and a site designated for wind energy development. The Schlesser Pincushion site overlaps with the Chief Mountain OHV site, and has small overlap with disposal sites under Alternative B. The Spring Valley Swamp Cedars site has overlap with areas designated for wind energy development under Alternative E. The Turnley Spring site overlaps with a preferred area for equestrian and mountain bike recreation, and the White Rock Ponderosa site overlaps with the Mountain Grafton hunting zone. We feel that these conflicts highlight the need to designate areas as ACECs for biological reasons. Both our nominations and Nevada Natural Heritage Program data were available to the specialists who made these proposed designations, however, many biologically irreplaceable sites fell through the cracks in the planning process.

N10-6

One of the ACEC nominations proposed by The Nature Conservancy doesn't appear on either the proposed but rejected, or proposed and nominated lists: "White River Valley Frasera gypsicola". It is possible that this was thought to be the same area as "Sunnyside" however, this is not the case and the White River Valley Frasera gypsicola site is a separate area. We continue to recommend that this area be considered for ACEC status based on its irreplaceable biological resources. This correction has been suggested for previous versions of the RMP which we have reviewed, but no changes have been made. Please let us know if you need further information to confirm the relevance of this ACEC proposal.

N10-7

The Highland Range ACEC nomination was rejected on the grounds that evidence of the occurrence of the 2 rare butterflies at the site could not be found. However, the citation for those occurrences is: Nachlinger, J., K. Sochi, P. Comer, G. Kittel, and D. Dorfman. 2001. Great Basin: an ecoregion-based conservation blueprint. The Nature Conservancy, Reno, Nevada, USA. The original source for the information in this document is Dr. George Austin, formerly of the Nevada State Museum, and the foremost expert on Nevada butterflies. This correction has been suggested for previous versions of the RMP which we have reviewed, but no changes have been made.

Responses to Letter N10

N10-4 Please refer to Response to Comment N10-3.

N10-5 Please refer to Response to Comment N10-3.

N10-6 Please refer to Response to Comment N10-3.

N10-7 Please refer to Response to Comment N10-3.

Letter N10 Continued

The Nature Conservancy Comments on the Ely District RMP
November 28, 2005

N10-7 Please let us know if you need further information to confirm the relevance of this ACEC proposal.

Woodland and Conifer Sites

N10-8 The designation of some woodland and high elevation conifer sites as "overmature" is misleading and value-laden (Pages 2.4-2, 2.5-16, & 2.5-21). It is meant to describe vegetation classes that variably represent old-growth; dense tree stands on potential shrub sites, or simply late-development vegetation. While a statement attempting to clarify the relationship between old growth and overmature is included (2.5-10), the use of the term "overmature" will be a source of confusion to stakeholders concerned with PJ woodland management. Accordingly, we recommend that the term "over-mature" be eliminated from the document, and replaced with more standard terminology such as that used by LANDFIRE and others, in this case "late-development" "open" or "closed". In our specific comments in Enclosure C, we describe the case for each vegetation type where the term "overmature" is used; pinyon-juniper, mountain mahogany, and high-elevation conifers.

Monitoring

N10-9 Large-scale manipulations of the vegetation are called for, but the framework for using science in an adaptive management context to ensure that treatments are beneficial is not well described. In particular, the watershed monitoring discussion (section 1.7.4.2) is weak and its relationship to the monitoring section in Appendix C, which is stronger and contains more specifics, is unclear. We suggest including the information in Appendix C of the RMP to the body of the document. We recognize that the document is programmatic in nature, nonetheless, some specific information should be provided to highlight the science-based approach that the Ely District will adopt, for example:

- Identify indicators to give a concrete basis to what BLM means by restoring watershed health. For example, in Wyoming sagebrush, BLM could propose to monitor for changes in native perennial herbaceous cover.
- State standards, such as having statistically valid sampling designs every time a new treatment is applied or a treatment is applied in a new ecological site;
- State that follow-up monitoring on treatments will be done multiple times and up to 10 years following treatment to determine the long-term effects of treatments; and,
- Provide a framework for determining the level of monitoring a watershed or project should receive. Examples of this can be found in the publications:

  Elzinga, C. L., D. W. Salzer, and J. W. Willoughby. 1998. *Measuring and monitoring plant populations*. Bureau of Land Management Technical Reference 1730-1.

  Herrick, J. E., W. Van Zee, K. M. Havsted, and W. G. Whitford. 2002, *Monitoring manual for grassland, shrubland and savanna ecosystems* Draft. USDA-Agricultural Research Service-Jornada Experimental Range, Las Cruces, NM, and is enclosed with this letter. Such a framework would provide the basis for allowing different intensities of monitoring to be used depending on the goals of a given project.

Responses to Letter N10

N10-8 The term "overmature" used within the Draft RMP and EIS and Proposed RMP and Final EIS is defined in both the text and Glossary and is used in conformance with current NRCS Ecological Site Descriptions. As used in this document, the term is not synonymous with old-growth forest and a careful distinction is made between the terms throughout Section 2.5.5.

N10-9 In response to your comment, the text in Section 1.7.2 of the Proposed RMP and Final EIS has been expanded to clarify the monitoring program and its relationship to adaptive management.

Letter N10 Continued

The Nature Conservancy Comments on the Ely District RMP
November 28, 2005

McKelvey, D. S. Powell, L. F. Ruggiero, M. K. Schwartz, B. Van Horne, C. D. Vojta. 2005. *Strategies for monitoring terrestrial animals and habitats*. Gen. Tech. Rep. RMRS-GTR-161. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 34 p.

Wilhere, G. F. 2002. *Adaptive management in habitat conservation plans*. Conservation Biology 16: 20-29.

N10-10 Monitoring is the crucial step in adaptive management, and the discussions on monitoring are consistently weak throughout the document. It would be appropriate to carry the concept of monitoring from the adaptive management section throughout the document, and to discuss monitoring indicators and framework when discussing the goals for management direction.

N10-11 Another area where monitoring, perhaps a simple inventory, is important, is in addressing the issue of off-highway vehicles acting as agents of weed dispersal (Page 2.5-135, Parameter-Off-highway Vehicles, Alternative E). Contaminated vehicles accessing roads/trails are among the most efficient vectors of dispersal for nonnative plant species. We recommend adding a statement to Alternative E about the implementation of special weed and noxious plant surveys along designated roads and trails.

Vegetation Types Emphasized for Treatment

N10-12 Among vegetation types emphasized for treatment, mountain big sagebrush is not identified, although low-elevation sagebrush types are singled out (Table S-1, p. S-xv). Mountain big sagebrush is regarded as the most threatened of all sagebrush types because: 1) Pinyon and other conifers aggressively invaded high-elevation sagebrush types; the impact of this invasion is proportionally greater on mountains than lowlands because there is disproportionally less area of mountain big sagebrush with high integrity remaining as encroachment progresses uphill. 2) Livestock, wild horse, and big game find the best forage in high elevation range, therefore grazing is highly focused in these areas of high diversity (Dr. Robin Tauch, U.S. Forest Service, Rocky Mountain Research Station). We recommend that you highlight mountain big sagebrush as a high priority for treatment.

LANDFIRE Contributions to Desired Range of Future Conditions

N10-13 We highly recommend that the Ely BLM consider incorporating the new LANDFIRE Biophysical Settings information (Enclosure D) to set the desired range of future conditions (Starting on page 2.5-10 and then repeated for all vegetation types). Unfortunately, this information, which can help the BLM to refine the desired future conditions goals set by the RMP, was not available until very recently. Recognizing that we are offering this information at the eleventh hour, we understand that it may be difficult for you to incorporate it readily into the final document. However, we believe that by doing so, you will greatly improve the information on desired future conditions. To assist you, we have calculated the proportions of vegetation under different states for each vegetation type, incorporating the new information from LANDFIRE. This information is provided in our specific comments in Enclosure C.

LANDFIRE Biophysical Settings were recently developed and reviewed by experts, and involved mostly agency experts, including BLM experts from the Nevada State Office and Ely Field Office. LANDFIRE Biophysical Settings represent different phases and, in some cases, different states within the pre-settlement condition. Uncharacteristic states that are only the result of post-settlement influences are not modeled, although experts briefly described them in the attached

Responses to Letter N10

N10-10 In response to your comment and similar comments, the discussion of adaptive management and monitoring has been revised and expanded in the Proposed RMP and Final EIS (see Section 1.5, Section 2.3.3, and Section 2.4.23).

N10-11 In response to your comment, the text of Section 2.4.23 Noxious and Invasive Weeds Management has been revised to emphasize proposed monitoring along roads and trails. The section referenced by the comment addresses monitoring of OHV usage, not related issues such as weed introduction and dispersal.

N10-12 Mountain big sagebrush is not mentioned as an emphasized type in Table S-1 primarily because it represents a small percentage of the acreage to be treated (approximately 8 percent of the overall sagebrush type). The comment is correct, however, in recognizing that the areas involving mountain big sagebrush will be among the most treatable areas.

N10-13 In response to this and related comments, the text and tables in Section 2.4.5 of the Proposed RMP and Final EIS have been revised to clarify the description of various states in several vegetation types and correlate them with LANDFIRE descriptions.

Letter N10 Continued

documents of Enclosure D. We are available to assist your specialists in incorporating the new LANDFIRE information into the final RMP document.

N10-14 The text describes (Page 3.5-12, 2nd paragraph. and page 4.1-10, State and Transition Models, Summary of Existing Information) that few state-and-transition models are currently available other than for black, Wyoming big sagebrush, mountain big sagebrush, winterfat, and shadscale. However, 31 Biophysical Settings descriptions and quantitative computer state-and-transition models for the whole Great Basin are currently available (Enclosure D) to guide management decisions and help calculate Fire Regime Condition Classes. Soon, final draft descriptions will be available for the Mojave Desert. Drafts are included in Enclosure D. While it may not be appropriate to incorporate the draft information into the RMP, the BLM should consider using it in combination with NRCS ecological site descriptions to incorporate state and transition models into the decision making process.

Wildlife/Species of Special Concern Related Issues

N10-15 Under Alternative E, the document states that "No existing water development would be removed." (Page 2.4-7, Table 2.4-1, Terrestrial Wildlife, Parameter Wildlife Habitat Management, Alternative E, last sentence). To ensure that BLM's management under this alternative addresses sensitive aquatic species, we recommend that this statement be modified as follows: "No existing water development would be removed, unless it is shown to decrease the Proper Functioning Condition (or some other expression) or viability of native springsnails and fisheries."

N10-16 In the preferred alternative, the 9-mile rule of separation between domestic sheep and goats, and bighorn sheep is proposed to prevent disease transmission (Pages 2.4-13, 2.4-29, 2.4-30, Table 2.4-1, Special Status Species, Parameter Mojave Desert and Desert Scrub Habitats, and Livestock Grazing, Parameters Lands Available for Livestock Grazing and Livestock Management in Bighorn Sheep Habitat Alternative E). We would recommend one important exception: Tightly herded domestic goats under constant supervision can be used to control non-native and noxious plant species within or in proximity (<9 miles) of current bighorn sheep habitat. Often, domestic goats are the only cost effective way to control non-native species and increasing the success of native seedings when goats are bedded on freshly dispersed native seed.

N10-17 Rights-of-way associated with corridors and energy development often includes utility towers/poles and power lines (Pages 2.4-24&25, Table 2.4-1, Lands and Realty and Renewable Energy, Parameters Corridor Designations & Wind and Solar Energy, Alternative E). These structures serve as perches for predators of Greater Sage-grouse and desert tortoise, while the rights-of-way corridors operate as vectors for weeds. Therefore, Alternative B (and thus E) should include for both Parameters a statement such as "Rights-of-Way, utility poles, and power lines would not be placed in proximity to known Greater Sage-grouse brooding habitat and leks or in desert tortoise critical habitat." This language should be incorporated elsewhere in the document, as appropriate (e.g., page 2.5-130 under Alternative E).

Document Inconsistencies

N10-18 We are generally concerned that there are many cases where the document is inconsistent from one section to the next. Some of these inconsistencies have been addressed since the last revision (for example, references to grazing in the Mojave Desert) but many remain – too many for us to catch or document here (a few that we noted in particular are included in Enclosures B and C).

Responses to Letter N10

N10-14 In response to this and related comments, the text and tables in Section 2.4.5 of the Proposed RMP and Final EIS have been revised to clarify the description of various states in several vegetation types and correlate them with LANDFIRE descriptions. Also, the text in Section 4.1.4.3 of the Proposed RMP and Final EIS has been revised to indicate the ongoing development of additional models.

N10-15 The parameter-Wildlife Water Developments in Section 2.4.6.7 refers to Artificial Water Developments (i.e., wildlife guzzlers), not the development of natural springs or waters for livestock or other purposes. The text in Section 2.4.6.7, and 2.4.6 has been changed to address your comment regarding spring developments.

N10-16 Sections 2.4.6.3 and 2.4.16 of the Proposed RMP and Final EIS have been revised to clarify that when changes are being considered to BLM grazing permits within occupied desert bighorn or Rocky Mountain bighorn habitat, domestic sheep and goats would be managed in accordance with current BLM guidelines at that time. The existing guidelines do not allow grazing by domestic goats for the reason you suggested.

N10-17 Thank you for expressing your concerns about the management direction presented in the Draft RMP and EIS. Standard Operating Procedure SS4 in Appendix J addresses the issue of predator perches (e.g., powerline structures) relative to greater sage grouse leks and is common to all alternatives. It has been retained with minor revision in the Proposed RMP and Final EIS in Appendix F, Section 1, as best management practice #1.7.1. In addition, text in Section 2.4.7 and Section 2.4.12 addresses this topic.

N10-18 The contents of Enclosures B and C have been addressed as sets of individual comments and are identified under their respective individual comment numbers. The text of the Proposed RMP and Final EIS has been subjected to additional editing to eliminate any additional inconsistencies noted in the text.

Letter N10 Continued

N10-18 There is a need for an independent review of the document by a writer/editor focused on finding inconsistencies, before the document is finalized.

In essence, the document has improved with each subsequent version, but several areas of concern persist from one version to the next. We hope these comments are helpful to you and your team. Please don't hesitate to contact me, Tara Forbis, or Louis Provencher if we can be of further assistance.

Sincerely,

Janet Ball
Director of Conservation Programs

Enclosures A, B, C, & D

Enclosure A
Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
Condor Canyon

GIS Polygon Number and GIS Acreage
#60 and 1,387 acres

Relevance
Fish and wildlife resource/Habitat for endangered, sensitive or threatened species/
Habitat essential for maintaining species diversity:

Condor Canyon, in Meadow Valley Wash, is critical habitat for the Big Spring spinedace, *Lepidomeda mollispinis pratensis*, a federally listed threatened fish narrowly endemic to a five mile stretch of Meadow Valley Wash in the Tonopah section of the Great Basin ecoregion. It is a BLM special status species. Condor Canyon harbors two additional rare fishes, the Meadow Valley Wash desert sucker, *Catostomus clarki* (ssp. unnamed) and the Meadow Valley speckled dace, *Rhinichthys osculus* (ssp. unnamed). These two fishes have global distributions restricted to Meadow Valley Wash. The desert sucker is a proposed BLM special status species while the speckled dace is a BLM sensitive status species.

Importance
The Big Spring spinedace is globally rare and ranked T1G1 by NatureServe and Nevada Natural Heritage Program indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors. Condor Canyon provides the only known occurrence of the Big Spring spinedace on Ely District public land. It also occurs on adjacent private land owned by The Nature Conservancy. Condor Canyon provides exemplary aquatic habitat for the three rare fishes.

Special Management Attention
The BLM developed a Condor Canyon Habitat Management Plan in 1990 which is designed to maintain or improve habitat for the Big Spring spinedace. Thus, the area receives special management attention. The ACEC designation complements this special management and would offer further assurance of protecting aquatic habitat on public land for all three rare fishes.

Letter N10 Continued

The Nature Conservancy Comments on the Ely District RMP -- Enclosure A
November 28, 2005

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
Flat Spring

GIS Polygon Number and GIS Acreage
#120 and 42 acres

Relevance
Fish and wildlife resource/Habitat for endangered, sensitive or threatened species/
Habitat essential for maintaining species diversity:

Flat Spring, in Steptoe Valley, is one of four known locations for the transverse gland springsnail, *Pyrgulopsis cruciglans*, a rare aquatic mollusk endemic to the Great Basin ecoregion and eastern Nevada. This spring is the type locality for the mollusk.

Importance
The Great Basin and Mojave Desert ecoregions recently have been identified for exceptionally rich diversity of hydrobiids, a large group of aquatic mollusks. There are at least 25 very rare (G1) species in the genus *Pyrgulopsis* that inhabit isolated spring systems in the Ely District. However, the majority of their occurrences are on private lands and there are only a few on public lands that provide opportunities for special management to insure their survival. Flat Spring is one place where Ely BLM can contribute to their conservation management.

The transverse gland springsnail is globally rare and ranked G1 by NatureServe and Nevada Natural Heritage Program indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors. It is currently known from four locations, and Flat Spring is the only one on public land and the only one in the Ely District. The other three locations are in adjacent Elko County on private lands. Spring habitats are sensitive because of their aquatic nature and they are vulnerable to disturbance.

Special Management Attention
A functioning spring system with intact hydrology and adjacent terrestrial (riparian/wetland) vegetation is necessary to maintain this aquatic species. Management should maintain groundwater connectivity to spring source, provide for outflow of springbrook, and maintain vegetation surrounding the spring source and brook. Uses that compromise a functioning spring system should be carefully considered.

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
Turnley Spring

GIS Polygon Number and GIS Acreage
#130 and 41 acres

Relevance
Fish and wildlife resource/Habitat for endangered, sensitive or threatened species/ Habitat essential for maintaining species diversity:

Turnley Spring, in Spring Valley, is one of seven known locations for the bifid duct springsnail, *Pyrgulopsis peculiaris*, a rare aquatic mollusk endemic to the eastern half of the Great Basin ecoregion.

Importance
Turnley Spring is another location where Ely BLM can contribute to conservation management of the rich diversity of hydrobiids. The bifid duct springsnail is globally rare and ranked G2 by NatureServe, and Nevada and Utah Natural Heritage Programs indicating that it is imperiled because of rarity and/or other factors. It is currently known from seven locations, two in Nevada and five in Millard County, Utah. This is the only Nevada occurrence on Ely District public lands. Montane spring habitats are sensitive because of their aquatic nature and they are vulnerable to disturbance.

Special Management Attention
A functioning spring system with intact hydrology and adjacent terrestrial (riparian/wetland) vegetation is necessary to maintain this aquatic species. Management should maintain groundwater connectivity to spring source, provide for outflow of springbrook, and maintain vegetation surrounding the spring source and brook. Uses that compromise a functioning spring system should be carefully considered.

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
Steptoe Valley Crescentspot

GIS Polygon Numbers and GIS Acreage
#70 and 121 acres, and #80 and 1,816 acres for a total 1,937 acres

Relevance
Fish and wildlife resource/Habitat for endangered, sensitive or threatened species/Habitat essential for maintaining species diversity/Rare, endemic, or relic plants or plant communities:

Steptoe Valley is best known in the biological community as remarkable for its aquatic habitats and a diverse suite of aquatic animals that are narrowly restricted to its spring systems. But, Steptoe Valley also is the only currently known location for the rare butterfly Steptoe Valley crescentspot, *Phyciodes cocyta arenacolor*. Steptoe Valley crescentspot is a BLM sensitive status species. It's host plant, western aster, *Aster adscendens*, is a common western plant of moist to dry soils within a variety of habitats. It is unclear why the Steptoe Valley Crescentspot is so narrowly distributed. [*Phyciodes* taxonomy is in a state of flux so this taxon also has been referred to as *Phyciodes batesii arenacolor* and *Phyciodes pascoensis arenacolor*.]

Importance
The Steptoe Valley crescentspot is globally rare and ranked T1G5 by NatureServe and Nevada Natural Heritage Program indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors. It is currently known from three separate occurrences, but only this one is on public lands. The other two occurrences on private lands are located about 14 miles south near Bassett Lake. The habitat at this site along Duck Creek and at the Warm Springs causeway is exemplary habitat for this extremely rare and vulnerable butterfly.

Special Management Attention
The Steptoe Valley Crescentspot is dependent on viable populations of its host plant, the western aster. Protective management of its limited known habitat (polygon #70) is required to ensure survival of the endemic crescentspot. Because the public land parcel of known habitat is very small and immediately surrounded by private land, protective value of the specially designated area would be greatly enhanced by adding a nearly adjacent larger public land area of potential habitat (polygon #80; personal communication George Austin, Nevada State Museum, 2003).

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
Baking Powder Flat

GIS Polygon Number and GIS Acreage
#10 and 4,584 acres

Relevance
Fish and wildlife resource/Habitat for endangered, sensitive or threatened species/ Habitat essential for maintaining species diversity/Rare, endemic, or relic plants or plant communities:

Baking Powder Flat, in Spring Valley, is one of four currently known locations for the Baking Powder Flat blue, *Euphilotes bernardino minuta*, a rare butterfly endemic to the Central Mountains section of the Great Basin ecoregion. The Baking Powder Flat blue is a BLM sensitive status species. It's host plant, Shockley buckwheat, *Eriogonum shockleyi* var. *shockleyi*, is a common mound-forming plant often found on fine-textured substrates, but it reaches exceptional diameters at this location and is the predominant plant in the valley bottomland.

Importance
The Baking Powder Flat blue is globally rare and ranked T1G3G4 by NatureServe and Nevada Natural Heritage Program indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors. It is currently known from seven separate occurrences, all on public lands within the Ely District and all but one located in Spring Valley. Baking Powder Flat harbors four occurrences and is the largest contiguous habitat for the blue. The valley bottom at this site is exemplary habitat for the rare and vulnerable butterfly. To the north about 10 miles near Doyles Well and to the south about 16 air miles in south Spring Valley are two additional occurrences. The seventh occurrence lies about 20 air miles northeast in Snake Valley west of Garrison, Utah.

Special Management Attention
The Baking Powder Flat blue is dependent on viable populations of its host plant Shockley buckwheat. The buckwheat is subject to trampling (sometimes heavy trampling) from ungulates in Spring Valley. It is unclear whether trampling is from permitted cattle or wild horses, but management of ungulates is required to protect the endemic blue's habitat.

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
Spring Valley Swamp Cedars

GIS Polygon Number and GIS Acreage
#90 and 3,335 acres

Relevance
Habitat for endangered, sensitive or threatened species/Habitat essential for maintaining species diversity/Rare, endemic, or relic plants or plant communities:

Spring Valley Swamp Cedars, in central Spring Valley, is the largest of three known occurrences of a valley bottom ecotype of Rocky Mountain juniper woodlands. Although they are locally called swamp cedars, they are described by the national vegetation classification system as Rocky Mountain juniper (*Juniperus scopulorum*) temporarily flooded woodland. In addition to the rare plant community, the Spring Valley Swamp Cedars site provides habitat for slender thelypody, *Thelypodium sagittatum* ssp. *ovalifolium*, a rare plant endemic to the Great Basin ecoregion.

Importance
The Rocky Mountain juniper temporarily flooded woodland is endemic to the Central Mountains section of the Great Basin ecoregion. This plant association is ranked G1 by NatureServe indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors. All three known locations occur on Ely District public lands (with some private lands included). As the largest stand, Spring Valley Swamp Cedars is an exemplary occurrence of this rare plant community. The slender thelypody is ranked T2G4 indicating that it is imperiled because of rarity and/or other factors. It is known from about seven valleys in eastern Nevada and four valleys in adjacent Utah, thus, restricted to the eastern Great Basin.

Special Management Attention
The juniper woodlands are dependent on temporarily flooded hydrologic regimes that rely on recharge from local runoff and soil features that create a perched water table. Otherwise, the junipers would not be able to survive the desert environment of the valley floor. Management that maintains a functioning hydrologic regime is required, therefore, uses that compromise basin hydrology should be carefully considered.

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
The Cedars

GIS Polygon Number and GIS Acreage
#20 and 808 acres

Relevance
Fish and wildlife resource/Habitat for endangered, sensitive or threatened species/
Habitat essential for maintaining species diversity/Rare, endemic, or relic plants or plant communities:

The Cedars, in Spring Valley, is one of three known occurrences of a valley bottom ecotype of Rocky Mountain juniper woodlands, locally called swamp cedars, but more technically referred to as Rocky Mountain juniper (*Juniperus scopulorum*) temporarily flooded woodland. The Cedars provides habitat for the dark sandhill skipper, *Polites sabuleti nigrescens*, a rare butterfly endemic to the Central Mountains section of the Great Basin ecoregion. Within the proposed ACEC is Shoshone Ponds, specially designated by BLM for endangered species with a protected withdrawal. Shoshone Ponds has been a refugium for five rare fishes, three of which are federally listed as endangered, while another is federally threatened. They are all listed under Nevada state law and four are BLM special status species while the fifth is proposed for that status. However, only two fishes survive in the pools today (personal communication Amy LaVoie, USFWS, 2003).

Importance
The Rocky Mountain juniper temporarily flooded woodland is endemic to the Central Mountains section of the Great Basin ecoregion. This plant association is ranked G1 by NatureServe indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors. All three known locations occur on Ely District public lands (with some private lands included). The Cedars is an exemplary occurrence although not the largest stand.

The fishes harbored at Shoshone Ponds include Pahrump poolfish, bonytail chub, Moapa dace, Big Spring spinedace, and relict dace (*Empetrichthys latos latos, Gila elegans, Moapa coriacea, Lepidomeda mollispinis pratensis*, and *Relictus solitarius*). The first three are listed endangered with natural distributions in the Mojave Desert (the Pahrump poolfish is extirpated at it's only known natural occurrence). They are ranked T1G1, G1, and G1, respectively, by NatureServe and Nevada Natural Heritage Program. The Big Spring spinedace is federally threatened and ranked T1G1. The relict dace is globally rare and ranked G2G3 indicating that it is rare and local throughout its range. It is endemic to eastern Nevada and the Great Basin ecoregion. Shoshone Ponds currently harbors populations of the Pahrump poolfish and relict dace. The dark sandhill skipper is ranked T3G5 indicating that it is rare and local throughout its range.

Special Management Attention
The juniper woodlands are dependent on temporarily flooded hydrologic regimes that rely on recharge from local runoff and soil features that create a perched water table. Otherwise, the junipers would not be able to survive the desert environment of the valley floor. Management

that maintains this hydrologic situation is needed and uses that compromise it should be carefully considered.

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
Sunnyside

GIS Polygon Number and GIS Acreage
#30 and 4,213 acres

Relevance
Habitat for endangered, sensitive or threatened species/Habitat essential for maintaining species diversity/Endangered, sensitive or threatened plant species/ Rare, endemic, or relic plants or plant communities:

Sunnyside harbors several globally rare plant species that are restricted to eastern Nevada and endemic to the Great Basin ecoregion. The Sunnyside green gentian, White River catseye, southwestern peppergrass, Tiehm blazingstar, Parish phacelia, and Charleston grounddaisy (*Frasera gypsicola, Cryptantha welshii, Lepidium nanum, Mentzelia tiehmii; Phacelia parishii,* and *Townsendia jonesii* var. *tumulosa*, respectively) have viable occurrences here. The Sunnyside green gentian is a BLM special status species, while White River catseye, Parish phacelia, and Charleston grounddaisy are BLM sensitive status species.

The predominant plant community in which most of these plant populations occur, is itself unusual—pygmy sagebrush (*Artemisia pygmaea*) dwarf shrublands are restricted to the Great Basin and adjacent ecoregions.

Importance
The plant of greatest interest at Sunnyside is the Sunnyside green gentian because of its rarity. It is locally endemic to eastern Nevada and adjacent Utah, and is ranked G1 by NatureServe and Nevada Natural Heritage Program indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors. It is currently known from nine occurrences on public and private lands within the Ely District, and with one additional location in adjacent Millard County, Utah. Sunnyside is an exemplary location for probably the largest known metapopulation of the Sunnyside green gentian. Tara Forbis, ecologist with The Nature Conservancy, has mapped seven local populations on white soils separated by matrix vegetation at this site.

Secondarily, Tiehm blazingstar is important here because of its rarity. It was only recently discovered (it was described in 2002). It is ranked G1G2 by Nevada Natural Heritage Program indicating that it is imperiled because of rarity and/or other factors. It is globally restricted to the White River Valley and is currently known from seven occurrences within a 10-mile radius.

Parish phacelia is ranked G2G3 indicating that it is imperiled because of rarity and/or other factors. It is currently known from the Great Basin and Mojave Desert ecoregions, White River catseye and southwestern peppergrass are both ranked G3 indicating that they are rare and local throughout their ranges, which are restricted to the central Great Basin ecoregion. Charleston grounddaisy is ranked T3G4 also indicating that it is rare and local throughout its range. It is known primarily from the Spring Mountains and Sheep Range of the Mojave Desert ecoregion. Its occurrence at Sunnyside is regarded as a disjunct population and the only one known in the Great Basin ecoregion.

Pygmy sagebrush dwarf shrublands are rare plant communities ranked G3 by NatureServe indicating that it is rare and local throughout its range, which is centered around the Great Basin. The plant community often occurs in peculiar edaphic situations on soils forming badlands with sparse vegetation and supporting a variety of rare plant species. The pygmy sagebrush dwarf shrublands at Sunnyside are exemplary of eastern Nevada occurrences.

Special Management Attention
The pygmy sagebrush dwarf shrublands and associated rare plant species at Sunnyside are dependent on the whitish valley bottom soils characteristic of the White River Valley. Management is required to protect and maintain the soils that harbor the suite of rare plants. Groundwater likely plays a role in maintenance of these unusual soils. Part of the proposed polygon already receives special management under BLM and Nevada State management (Kirch Wildlife Management Area).

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
White River Valley Frasera gypsicola

GIS Polygon Number and GIS Acreage
#40 and 3,947 acres

Relevance
Habitat for endangered, sensitive or threatened species/Habitat essential for maintaining species diversity/Endangered, sensitive or threatened plant species/ Rare, endemic, or relic plants or plant communities:

The White River Valley Frasera gypsicola site harbors a metapopulation of the globally rare Sunnyside green gentian, which is a BLM special status species.

Importance
The Sunnyside green gentian is locally endemic to eastern Nevada and immediately adjacent Utah. It is ranked G1 by NatureServe and Nevada Natural Heritage Program indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors. It is currently known from nine occurrences on public and private lands within the Ely District, and with one additional location in adjacent Millard County, Utah. The White River Valley Frasera gypsicola site is an exemplary location for a large metapopulation of the gentian along the White River. As at Sunnyside, Tara Forbis has mapped another seven local populations on white soils separated by matrix vegetation (greasewood, sagebrush, and meadows) at this site.

Special Management Attention
Special management is required to protect and maintain the barren white soils that harbor the Sunnyside green gentian. Groundwater likely plays a role in maintenance of the unusual soils.

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
Highland Range

GIS Polygon Number and GIS Acreage
#100 and 10,626 acres

Relevance
Fish and wildlife resource/Habitat for endangered, sensitive or threatened species/Habitat essential for maintaining species diversity/Endangered, sensitive or threatened plant species/Rare, endemic, or relic plants or plant communities:

The Highland Range harbors one of few populations of two globally rare butterflies, the intermediate Colorado hairstreak, *Hypaurotis crysalus intermedia*, and broadlined saepium hairstreak, *Satyrium saepium latilinea*. Both hairstreaks are globally restricted to the Great Basin ecoregion. Their respective host plants are Gambel oak, *Quercus gambelii*, and mountain-lilac, *Ceanothus martinii*, both common plants of montane systems.

The Highland Range also is habitat for basin waxflower, *Jamesia tetrapetala*, a local endemic of the Central Mountains section of the Great Basin ecoregion. Basin waxflower is a BLM sensitive status species. It occurs among intermountain bristlecone pines, and this is one of few places on BLM where the Ely District can contribute to conservation management of this representative long lived tree.

Importance
Both the intermediate Colorado hairstreak and broadlined saepium hairstreak are globally rare butterflies ranked T1G5 by NatureServe and Nevada Natural Heritage Program indicating that they are critically imperiled because of extreme rarity, imminent threats, and/or biological factors. Intermediate Colorado hairstreak is currently known from this one occurrence in Nevada and several occurrences in western UT. Broadlined saepium hairstreak is currently known from three separate occurrences in the Highland Range, Wilson Creek Range, and Pine Valley Mountains. The Highland Range is important for maintaining butterfly species diversity because it is both the northern extent for a number of butterflies as well as the southern extent for a number of other butterflies (personal communication George Austin, Nevada State Museum, 2003).

Basin waxflower is ranked G2 indicating that it is imperiled because of rarity and/or other factors. The montane shrubland and subalpine woodland habitats in this range is exemplary for these rare and vulnerable butterflies and plant.

Special Management Attention
The intermediate Colorado hairstreak and broadlined saepium hairstreak are dependent on viable populations of their host plants, Gambel oak and mountain-lilac. Within the proposed polygon are private land mineral claims. The public land should be considered for a mineral withdrawal to protect habitat.

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
White Rock Ponderosa

GIS Polygon Number and GIS Acreage
#110 and 345 acres

Relevance
Habitat for endangered, sensitive or threatened species/Habitat essential for maintaining species diversity/Endangered, sensitive or threatened plant species/Rare, endemic, or relic plants or plant communities:

The White Rock Ponderosa area between Camp Valley and the White Rock Mountains harbors an unusual stand of ponderosa pine and an exemplary population of the globally rare scarlet buckwheat, *Eriogonum phoenicium.* Scarlet buckwheat is a narrowly distributed edaphic endemic restricted to the eastern Great Basin ecoregion. It is a proposed BLM special status species.

Importance
Scarlet buckwheat is a globally rare plant ranked G1 by NatureServe and Nevada Natural Heritage Program indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors. It is currently known from three occurrences and two of these are on Ely District public lands. The other occurrence in the Ely District is at Deer Lodge in the Mahogany Mountains on tuffaceous bluffs. The third known occurrence is in adjacent Utah in the Wah Wah Mountains. The open ponderosa pine woodland occurring on rocky flats at this nominated site is exemplary habitat for this extremely rare and vulnerable plant.

Special Management Attention
Special management is to protect and maintain the unusual soils that harbor the scarlet buckwheat. The ponderosa pine stand may occur in a fire-safe habitat since there is essentially no understory to carry fire across the rocky flats. However, the ponderosas are surrounded by pinyon- juniper woodlands that require fuels management or a more frequent fire regime to reduce tree density.

Ely District BLM
Area of Critical Environmental Concern Nomination
by The Nature Conservancy of Nevada

Potential ACEC Name
Schlesser Pincushion

GIS Polygon Number and GIS Acreage
#50 and 5,207 acres

Relevance
Habitat for endangered, sensitive or threatened species/Habitat essential for maintaining species diversity/Endangered, sensitive or threatened plant species/Rare, endemic, or relic plants or plant communities:

The Bennett Springs Wash area west of Cathedral Gorge State Park harbors a suite of exemplary populations of the globally rare Schlesser pincushion, *Sclerocactus schlesseri.* The cactus is a local endemic restricted to the Central Mountains section of the Great Basin ecoregion and it is a BLM sensitive status species.

Importance
Schlesser pincushion is a globally rare cactus and ranked G1Q by NatureServe and Nevada Natural Heritage Program indicating that it is critically imperiled because of extreme rarity, imminent threats, and/or biological factors (with taxonomic question). It is currently known from thirteen occurrences and the Bennett Springs Wash area harbors ten of them on Ely District public lands. The other three separate occurrences are about three miles east on BLM, State Park, and private land in Panaca. The salt desert shrubland habitat at this site is exemplary as the largest known location for this extremely rare and vulnerable cactus.

Special Management Attention
Stable land surfaces with intact soil crusts and other features, such as north and east facing slopes, that conserve soil moisture in the salt desert shrublands are important for maintenance of Schlesser pincushion.

Letter N10 Continued

The Nature Conservancy Comments on the Ely District RMP -- Enclosure B
November 28, 2005

Enclosure B
Ely District BLM
Specific Comments on the Ely BLM RMP
by The Nature Conservancy of Nevada

N10-19 1. In Table S-1, under Vegetation Types Emphasized for Treatment: Pinyon-juniper is identified. Are these PJ stands that invaded sagebrush types or true woodlands? It is somewhat counter-intuitive that true PJ stands on unproductive soils should be emphasized for treatment (long fire return intervals), while mountain big sagebrush is not emphasized but is treatable using prescribed and wildland fire, the most cost-effective tools available.

N10-20 2. Table S-2, p. S-xix, Aquatic Species, Alternative E: Springsnails, which are aquatic invertebrate species, are not likely to receive special protection under Alternative E because water diversions and access to springs by livestock and wild horses will be no different than under Alternative A. Nevada, and especially eastern Nevada, is a center of rare springsnail biodiversity, thus, the Ely BLM has a special responsibility for managing these unique biota. We recommend that the document incorporate measures from the spring and springsnail management plan written for the BLM by Dr. Don Sada:

Sada, D. W., J. E. Williams, J. C. Silvey, A. Halford, J. Ramakka, P. Summers, and L. Lewis. 2001. Riparian area management: A guide to managing, restoring, and conserving springs in the Western United States. Technical Reference 1737-17, Bureau of Land Management, Denver, Colorado. BLM/ST/ST-01/001+1737. 70 pp.

N10-21 3. Page 1.3-4, 1.3-8, and throughout the manuscript: The document refers to both Greater Sage-grouse and occasionally, sage grouse. We suggest that the document be consistent in its usage. The generally accepted common name of the species is Greater Sage-grouse.

N10-22 4. Page 2.4-3, Table 2.4-1, Vegetation, Parameter Aspen, Alternative B: Instead of "Proactive management of aspen communities would cause them to remain in or move toward resilient phases that would be resistant to disturbance.", consider a more practical description, for example, "Proactive management of aspen communities to improve resiliency by increasing regeneration and diversifying the age and structure of vegetation classes."

N10-23 5. Page 2.4-4, Table 2.4-1, Vegetation, Parameter Salt Desert Scrub, Alternatives A and others: The text says "Actively treat 219,800 acres (18%) of the salt desert scrub and maintain 1,001,200 acres (82%) that are in desired states." The 18% seems awfully small compared to what is infested with halogeton and cheatgrass. Antelope, Spring, and North Spring Valleys alone appear to have more degraded salt desert scrub than 219,800 acres.

N10-24 6. Page 2.4-5, Table 2.4-1, Vegetation, Parameter Non-Native Seedings, Alternative B: The text says "Manage nonnative seedings to achieve the desired range of conditions." If the intended meaning here is replacing nonnative with native species, the document could be more explicit, for example, "Manage nonnative seedings to replace them with native species and achieve the desired range of conditions." or "Manage nonnative seedings to achieve the desired range of native conditions."

N10-25 7. Page 2.4-6, Table 2.4-1, Fish and Wildlife, Parameter Aquatic Habitat and Fisheries, Alternatives A vs. B and others: The concept of achieving Proper Functioning Condition is described in Alternative B, but not for the other alternatives. This appears to be a consistency issue.

Responses to Letter N10

N10-19 Please refer to Response to Comment N10-12.

N10-20 Please refer to Section 2.4.7.1 for management actions associated with springsnails.

N10-21 In response to your comment, the wording has been revised from "sage grouse" to "greater sage grouse" throughout the Proposed RMP and Final EIS.

N10-22 Although the organization of Chapter 2 has been revised to focus on management actions, rather than supporting material, the revised text in Section 2.4.5.3 of the Proposed RMP and Final EIS (for the Proposed RMP and by extension to Alternative B) addresses the key points raised in your comment of emphasizing regeneration and diversifying the age structure of stands.

N10-23 The estimated 18 percent of the salt desert shrub type proposed for active treatment is that area actually dominated by cheatgrass and halogeton, not the entire area infested by these species.

N10-24 Please refer to the Desired Future Condition for non-native seedings in Section 2.4.5.10 of the Proposed RMP and Final EIS, which states that most seedings would be managed for the cyclical return of sagebrush.

N10-25 In response to your comment, the text in Section 2.4.5.9, Riparian/Wetlands, of the Proposed RMP and Final EIS has been expanded to clarify the discussion of proper functioning conditions.

Letter N10 Continued

The Nature Conservancy Comments on the Ely District RMP -- Enclosure B
November 28, 2005

N10-26 8. Page 2.5-6, last sentence: Define states and phases immediately before or after the sentence "Transitions to undesired states and phases would be avoided if possible." Otherwise, this section provides a good discussion.

N10-27 9. Page 2.5-18, bullet #1 for aspen: "Tree canopy cover exceeds 45% causing desirable understory species to decrease beyond a threshold (recoverable) level." This statement is incorrect according to LANDFIRE experts who indicated that the aspen is usually at >40% (up to 100%) cover in the pre-settlement reference condition, but that it's only when conifers, not aspen, exceed 45% that the stand becomes "uncharacteristic" (point #2). Historically, Native American burning kept conifers out of seral aspen and promoted suckering and high canopy cover. Also, mid-development aspen at canopy cover <40% is considered the result of uncharacteristic grazing by livestock or elk, or diseases, a concept completely opposite to the one described in the RMP.

N10-28 10. Page 2.5-23, 2nd paragraph, 1st sentence: Many statements about maximum canopy cover for high elevation conifers (<40%) and ponderosa pine (<30%) are incorrect. Please consult the table in Enclosure C for the range of pre-settlement canopy cover specified by LANDFIRE experts.

N10-29 11. Page 2.5-25, Parameter High-elevation conifers, Alternative E: same as Alternative C -- All the corrections made above should be considered for Alternative E.

N10-30 12. Page 2.5-30, 2nd paragraph: Comment: It is stated that 51% of low elevation sagebrush is Wyoming big sagebrush. This percentage is somewhat surprising to us because previous discussions during ENLC meetings indicated >80% for black sagebrush. Where does this value come from and it is trustworthy? Gap and ReGap data layers are notorious for underestimating black sagebrush and labeling it as Wyoming big sagebrush.

N10-31 13. Page 2.5-57, Parameter Wildlife Water Development: How will threats to springsnails be mitigated, or even monitored during water developments? Please address explicitly the issue of springsnail management given their endemism and rarity in eastern Nevada.

N10-32 14. Page 2.5-192, Monitoring of Noxious and Invasive Weeds: Several sections on monitoring are presented before this page; however, this is the first time that the Pellant et al. (2000) citation on Indicators of Rangeland Health is presented. This reference should have been cited before in other monitoring sections as it is not only about weeds.

N10-33 15. Page 3.5-7, 3.5-8, Shrub Lands: The reference Perryman et al. (2003) is offered to describe the expansion of pinyon and juniper due to fire exclusion. The expansion of pinyon-juniper due to fire exclusion is a concept with important implications to land management in Eastern Nevada. However, this is a controversial concept, therefore, the BLM may want to consider further strengthening and supporting this discussion with additional references to the following citations:

Anderson, J. E., and R. S. Inouye. 2001. Landscape-scale changes in plant species abundance and biodiversity of a sagebrush steppe over 45 years. Ecological Monographs 71:531-556.

Baker, W. L., and D. J. Shinneman. 2004. Fire and restoration of piñon-juniper woodlands in the western United States. A review. Forest Ecology and Management 189:1-21.

Responses to Letter N10

N10-26 In response to your comment the text in Section 2.4.5 of the Proposed RMP and Final EIS has been expanded to provide an introduction to the State-and-Transition Model approach and the associated terminology.

N10-27 In response to this and related comments, the text and table in Section 2.4.5.3 of the Proposed RMP and Final EIS have been revised to clarify the description of states in the aspen vegetation type and correlate them with LANDFIRE descriptions.

N10-28 In response to this and related comments, the text and tables in Section 2.4.5.4 of the Proposed RMP and Final EIS have been revised to clarify the description of states in the high elevation conifer vegetation type and correlate them with LANDFIRE descriptions.

N10-29 As indicated in the errata sheet accompanying the Draft RMP and EIS, Alternative E for this parameter has already been designated the same as Alternative B rather than Alternative C. This correction has been carried forward in the Proposed RMP and Final EIS.

N10-30 Black sagebrush is present at both low and high elevations. When considering the amount of black sagebrush in total, the amount is much higher than 50 percent. When considering it as a component of low elevation sagebrush, it is about 50 percent.

N10-31 Please refer to Response to Comment N10-15 for a discussion of water developments.

N10-32 Please refer to Appendix A of the Proposed RMP and Final EIS for a revised discussion of Watershed Analysis and Section 2.4.23 for Monitoring.

N10-33 In response to your comment, the text in this portion of Section 3.5.2 has been revised to incorporate some of the additional references you suggested in relation to expansion of pinyon and juniper due to fire exclusion.

Letter N10 Continued

Blackburn, W. H., and P. T. Tueller. 1970. Pinyon and juniper invasion in black sagebrush communities in east central Nevada. Ecology 51:841-848.

Miller, R. F., and R. J. Tausch. 2001. The role of fire in juniper and pinyon woodlands: a descriptive analysis. Proceedings: The First National Congress on Fire, Ecology, Prevention, and Management; Nov. 27- Dec. 1, 2000; San Diego, CA. Tallahassee, FL: Tall Timbers Research Station, Miscellaneous Publication 11. p. 15-30.

Miller, R. F., and J. A. Rose. 1999. Fire history and western juniper encroachment in sagebrush steppe. Journal of Range Management. 52:550-559

Tausch, R. J. 1999. Transitions and thresholds: influences and implications for management in pinyon and juniper woodlands. *In* Monsen, S. B. and R. Stevens (ED). Proceedings: ecology and management of pinyon-juniper communities within the Interior West; 1997 September 15-18; Provo, UT. Proc. RMRS-P-9. Ogden, UT: U. S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Pgs. 361-365.

Tausch, R. J., P. E. Wigand, and J. W. Burkhardt. 1993. Viewpoint: Plant community thresholds, multiple steady states, and multiple successional pathways: legacy of the Quaternary? Journal of Range Management 46:439-447.

Tausch, R. J. and P. T. Tueller. 1995. Relationships among plant species composition and mule deer winter range use on eastern Nevada piñon-juniper chainings. General Technical Report RM-258. Fort Collins, CO: U. S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

Tausch, R. J. and R. S. Nowak. 1999. Fifty years of ecotone change between shrub and tree dominance in the Jack Springs Pinyon Research Natural Area. USDA, Forest Service Proceedings RMRS-P-00.

N10-34

16. Page 3.5-9, Forests and Woodlands: Two important observations are made here, but underlying mechanisms are not described. The first one is "Along with expansion of pinyon and juniper into shrublands, Vernon et al. (2002) also documented the trend of increasing numbers of young trees and increasing tree density in the pinyon-juniper woodlands." This phenomenon is also called "stand densification" and its cause is apparently not the lack of fire, which is infrequent in pinyon-juniper woodlands, but decreased herbaceous plant competition towards tree and shrub seedling establishment after grass was removed by historic livestock (cattle and sheep) and wild horse grazing. The second important statement is about the lack of aspen regeneration and the importance of herbivory in reducing aspen regeneration based on Charles Kay's (2001) research. Equally important is Kay's result showing that the fire regime of aspen in the western U.S. was highly dependent of Native American burning, i.e., aspen is fire-proof during the growing season, but historical records show frequent burning outside of the lightning season (fall and spring) when leaf and woody litter is cured. The following citations are appropriate for this discussion:

Responses to Letter N10

N10-34 In response to your comment, the text in this portion of Section 3.5.2 has been expanded and additional references cited to better address the points made in your comment.

Letter N10 Continued

Bartos, D. L. 2001. Landscape Dynamics of Aspen and Conifer Forests. Pages 5-14 in: Shepperd, W. D.; Binkley, D.; Bartos, D. L.; Stohlgren, T. J.; and Eskew, L. G., compilers. 2001. Sustaining aspen in western landscapes: symposium proceedings; 13-15 June 2000; Grand Junction, CO. Proceedings RMRS-P-18. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 460 p.

Bartos, D. L. and R. B. Campbell, Jr. 1998. Decline of Quaking Aspen in the Interior West – Examples from Utah. Rangelands, 20(1):17-24.

Bradley, A. E., Noste, N. V., and W. C. Fischer. 1992. Fire Ecology of Forests and Woodlands in Utah. GTR-INT-287. Ogden, UT. U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 128 p.

Bradley, Anne E., W. C. Fischer, and N. V. Noste. 1992. Fire Ecology of the Forest Habitat Types of Eastern Idaho and Western Wypoming. GTR- INT-290. Ogden, UT. U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 92.

Brown, J.K. and D.G. Simmerman. 1986. Appraisal of fuels and flammability in western aspen: a prescribed fire guide. General technical report INT-205. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

Brown, J. K., K. Smith, J. Kapler, eds. 2000. Wildland fire in ecosystems: effects of fire on flora. Gen. Tech. Rep. RMRS-GTR-42-vol. 2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 257 p.

Campbell, R. B. and , D. L. Bartos. 2001. Objectives for Sustaining Biodiversity. In: Shepperd, W. D.; Binkley, D.; Bartos, D. L.; Stohlgren, T. J.; and Eskew, L. G., compilers. 2001. Sustaining aspen in western landscapes: symposium proceedings; 13-15 June 2000; Grand Junction, CO. Proceedings RMRS-P-18. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 460 p.

Debyle, N.V., C.D. Bevins, and W.C. Fisher. 1987. Wildfire occurrence in aspen in the interior western United States. Western Journal of Applied Forestry. 2:73-76.

Kay, C. E. 1997. Is aspen doomed? Journal of Forestry 95: 4-11.

Kay, C. E. 2001a. Evaluation of burned aspen communities in Jackson Hole, Wyoming. Proceedings RMRS-P-18: Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 8 p.

Kay, C.E. 2001b. Long-term aspen exclosures in the Yellowstone ecosystem. Proceedings RMRS-P-18.. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 15 p.

Kay, C.E. 2001c. Native burning in western North America: Implications for hardwood forest management. General Technical Report NE-274. U.S. Department of Agriculture, Forest Service, Northeast Research Station. 8 p.

Letter N10 Continued

Mueggler, W. F. 1988. Aspen Community Types of the Intermountain Region. USDA Forest Service, General Technical Report INT-250. 135 p.

Mueggler, W. F. 1989. Age Distribution and Reproduction of Intermountain Aspen Stands. Western Journal of Applied Forestry, 4(2):41-45.

Romme, W.H., Floyd, M.L, Hanna, D. and Barlett, E.J. 1999. Chapter 5: Aspen Forests in Landscape Condition Analysis for the South Central Highlands Section, Southwestern Colorado and Northwestern New Mexico.

Shepperd, W. D. 1990. A classification of quacking aspen in the central Rocky Mountains based on growth and stand characteristics. Western Journal of Applied Forestry 5:69-75.

Shepperd, W.D. and E.W. Smith. 1993. The role of near-surface lateral roots in the life cycle of aspen in the central Rocky Mountains. Forest Ecology and Management 61: 157-160.

Shepperd, W. D. 2001. Manipulations to Regenerate Aspen Ecosystems. Pages 355-365 in: Shepperd, Wayne D.; Binkley, Dan; Bartos, Dale L.; Stohlgren, Thomas J.; and Eskew, Lane G., compilers. 2001. Sustaining aspen in western landscapes: symposium proceedings; 13-15 June 2000; Grand Junction, CO. Proceedings RMRS-P-18. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 460 p.

Shepperd, W. D., D. L. Bartos, and A. M. Stepen. 2001. Above- and below-ground effects of aspen clonal regeneration and succession to conifers. Canadian Journal of Forest Resources; 31: 739-745.

N10-35 17. Page 3.6-7, Rocky Mountain Elk: Typo -- "white fir" rather than "white-fir" (unlike Douglas-fir).

N10-36 18. Page 3.6-10, Trends, 1st paragraph: The citation by Fleischer (1994) is perhaps not the best one as it omitted a lot of relevant literature. Jones (2000) is perhaps a better review and shows neutral to detrimental effects of grazing on arid Intermountain ranges. The following references could be consulted and cited for this discussion:

Jones, A. 2000. Effects of cattle grazing on North American arid ecosystems: a quantitative review. Western North American Naturalist 60: 155–164.

Belsky, A.J., A. Matzke, and S. Uselman. 1999. Surveyof livestock influences on stream and riparian ecosystems in the western United States. Journal of Soiland Water Conservation 54:419–431.

National Research Council. 1994. Rangeland Health. New Methods to classify, Inventory, and monitor rangelands. National Academy Press, Washington, D.C.

N10-37 19. Page 3.7-5, 2nd paragraph: Typo -- correct "840 to 970 degrees Fahrenheit."

N10-38 20. Page 3.7-6 and 3.7-7, White River Springfish: The BLM portion of Ash Springs has experienced considerably increased use for swimming and bathing in recent years. It is not

Responses to Letter N10

N10-35 In response to your comment, the spelling of "white fir" has been corrected in Section 3.6.2 and at other locations of the Proposed RMP and Final EIS.

N10-36 In response to your comment, additional reference citations (Jones 2000 and National Research Council 1994) have been added to Section 3.6.2.

N10-37 The typographical error has been corrected.

N10-38 Please refer to Section 4.7 (Alternative A - Impacts from Other Programs - Recreation impacts), in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the effects of increased swimming and recreational use in Ash Springs.

Letter N10 Continued

N10-38 uncommon to find >20 people using the pools during the late afternoon, weekend, and holidays. This threat to the White River Springfish habitat should be described in this section and all others where it applies.

N10-39 21. Page 4.1-12, Historic Fire return Intervals-Riparian, bullet #2: It is true that riparian systems do not naturally carry fire; however, fire importation from adjacent terrestrial systems was likely important and determined the FRI of riparian systems in addition to frequent, small-scale historic Native American burning in both the Great Basin and, especially in the Mojave Desert. The following ethno-biological references may help:

Fowler, C. S, P. Esteves, G. Goad, B. Helmer, and K. Watterson. 2003. Caring for the Trees: Restoring Timbisha Shoshone Land Management Practices in Death Valley National Park. Ecological Restoration 21: 302-306.

Rea, A. M. 1983. Once a river; Bird life and habitat changes on the middle Gila. University of Arizona Press.

N10-40 22. Page 4.1-18, Table 4.1-1, Special Status Species, Alternative E: We believe that the following statement does not reflect the real level of protection afforded to rare plants: "Therefore, the implementation of Alternative E would result in additional protection for special status species." With the exception of designating an ACEC for the Swamp Cedars, no special law enforcement, special land designation, or protection is offered in the document for sensitive plant species. Alternative E as written does not appear to offer much additional protection to special status species.

N10-41 23. Page 4.1-23, Table 4.1-1, Renewable Energy, Alternative E: We suggest a discussion in this section about the extent to which renewable energy development will increase the distance of power lines and number of utility towers, and therefore increase the chance of predation on Greater Sage-grouse and desert tortoise juveniles and eggs by perching predators.

N10-42 24. Page 4.1-23, Table 4.1-1, Travel Management and Off-highway Vehicle Use, Alternative E: We suggest discussing here the extent to which the proposed reduction of OHV use in some areas and better management of roads and trails will decrease the probability of non-native plant species introductions.

N10-43 25. Page 4.7-1, 3rd paragraph: The appropriate citation is "Provencher et al. 2003", not "Provencher 2003."

N10-44 26. Page 4.7-19, Alternative B, Vegetation, Recreation: Under recreation, the impact of heavy use of Ash Spring for bathing should be discussed. The pools are often filled at capacity with people during evenings, holidays, and weekends.

N10-45 27. Page 4.13-1-4, Renewable Energy, all Alternatives, Fish and Wildlife: The effects of Greater Sage-grouse and desert tortoise management on renewable energy development needs to be addressed give the power lines and utility towers associated with these projects. Will the presence of high quality habitat for these species prevent or impede the implementation of renewable energy projects?

N10-46 28. Page 4.28-61, Watershed Management, Impacts of the Interrelated Projects, 2nd paragraph: Typo, "To a lessor degree.." should be "To a lesser degree…".

Responses to Letter N10

N10-39 In response to your comment, the text in Section 4.1.4.7 of the Proposed RMP and Final EIS has been revised to address the fact that most fires in riparian areas probably originated in the surrounding upland areas. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N10-40 In response to this and related comments, the text in Section 2.4.22 of the Proposed RMP and Final EIS has been revised to incorporate four additional proposed Areas of Critical Environmental Concern in the Proposed RMP and Alternative B related to special status species.

N10-41 In response to your comment, the text in Section 4.7 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of the effects of renewable energy development on special status species. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N10-42 In response to your comment, the text of the conclusion statement in Section 4.21 (Proposed RMP and Alternative B) of the Proposed RMP and Final EIS has been expanded to address reduced weed dispersal associated with additional constraints on OHV use. This text revision is in the Noxious and Invasive Weed Management section, not the Travel Management and Off-highway Vehicle Use section. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N10-43 In response to your comment, the citation of Provencher et al. 2003 has been corrected in Section 4.7 of the Proposed RMP and Final EIS.

N10-44 In response to your comment, Section 4.15 (Proposed RMP) of the Proposed RMP and Final EIS has been revised to clarify the discussion of impacts of recreational use at Ash Springs.

N10-45 In response to your comment, the text in Section 4.7 of the Proposed RMP and Final EIS has been expanded to clarifiy the discussion of the effects and potential mitigation measures that would reduced impacts on special status species. The basic impact conclusions presented in the Draft RMP and EIS have not changed. Please also refer to Appendix B in the Proposed RMP and Final EIS for the BLM Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS.

N10-46 The typographical error has been corrected.

Letter N10 Continued

The Nature Conservancy Comments on the Ely District RMP -- Enclosure C
November 28, 2005

Enclosure C
Ely District BLM
LANDFIRE-related Comments on the Ely BLM RMP
by The Nature Conservancy of Nevada

LANDFIRE is a five-year, multi-partner wildland fire, ecosystem, and wildland fuel mapping project. This project will generate consistent, comprehensive maps and data describing vegetation, fire, and fuel characteristics across the United States. These maps are produced at scales fine enough to assist in prioritizing and planning specific hazardous fuel reduction and ecosystem restoration projects. The consistent and comprehensive nature of LANDFIRE methods ensures that data will be nationally relevant, while the 30-meter grid resolution assures that data can be locally applicable. LANDFIRE meets agency, partner, and stakeholder needs for data to support landscape fire management planning, prioritization of fuel treatments, collaboration, community and firefighter protection, and effective resource allocation.

This enclosure contains cross-walk results between the RMP's desired range of future conditions and the LANDFIRE Biophysical Settings results for the Historical Range of Variability and Fire return Intervals recently developed by experts for the Great Basin Region, and more specifically for Mapping Zones 17-Eastern Great Basin (similar to 12- Western Great Basin), and 13-Mojave Desert. Mapping Zone 13 is in review, thus results are not final, but are considered high-quality products for the systems discussed.

1) Page 2.5-10, Table 2.5-1 (and figure). There several problems here:
   a) Typos; all mathematical symbols such as < and > are over-written by letters. This problem occurs in all tables, not just this one.
   N10-47 b) Eliminate here and elsewhere the expression "over-mature" and use "late-development closed" to describe the Tree State (Overmature Woodland Phase).
   N10-48 c) We assume that the percentages of vegetation classes for Alternatives B and E represent the desired range of future conditions, perhaps based on NRCS values. It is not clear where the percentages came from, but LANDFIRE proposed a pre-settlement Historic Range of Variability (HRV; similar to desired range of future conditions) for Pinyon-Juniper Woodlands (attached as PDF; 710190 Great Basin Pinion-Juniper Woodland), which cross-walks in the following way to proposed RMP groups: 10% (of the landscape) for the Herbaceous State (classes A + B of LANDFIRE), 20% for Herbaceous State-Immature Woodland State (class C of LANDFIRE), and 70% for the Tree State-Mature Woodlands (classes D + E; which range from 5-50% cover). As can be observed, there are large departures between the RMP and LANDFIRE estimates for the Herbaceous State-Immature Woodland State and the Tree State-Mature Woodlands, and the latter class includes tree cover that is too low (pinyon-juniper woodlands on unproductive, but more mesic sites can reach 40+% cover). The Tree State-Overmature Woodland Phase would be considered uncharacteristic in LANDFIRE terminology.

2) Page 2.5-16, Table 2.5-2:
   a) Typos; all mathematical symbols such as < and > are over-written by letters.
   N10-49 b) Eliminate the expression "over-mature" and perhaps use "senescent", "depleted", or "late-development" either as "closed" or "open".
   N10-50 c) Two types of aspen are equally present in the Ely District; stable aspen that is not invaded by conifers and seral aspen that will be naturally invaded by conifers to some extent, and more so with fire exclusion. The desired range of future conditions from LANDFIRE vary between them (see attached PDF; 1710110 Rocky Mountain Aspen Forest and Woodland; 1710610 Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland)

Responses to Letter N10

N10-47 The term "over-mature" used within the Draft RMP and EIS and Proposed RMP and Final EIS is defined in both the text and Glossary and is used in conformance with current NRCS Ecological Site Descriptions. As used in this document, the term is not synonymous with old-growth forest and a careful distinction is made between the terms throughout Section 2.4.5.

N10-48 The desired range of conditions was derived from specific pinyon/juniper NRCS ecological site guides. LANDFIRE biophysical models were compared and referenced to the Draft RMP and EIS desired range of conditions. See revised text in Section 2.4.5.2 of the Proposed RMP and Final EIS for vegetation and desired range of conditions concerning the pinyon/juniper vegetative community.

N10-49 Please refer to Response to Comment N10-47.

N10-50 Please refer to Response to Comment N10-27.

Letter N10 Continued

N10-50 and do not match the values in Table 2.5-2. Moreover, the range of canopy cover in the Table is substantially smaller than that proposed by LANDFIRE experts. Because the Historic Range of Variability from both LANDFIRE Biophysical settings is so different from the desired range of condition and canopy, the cross-walk is difficult. The LANDFIRE percentages for stable aspen would be 14% (of the landscape) for the Herbaceous State (classes A of LANDFIRE; 0-100% canopy cover), 40% for Herbaceous State-Immature Woodland State (class B of LANDFIRE with 40-100% canopy cover), 45% for the Tree State-Mature Woodlands (classes C; 40-100% cover), and 1% Tree State-Mature Woodlands (class D; 0-40% canopy cover). The LANDFIRE percentages for seral aspen would be 14% (of the landscape) for the Herbaceous State (classes A of LANDFIRE; 0-100% canopy cover), 40% for Herbaceous State-Immature Woodland State (class B of LANDFIRE with 40-100% canopy cover), 35% for the Tree State-Mature Woodlands (classes C; 40-100% cover), 10% Tree State-Mature Woodlands (class D; 0-40% conifer canopy cover), and 1% Tree State-Mature Woodlands (class E; 40-80% conifer canopy cover).

3) Page 2.5-21, Table 2.5-3 (and figure):
   a) Typos; all mathematical symbols such as < and > are over-written by letters.
   b) N10-51 Eliminate the expression "over-mature" and perhaps use "uncharacteristic" or "fire-excluded". The term "over-mature" is applied to a state described as an overstocked stand resulting from long-term fire-exclusion; however, dense stands occurred in 30% and 10%, respectively, of the pre-settlement landscape for mid-development and late-development vegetation classes LANDFIRE Biophysical Setting 1710520 Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodlands.
   c) N10-52 Under current condition, does the 32,000 acres of overmature phase include aspen stands currently invaded by white fir and other conifers? If so, then the acreage of aspen invaded by conifers should be accounted for under the seral aspen vegetation and be considered largely uncharacteristic.
   d) N10-53 This group of high-elevation conifers, unfortunately, includes fire-frequent (e.g., Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Southern Rocky Mountain Ponderosa Pine Woodland) and fire-infrequent species (e.g., Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodlands & Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland). The values presented in Table 2.5-3 should be revised completely. The following table is a crosswalk between RMP numbers and LANDFIRE percentages and canopy cover values:

State or phase	Herbaceous state: early development	Herbaceous state: mid-development or immature tree	Tree State: late development or mature tree	Tree State: uncharacteristic or overmature
Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodlands (white fir dominant, limber pine)	10% landscape @ 0-35% canopy cover	30% of landscape @ 35-100% canopy cover; 30% of landscape @ 0-35% canopy cover; TOTAL 60% of landscape @ 0-100% canopy cover	10% of landscape @ 35-100% canopy cover; 20% of landscape @ 0-35% canopy cover; TOTAL 30% @ 0-100% canopy cover	More than 10% of landscape with >100% canopy cover

Responses to Letter N10

N10-51 Please refer to Response to Comment N10-47.

N10-52 Please refer to Response to Comment N10-27.

N10-53 Please refer to Response to Comment N10-28.

Letter N10 Continued

Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland	20% of landscape @ 0-20% canopy cover	20% of landscape @ 20-40% canopy cover	60% of landscape @ 20-40% canopy cover	Any percentage with more than 40% canopy cover or >60% of landscape with 20-40% canopy cover
Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest (Douglas-fir, limber pine, and ponderosa pine)	20% landscape @ 0-15% canopy cover	5% of landscape @ 35-100% canopy cover; 10% of landscape @ 0-35% canopy cover; TOTAL; 40% of landscape	5% of landscape @ 35-100% canopy cover; 60% of landscape @ 0-35% canopy cover; TOTAL; 65% of landscape	More than 5% of landscape with >100% canopy cover or more than 65% of landscape with any canopy cover
Southern Rocky Mountain Ponderosa Pine Woodland	10% landscape @ 30-60% canopy cover	9% of landscape @ 35-60% canopy cover; 20% of landscape @ 15-35% canopy cover; TOTAL 29% of landscape @ 0-100% canopy cover	1% of landscape @ 35-60% canopy cover; 60% of landscape @ 0-35% canopy cover; TOTAL of 61% of landscape @ 0-60% canopy cover	More than 1% of landscape with >60% canopy cover or more than 61% of landscape with any canopy cover

N10-54 4) Page 2.5-26, Table 2.5-4 (and figure): Minor differences were found between RMP and LANDFIRE estimates with greater percentages of shrub state from LANDFIRE. The following table is a crosswalk between RMP numbers and LANDFIRE percentages and canopy cover values for salt desert scrub:

State or phase	Herbaceous state: early development	Shrub state
Inter-Mountain Basins Mixed Salt Desert Scrub (shadscale-budsage dominant)	5% landscape @ 0-5% canopy cover	50% of landscape @ 5-20% canopy cover of shadscale phase; 45% of landscape @ 5-20% canopy cover of budsage phase: TOTAL 95% of landscape @ 5-20% canopy cover
Inter-Mountain	5% of	95% of

Responses to Letter N10

N10-54 In response to this and related comments, the text and table in Section 2.4.5.5 of the Proposed RMP and Final EIS have been revised to clarify the description of states in the salt desert shrub vegetation type and correlate them with LANDFIRE descriptions.

Letter N10 Continued

The Nature Conservancy Comments on the Ely District RMP -- Enclosure C
November 28, 2005

Basins Greasewood Flat	landscape @ 5-15% canopy cover	landscape @ 15-25% canopy cover

N10-55 It should also be noted that the Shrub State used in Table 2.5-4 represents a desirable state in salt desert scrub from the perspective of the RMP and LANDFIRE. However, Shrub State describes an undesirable state for sagebrush, which makes for a confusing terminology because phases and states are interchanged.

N10-56 5) Page 2.5-31, Table 2.5-5 (and figure): This group of sagebrush types, unfortunately, includes different sagebrush communities and LANDFIRE Biophysical Settings. The table below is a crosswalk between RMP numbers and LANDFIRE percentages and canopy cover values; however, it is important to note that the Tree State was a very minor component in the pre-settlement landscape according to LANDFIRE experts and that the Total Herbaceous State in Table 2.5-5 is just too broad and represents a very diverse group of phases each with different management methods associated with them. An obvious observation is that the RMP allows for far more Shrub State representation in the landscape than the LANDFIRE Historic Range of Variability. The values below could be added to Table 2.5-6, where percentages per seral stages are not stated.

State or phase	Total herbaceous state: all phases of LANDFIRE	Total shrub state	Total tree state: late development	Tree State: uncharacteristic or depleted
Inter-Mountain Basins Big Sagebrush Shrubland (i.e., Wyoming and basin big sagebrush)	15% landscape @ 0-10% shrub cover; 50% landscape @ 11-25% shrub cover; 25% landscape @ 25-35% shrub cover; & 5% landscape @ 0-15% immature tree cover; TOTAL 95% of landscape @ 0-35% canopy cover	0% - no equivalent in LANDFIRE	<5% of landscape @ 15-90% tree canopy cover	More than 5% of landscape with >100% canopy cover
Great Basin Xeric Mixed Sagebrush Shrubland (i.e., black and low sagebrush)	15% landscape @ 0-5% shrub cover; 60% landscape @ 6-25% shrub cover; & 15%	0% - no equivalent in LANDFIRE	<10% of landscape @ 6-40% tree canopy cover	More than 10% of landscape with 6-40% tree canopy cover or >0% with tree canopy cover >40.

Responses to Letter N10

N10-55 Vegetation states in the state-and-transition model concept (e.g., herbaceous, shrub, tree states) have neutral connotations regarding value or desirability. They simply represent discrete assemblages of species and conditions within the possible array of such units on a given site. The desirability of individual states is largely a function of management objectives for the site, which differ from one alternative to another within this document.

N10-56 In response to this and related comments, the text and table in Section 2.4.5.6 of the Proposed RMP and Final EIS have been revised to clarify the description of states in the sagebrush vegetation type and correlate them with LANDFIRE descriptions.

Letter N10 Continued

	landscape @ 0-5% immature tree cover (rest shrub and herbaceous); TOTAL 90% of landscape @ 0-25% canopy cover			
Inter-Mountain Basins Montane Sagebrush Steppe (i.e., mountain big sagebrush/bitterbrush with a minor component of low sagebrush)	20% landscape @ 0-5% shrub cover; 50% landscape @ 6-25% shrub cover; 15% landscape @ 25-45% shrub cover; & 10% landscape @ 10-25% immature tree cover; TOTAL of 95% of landscape @ 0-45% canopy cover	0% - no equivalent in LANDFIRE	<5% of landscape @ 26-80% tree canopy cover	More than 5% of landscape with 26-80% canopy cover or >0% with >80% canopy cover

6) Page 2.5-38, Table 2.5-7 (and figure):
   a) Typos; all mathematical symbols such as < and > are over-written by letters.
   b) In the Table, there seems to be a contradictory term; the Shrub/Tree-like State (No Understory Phase) apparently represents the savanna sites (see RMP table footnote), which by definition should have herbaceous and shrub understories. In the LANDFIRE description for mountain mahogany, late-development tree-like stands exist in two forms: open (savanna), due to past fire activity, and closed (not savanna, but dense tickets). All closed structures have very little understory, but this is expected for a fraction of the landscape in pre-settlement condition. N10-57
   c) The RMP distribution of phases and states is very different from that described by LANDFIRE and canopy cover values do not match. We recommend that BLM adopt the LANDFIRE version. N10-58
   d) The values presented in Table 2.5-3 should be revised completely. The following table is a crosswalk between RMP numbers and LANDFIRE percentages and canopy cover values: N10-59

State or phase	Herbaceous state: early development	Herbaceous state: mid-development open or shrub phase-	Shrub state: mid-development closed or shrub/herbaceous phase;	Shrub-tree-like state: late-development (= old growth)

Responses to Letter N10

N10-57 In response to this and related comments, the text and table in Section 2.4.5.7 of the Proposed RMP and Final EIS have been revised to clarify the description of states in the mountain mahogany vegetation type and correlate them with LANDFIRE descriptions.

N10-58 Please refer to Response to Comment N10-57.

N10-59 Please refer to Response to Comment N10-57.

Letter N10 Continued

		herbaceous dominant with shrubs reestablishing)		
Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland	10% of landscape 0-55% canopy cover of shrub saplings[1]	15% of landscape 10-30% shrub canopy cover	10% of landscape 30-45% shrub canopy cover	20% of landscape 0-20% tree-like canopy cover; 45% of landscape 30-55% tree-like canopy cover; TOTAL of 65% of landscape @ 0-55% canopy cover

[1] Because curlleaf mountain mahogany seedlings have no tolerance for competition and require mineral soil on usually unproductive sites for successful establishment, the herbaceous state does not really occur under pre-settlement conditions. This phase is typically dominated by shrubs with a small amount of herbaceous cover.

N10-60

7) Page 3.20-2, Table 3.20-2: The historic fire return intervals cited in this table are sometimes widely incorrect. The total fire return intervals obtained from LANDFIRE Biophysical Settings computer simulations are:

Vegetation Community	Historic Total Fire Return Interval[1] (years)
Wyoming big sagebrush	115
basin big sagebrush	49
mountain big sagebrush	49
black sagebrush	84
salt desert scrub	2,000
pinyon-juniper woodland	166
mountain mahogany	69
mixed conifer-upper montane	Subalpine 143; dry montane 10; mesic montane 33
riparian	Variable but 175 for montane riparian
aspen	Stable 31; seral 29

[1] The total fire return interval is the inverse of the sum of the probability per year for replacement, mixed severity, and surface fires. The total does not necessarily reflect the dominant effect one type of fire may have. For example, Wyoming big sagebrush has a shorter FRI for replacement fire than black sagebrush, but the effect of mixed severity fire in black sagebrush obscures this important fact.

Responses to Letter N10

N10-60 In response to this and related comments, the fire return intervals in Table 3.20-2 of the Proposed RMP and Final EIS have been revised to correlate them with values derived from LANDFIRE simulations.

Letter N10 Continued

Enclosure D
Ely District BLM
LANDFIRE Biophysical Settings Descriptions
for the Great Basin and Mojave Desert Regions

This enclosure (see attached PDF) contains LANDFIRE Biophysical Settings descriptions recently developed by experts for the Great Basin Region, and more specifically for Mapping Zones 17-Eastern Great Basin (similar to 12- Western Great Basin), and 13-Mojave Desert. We list separately the descriptions for Mapping Zones 17 (identical to 12) and 13. Mapping Zone 17 and 12 are fully reviewed and are considered final drafts. Mapping Zone 13 is in review, thus descriptions are not final, but are considered high-quality products for the systems presented. We only present the subset of descriptions from Mapping Zone 13 that are relevant to the Ely BLM. All Biophysical Settings from Mapping Zone 17 (Great Basin) start with the code "17" and is followed by the system's code. For example, Great Basin Pinyon-Juniper Woodland is "1710190", where "1019" represents the ecological system and "0" indicate a final draft. Similarly, the system is coded "131019" for the Mojave Desert.

Letter N11

The Toiyabe Chapter of the Sierra Club

Nevada and Eastern California

PO Box 8096, Reno, NV 89507

One Earth, One Chance.

November 11, 2005

NOV 2005

Gene Drais, Project Manager
BLM/Ely Field Office
HC 33 Box 33500
Ely, NV 89301

Dear Manager Drais,

On behalf of the Toiyabe Chapter of the Sierra Club and its 6,000+ members in Nevada and the eastern Sierra, I am submitting comments on the draft Ely Resource Management Plan/Environmental Impact Statement.

N11-1 In general, the Sierra Club supports Alternative B, which focuses on restoration of public lands which are not in healthy conditions while maintaining lands which are in functioning condition and a more ecological approach to public land and resource management. However, the dEIS fails to provide any scientific support for its

N11-2 assumptions that Great Basin vegetation occurred historically in mosaics, especially pinyon-juniper woodlands. The analysis ignores longer-term causes of vegetation distribution,including climate changes and global warming.

N11-3 Other deficiencies in the document include a project-oriented band aid approach, largely cutting down, burning, or otherwise destroying pinyon-juniper woodlands which are encroaching on brush communities, rather than addressing the proximate causes of vegetation distribution, largely unwise livestock grazing practices. And livestock grazing should be considered a restoration tool, not just a commodity use in this document.

N11-4 Nor are dire predictions of catastrophic fires in PJ communities substantiated, but decades of no fires or minimal fires on these wooded public lands are ignored.

N11-5 Unfortunately, the dRMP and EIS reflect a lack of basic understanding of how to professionally manage pinyon-juniper woodlands for all of its values of wildlife habitat, water infiltration, pinenut production, recreation, and scenic beauty. An overall assessment of PJ woodland condition and a long-term holistic management plan should be developed prior to patchy treatment projects in the RMP/EIS. Otherwise, we are doomed to ineffective, yet expensive and trendy projects similar to historic BLM reliance on PJ chaining or crested wheat-grass seedings both of which were considered the salvation of Great Basin rangelands in their times.

N11-6 We are also concerned about the poor impact analysis in the document of increased noxious weed invasion facilitated and accelerated by the restoration treatments which disturb the ground providing excellent habitat for pioneering weeds. There are too many acres targeted for ground-disturbing projects and too little planning to control and manage the resulting noxious weed invasions.

N11-7 The two proposed motorcycle special events areas do not belong in this alternative and should not be designated by the BLM because of the environmental damages caused by this type of use. Nor does the emphasis on increasing wildlife guzzlers to compensate for the loss of water and wildlife habitat to other public land uses. Instead, the RMP should include an emphasis on improving wildlife habitat and especially water sources for wildlife because of the threats of massive groundwater pumping proposals in the RMP area.

N11-8 We strongly oppose expanding woodcutting to high-elevation conifer trees, especially bristlecone pines. We believe this tree is a Nevada state conservation species. Nor should cutting be allowed of limber pine, Engelmann spruce, or other high elevation conifer species. Since the BLM appears fixated on eliminating pinyon-juniper on our public lands, targeting woodcutting to these species would appear to be a more logical direction.

Thank you for considering our comments.

Sincerely,

Rose Strickland, Chair
Public Lands Committee

GREAT BASIN GROUP
PO Box 8096
Reno, NV 89507

RANGE OF LIGHT GROUP
PO Box 1973
Mammoth Lakes, CA 93546

SOUTHERN NEVADA GROUP
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Responses to Letter N11

N11-1 Comment noted.

N11-2 Historic (pre-settlement) vegetation patterns tend to correlate closely with soil and landscape characteristics, which are best described as occurring in mosaic patterns (e.g., Map 3.1-1 in the Proposed RMP and Final EIS). According to a number of the foremost authorities in Great Basin ecology, pre-settlement pinyon and juniper woodlands existed primarily on rocky ridges and other areas relatively protected from fire, while sagebrush communities typically occupied the deeper, well-drained steppe soils. Since the late 1800s, the pinyon-juniper woodlands have expanded dramatically. Long-term climatic changes are recognized in the text as contributing to these vegetation changes and trends. However, for most plant communities, the long-term climatic changes are considered by most ecologists to be of lesser influence than human activities during the past 150 years.

N11-3 Expansion of pinyon-juniper communities is related to a variety of factors with changes in fire regime being one of the foremost. The historic changes in fire regime, in turn, have resulted from a combination of factors including such things as fire suppression, livestock grazing, and vegetation management practices. The variety of factors affecting pinyon-juniper expansion are considered in the Ely Field Office's proposed management of these areas during and following watershed analysis, but a detailed analysis of such factors is outside the scope of the Proposed RMP and Final EIS. The Ely Field Office's proposed treatment of sagebrush sites where pinyon-juniper is increasing in dominance is but one of numerous rehabilitation treatments proposed in the Ely RMP decision area.

N11-4 Sparse pinyon-juniper stands with limited understory are relatively resistant to fire disturbance. However, as the stand density increases to nearly closed canopy conditions, these woodlands become much more susceptible to intense, stand-replacing crown fires.

N11-5 The Ely Field Office disagrees that the Draft RMP and EIS and Proposed RMP and Final EIS lack understanding of woodland management. Please refer to Section 1.5.1 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of planning criteria, specifically general criterion #18 regarding the use of NRCS ecological site descriptions for all vegetation communities. The management prescriptions for pinyon and/or juniper reflect the necessary actions to maintain or restore healthy functioning woodlands that will provide wildlife habitat, increase water infiltration in watersheds, and provide recreation and scenic beauty by preventing catastrophic fire. Pine nut production per tree is directly related to climatic conditions. Having healthy woodlands would improve soil / water relationships, and these have a positive effect on pine nut production.

Responses to Letter N11

N11-6 The Proposed RMP and Final EIS provides adequate analysis of the relationship between vegetation treatment and the invasion of weeds. The potential for increased noxious weed invasion during restoration projects will be considered by the Ely Field Office on a site-specific basis when project-specific plans are prepared. These issues will be addressed in the individual watershed analysis and restoration plans.

N11-7 Motorcycle race events are a legitimate multiple use of the Ely RMP decision area. Alternative D would not permit such events. The improvement of wildlife habitat is a primary objective of the Proposed RMP. The development of wildlife water sources would be considered on a project-specific basis. The development of groundwater resources in the Ely RMP planning area would be the subject of NEPA analysis unique to those proposals.

N11-8 Please refer to Section 2.4.17 of the Proposed RMP and Final EIS for a discussion of the tree species proposed for harvest. Under Management Common to All Alternatives, it is stated that "bristlecone pine, limber pine, and swamp cedar would not be harvested for any vegetation product."

Letter N12

To: Bureau of Land Management/Ely Office

From: Vegas Valley 4 Wheelers

Subject: Ely RMP/EIS

Date: November 25, 2005

Comments in reference to RMP Ely District (#1610
NV-910) regarding BLM land use.

Section 2.5.14.1 Parameter-Transportation Plan

Alternative B:

N12-1 Why close roads still open and appropriate to use. Let the Federal Government first make a decision then based on this information make a in White Pine County.

N12-2 Further on in the second paragraph under Alt B "Greater Emphasis on ecological system restoration would be placed on road and trail designations." leaves out responsible recreation. We think that a more reasonable wording should read "Equal emphasis on ecological system restoration and responsible recreation would be placed on road and trail designations."

Alternative E:

N12-3 Last sentence third paragraph Please remove the phrase "All Wilderness Study Areas would be closed to motorized travel." Again we state that the Federal Government Congress has not yet ruled on this area. Including this statement is pre-mature. A more reasonable use for all can be determined after Congress has ruled.

N12-4 Section 2.5.14.2 parameter-Off-highway Vehicles

Alternative B:

After the first sentence there are three areas used to describe how OHV vehicles would be managed.

First point "Open to cross country off-highway vehicle use: 0 acres" Please change this to include Dry lakebeds and dry washes should remain open as a minimum standard.

N12-5 The second point Off-highway vehicle use limited to designated roads and trails: 10,338,000 acres. Should also be changed to read "Off-highway vehicle use limited to existing roads and trails: 10,338,000 acres.

Responses to Letter N12

N12-1 The Ely Field Office is required to establish a process for completing a defined travel management network. Please refer to Section 2.4.14.1 of the Proposed RMP and Final EIS for clarification of how comprehensive travel management planning will occur in the Ely RMP planning area.

N12-2 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes.

N12-3 Wilderness study areas are managed by the Ely Field Office so as not to impair the suitability of such areas for preservation as wilderness until Congress has determined otherwise. If these wilderness study areas are released from wilderness consideration, new travel management designations may be made.

N12-4 The designation of dry lake beds as open was considered in the Draft RMP and EIS and Proposed RMP and Final EIS as part of Alternative C. However, it was not incorporated into the Proposed RMP. Not all dry washes would be suitable for OHV use; however, some may be designated as trails when transportation plans are prepared for a watershed or group of watersheds. The public will be invited to participate in the transportation planning process.

N12-5 The Ely Field Office recognizes the massive undertaking necessary to designate routes in such a large planning area. Please refer to Section 2.4.14.1 in the Proposed RMP and Final EIS for clarification of comprehensive travel management planning.

Letter N12 Continued

N12-6 Third point "Closed to off-highway vehicle 1,062,000 acres. This acreage reflects designated wilderness and Wilderness Study Areas, congress has not yet ruled on Wilderness Study Areas in White Pine County once again it would not be appropriate to pre-maturely close access to roads that are still open and appropriate to use. We ask that you please change this statement to reflect our comments!

N12-7 Alternative C:

Also has three points on which management would be done

First point "Open to cross country off-highway vehicle use :32,000 acres in dry lake bed areas" Please change this to include All Dry lakebeds and dry washes should remain open as a minimum standard.

N12-8 The second point: Off-highway vehicle use limited to designated roads and trails: 10,608,000 acres. Should also be changed to read "Off-highway vehicle use limited to existing roads and trails: 10,608,000 acres. Third point "Closed to off-highway vehicle 760,000 acres. This acreage reflects designated wilderness Areas. Congress has not yet ruled on Wilderness Areas in White Pine County once again it would not be appropriate to pre-maturely close access to roads that are still open and appropriate to use. We ask that you please change these statements to reflect our comments!

N12-9 Alternative E:

"Reads same as B " We would like our comments on Alternative E, also to reflect our same comments we made in Alternative B: After the first sentence there are three areas used to describe how OHV vehicles would be managed.

N12-10 First point "Open to cross country off-highway vehicle use :0 acres" Please change this to include: Dry lakebeds and dry washes should remain open as a minimum standard.

N12-11 Second point: Off-highway vehicle use limited to designated roads and trails: 10,338,000 acres. Should also be changed to read "Off-highway vehicle use limited to existing roads and trails: 10,338,000 acres.

N12-12 Third point "Closed to off-highway vehicle 1,062,000 acres. This acreage reflects designated wilderness and Wilderness Study Areas, congress has not yet ruled on Wilderness Study Areas in White Pine County once again it would not be appropriate to pre-maturely close access to roads that are still open and appropriate to use. We ask that you please change these statements to reflect our comments!

N12-13 Section 2.5.15.1 Parameter-Special Recreation

Management Areas

Responses to Letter N12

N12-6 Please refer to Response to Comment N12-3.

N12-7 Please refer to Response to Comment N12-4.

N12-8 Please refer to Responses to Comments N12-5 and N12-3.

N12-9 Comment noted.

N12-10 Please refer to Response to Comment N12-4.

N12-11 Please refer to Response to Comment N12-5.

N12-12 Please refer to Response to Comment N12-3.

N12-13 No special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP. Designated roads and trails for motorized travel may be identified in the Pahranagat special recreation management area as part of the travel planning process discussed in Section 2.4.14.1 of the Proposed RMP and Final EIS.

Letter N12 Continued

N12-13 Table 2.5-11: page 2.5-137: We would like to comment on the omission of motorized recreation under the Primary Values column. Please for the Pahranagat area change the primary value to include "Heritage tourism and motorized recreation" in the Pahranagat portion of the "Primary Values" column.

N12-14 Alternative E:

In this paragraph you list nine new special recreation management areas totaling 2,680,000 acres, five of which are areas to be included in special recreation management areas, that would emphasize motorized recreation (off-highway vehicle emphasis areas) Please include our comment to include the Pahranagat Area as one of these areas for motorized recreation (off-highway vehicle emphasis areas). The Pahranagat area is one that we are currently working in partnership with the Ely BLM to promote and enhance responsible OHV recreational opportunities to develop the proposed action please include our comment to reflect the Pahranagat area and increase the total to six. We can not express how important that partnerships with appropriate entities and the B.L.M. to promote and enhance recreation opportunities in the planning areas is, including our comments will allow our partnership to continue and flourish.

N12-15 Section 2.5.15.2 Parameter-Special Recreation Permits

Alternative B:

Please clarify "A maximum of two truck events would be permitted each year on race routs subject to NEPA analysis." We would like to know if these are competitive or non-competitive events!

N12-16 Alternative E:

Our events which are group events are very slow speed and not competitive as we do not fit this category we ask not to be included with the Truck Race Events section of this paragraph and ask that we be listed separately in Alternative E , please include our comment in Alternative E.

Sincerely,

Benjamin P. Affleck: Secretary
Dave Philblad: Treasurer
Rick Meece: President
Darryl Wade: Trail Boss

Vegas Valley 4 Wheelers
P.O. Box 95884
Las Vegas NV 89193-5884

Responses to Letter N12

N12-14 Please refer to Response to Comment N12-13.

N12-15 In response to your comment, the text in Section 2.4.15.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of competitive vs. non-competitive events.

N12-16 Please refer to Response to Comment N12-15.

Letter N13

Western Watersheds Project

Boise, Idaho Office
PO Box 2863
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Working to protect and restore Western Watersheds

November 11, 2005

NOV

Ely RMP Project Manager
702 n. Indistrial Way
HC33 Box 33500
Ely, NV 89301-9408

Dear RMP Project Manager,

Here are some general comments of Western Watersheds Project on the BLM's Ely RMP. We will also be submitting additional, more specific comments, and relevant literature citations as separate documents.

BLM'S DUTY UNDER FLPMA.

BLM is required under FLPMA to consider present and potential uses of the public lands, and the scarcity of values involved. TNC developed a Portfolio of many of the ecologically important sites in the Great Basin (Nachlinger et al. 2001), explains the great importance of many of these lands to long-term conservation of Great Basin biota and ecosystems. See Nachlinger et al. 2001, "Great Basin: An Ecoregion-based Conservation Blueprint". Many of these important lands are managed by the Ely Field office. Many of these sites are of national significance, and deserve protection as large ACECs. Sadly, the RMP casts aside millions of acres of lands worthy of ACEC protection for their outstanding, yet highly vulnerable, natural values.

N13-1

Recent scientific assessments stress the importance of remaining still largely intact native plant communities for the long-term persistence of sagebrush biota. These studies also emphasize the grave threats posed by exploding exotic species invasions that could ultimately doom these Ely landscapes and wildlife of great value to the American people. See Wisdom 2000, Connelly et al. 2004; Dobkin and Sauder 2004.

TNC's work is now buttressed by a number of comprehensive new analyses (Connelly et al. 2004, Dobkin and Sauder 2004, others) that show the importance of blocks of relatively intact arid plant community habitats. Plus, this area contains splendid ancient pinyon-juniper forests of international significance, as well as lower elevation salt desert shrub communities critical to species ranging from loggerhead shrike to the small mammal prey of numerous raptor species. These lands provide unique and outstanding conservation and outstanding recreation opportunities, and offer great opportunities for BLM to actually fulfill its duties under FLPMA. These include: acting to stop further ecological harm from occurring to relatively intact landscapes; undertaking meaningful conservation actions to enhance and restore damaged or

Responses to Letter N13

N13-1 Please refer to Response to Comment N13-4.

Letter N13 Continued

degraded sites (i. e. restore de-watered springs; control and obliterate unneeded roading that has grown up without authorization as livestock projects or other activities have occurred, such as in association with pipelines, fences, water hauling, salting sites, mining exploration, seisimic Oil and Gas testing, etc.); remove harmful livestock projects that may be fragmenting sage grouse or other habitats and may be serving as epicenters of weed invasion; and to restore composition, structure and function of salt desert shrub, sagebrush, pinyon-juniper and higher elevation forested communities.

There is scientific alarm at the imperilment the sagebrush-steppe ecosystem, (Billings 1994, Ricketts et al.1998, Wisdom et al. 2000, Wisdom et al 2003. Knick et al. 2004, Dobkin and Sauder 2004 and many others) elevates protection of remaining intact habitats and restoration of fragmented habitats.

The Great Basin and other lands of the Ely RMP area contain scarce desert springs that are essential oases for a native animal species. Ely-managed lands lie south of the unique geographic configuration of the Goshute Mountains, that results in suitable migration conditions for a stream of raptors in the fall. The importance of Ely lands for migrating birds has been largely unexamined. It is critical to understand migration patterns, as well as areas of nesting concentration of raptors and other species, so that this Plan can avoid/prohibit the siting of new bird-killing and habitat fragmenting facilities such as wind or communication towers in migration paths. N13-2

The many north-south ranges, and their flanks and broad valleys provide critical food for refueling migrant birds. Plus, the beautiful and wild landscape provides outstanding recreational opportunities, with large tracts of WSAs and other significant blocks of little-roaded lands. Ranges, cloaked in forested dark green, rise above the sagebrush and salt desert shrub lands below.

Given the acknowledged national significance of the lands in ecosystems that span the states of Nevada and reach into Utah, and relatively intact salt desert, pinyon juniper and montane island communities, the RMP can not undertake the typical BLM livestock-centered planning process, as you regrettably, have done in the Draft RMP. Accommodating public lands grazing, and killing woody vegetation while allowing grazing damage to continue, without addressing causal factors of ecological problems, can not be the primary force in this effort. N13-3

Protective management actions must be developed under all alternatives, and ACECs designated to protect intact landscapes of sagebrush, salt desert shrub, sweeping basins and forested ranges, and to provide unfragmented core habitat for sage grouse, raptors sagebrush-obligate migratory birds, pygmy rabbit, and other sagebrush obligates such as pronghorn antelope must be undertaken. BLM must also protect rare and endemic plant and animal communities, cultural sites, and other sites. N13-4

N13-5 BLM must recognize the current and potential value of portions of these lands as reference sites in scientific research, and as minimally fragmented ecosystems for species restoration and long-

Responses to Letter N13

N13-2 The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for wind energy or communication towers are prepared and evaluated.

N13-3 The Proposed RMP and Final EIS have not taken a livestock-centered approach to planning. Please refer to Appendix A in the Proposed RMP and Final EIS for a discussion of the process found in BLM Handbook H-4180-1 Rangeland Health Standards. This process is used to determine if watersheds are meeting land health standards (rangeland health standards). Part of this process identifies causal factors when standards are not being met.

N13-4 Thank you for your comment. Protection of all of the resources you mention is a consideration throughout the alternatives for the Ely RMP. This protection occurs through existing BLM regulations and policies and will be considered during subsequent project-level NEPA and planning. ACECs were thoroughly considered based on nominations. The Ely Field Office received 128 nominations for ACECs, which were combined into 100 nominated areas, of which, 77 met the criteria as a potential ACEC. Based on management considerations, 3 existing and 17 new ACECs are proposed for designation through the Proposed RMP. In addition, the three Desert Tortoise ACECs will be retained.

N13-5 Comment noted.

Letter N13 Continued

N13-5 term population viability. In the increasingly developed US, the value of Ely RMP lands as an enclave of solitude and open space is great.

N13-6 While recognizing, protecting, and enhancing special status species habitats and other important values, BLM must also grapple with ongoing livestock grazing degradation of riparian areas and uplands, particularly the spread of invasive species (primarily caused or extended by livestock disturbance, livestock facilities, roading, mining or Oil and Gas exploration and agency vegetation manipulation or alteration); fragmentation caused by grazing installations/livestock facilities, fire and other factors; and OHV use exacerbated by livestock facility-associated roading.

The diminishment, degradation and often disappearance of springs and other surface waters in Nevada is a serious and expanding threat to the persistence of native biota. Ely lands are under even greater assault due to recent legislation allowing aquifer de-watering and pipeline corridors for water export to Las Vegas. Many springs have been developed, thus killing or much-reducing surface flows. The threat of water export and ground water depletion affecting regional aquifers is looming over much of eastern Nevada due to plans to construct pipelines and export water to Las Vegas or other areas, water demands for potential coal-fired powerplants and other developments. Plus, with land disposal under the recent legislation, increased local demand for water on private lands will also occur.

IMPORTANCE OF COLLECTING FOR DEVELOPING ALTERNATIVES AND ANALYZING OUTCOMES

N13-7 We are very disappointed that BLM has failed to collect adequate baseline biological data on wildlife habitats and populations and native vegetation communities, and other ecological conditions in the EIS lands. This requires a minimum of two years of intensive effort, and must include new on-the-ground inventories for special status species and analysis of habitat conditions for these species. This information must be thoroughly and systematically collected, as it is essential for both developing and analyzing alternatives impacts. BLM must also work with agencies in Utah to better understand the shared resources of the lands and habitats by wildlife populations, including special status species.

GOOD MAPS

Maps are not only important in the EIS, but for users of the document in future years to understand management constraints - or goals - on specific land areas when agency projects are proposed, and when new threats arise. Maps need to be detailed, and provide ready geographic frames of reference so that a reader can more easily orient themselves on landmarks such as drainages, and understand locations.

Unfortunately, the format of the RMP maps provided does not do that. WWP requested better maps to aid understanding of agency plans across this vast landscape, and was told that none
N13-8 were available. We do not believe that BLM can assess impacts of the RMP alternatives, or expect the public to adequately comment, without much more detailed maps.

Responses to Letter N13

N13-6 Watershed analysis considers the uses mentioned in your comment. Assessment data is evaluated to determine where land health standards are or are not being met. Riparian areas and uplands have associated standards and guidelines by which the data can be evaluated.

N13-7 NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The baseline data for wildlife habitats and native vegetation communities is adequate to prepare an RMP/EIS for the Ely planning area.

N13-8 The scale (size), background, and shading on the maps were selected to show the information being presented as clearly as possible. Maps have been revised where possible in the Proposed RMP and Final EIS to enhance legibility and user friendliness. Due to the size of the Ely RMP planning area, it is not appropriate to have all maps formatted the same. An appropriate level of detail was selected for each map to display the resource being discussed, e.g. broad coverage for wildlife ranges and finer detail for lands available for disposal. Additional information has been provided in tables and text to supplement the maps.

Letter N13 Continued

N13-9 With the GIS capabilities available today, BLM can overlay values or threats such as cheatgrass domination of understories, old seedings, understories lacking forbs, areas that have undergone or are threatened by wind or water-caused erosion, relatively intact communities, etc. and produce maps that clearly show important lands, threats, etc. Then, the next step in adding habitat information necessary to understand special status species occurrence, habitats and needs is to gathered, assessed, map and analyze information from systematic on-the-ground surveys. We request that a supplemental volume, with maps showing all of the above features, be made available to the public.

LIVESTOCK GRAZING SUITABILITY, CAPABILITY, PRODUCTION ANALYSIS AND OTHER STUDIES

BLM is required under the Taylor Grazing Act to set forth its criteria and assessments for grazing suitability determinations. The TGA was passed to "stop injury to the public lands by preventing overgrazing and soil deterioration", and to determine that land is "chiefly valuable" for grazing. FLPMA requires that BLM undertake an exhaustive and continuous inventory of the public lands and use this inventory to develop land use plans. NEPA requires that an agency provide a "full and fair discussion" of significant environmental impacts, take a "hard look" at the environment and impacts of various alternatives, and that statements shall be supported by evidence that the agency has made the necessary environmental analyses. NEPA also requires the use of sound science.

N13-10 BLM must provide a grazing suitability and capability analysis that:

1) Catalogues and describes lands unsuitable for grazing due to lack of herbaceous vegetation "production"; distance from natural water sources; slope, rockiness (much of these allotments); existing environmental damage (downcut gullies, wet meadows with shrinking wetted areas due to livestock damage, lands "at risk" to weed invasion); lands so seriously depleted that they are no longer able to support livestock grazing on a sustainable basis; and lands that are "at risk" of crossing thresholds (due to livestock degradation) from which recovery to native vegetation communities will not be possible due to dominance of exotic species.

2) Catalogues and describes lands unsuitable for grazing based on their important values to rare and declining species, recreational uses, cultural sites, aesthetic value, and other legitimate uses and values of public lands that are harmed or degraded by the chronic effects of livestock grazing.

We are unaware of any such past analyses that have been conducted in Ely lands. If they exist, please provide them for public review as part of this process, and use best available science, and collect on-the-ground information necessary to up-date them. Old adjudication claims can in no way be considered "current", nor can they reflect current scientific knowledge of suitability of many of these lands for livestock grazing in the face of dire threats posed by weed invasions and habitat loss.

Responses to Letter N13

N13-9 Please refer to Response to Comment N13-7 for a discussion of data collection.

N13-10 Please refer to Response to Comment N13-7 for a discussion of data collection.

Letter N13 Continued

In reality, the old "adjudication" process grossly over-estimated the suitability, capability and production of the affected lands. Gross exaggerations in lands made in adjudication processes were largely carried forward in the outdated land use plans. Given the ongoing depletion (as shown by BLM's own limited monitoring data such as Key Areas with 10% or less larger sized native bunchgrasses, and only scant *Poa* or Squirreltail, cheatgrass or other invasive species dominance as primary "forage", loss of large-sized native bunchgrasses, etc.), and weed invasions resulting in wildly fluctuating and unreliable annual forage production, and other factors, current District-wide surveys are urgently needed.

N13-11 BLM must abandon the mindset that endless forage exists to support the inflated permitted AUMs, and stop carving up the landscape with new livestock projects or willy-nilly water hauling that will harm refugia of better condition habitats for native species, as is being done in an attempt to support unsustainable numbers of cattle and sheep. A key part of this is determining lands where grazing, or high stocking is inappropriate, and cutting AUMs accordingly.

N13-12 The new assessment/inventory of acres of lands suitable and unsuitable for livestock grazing, and capable and not capable, must be based on scientifically accurate criteria, be comprehensive, and include collection of on-the-ground data on condition and health of soils, microbiotic crusts, native vegetation (quality, quantity, production), habitat values and quality, and effects of depletion or fragmentation on special status species, the relative scarcity of values, etc.

Examples:

- Across many valley areas, greatly depleted Wyoming big sagebrush and salt desert shrub communities require > 20 acres to support a single AUM. Plus, these lands are increasingly being invaded by halogeton and other weeds as livestock further deplete and trample vegetation and soils. Yet grazing that one AUM across dozens of acres differentially impacts the remnant highly palatable native grasses (*Oryzopsis, Stipa, Agropyron*), weakens or kills winterfat and other shrubs, tramples soils creating ideal conditions for weed establishment, removes plant materials necessary for food and cover for special status species and other important components of the food chain– such as raptor species small bird, mammal and lizard prey. This results in further depletion of remaining native vegetation communities and tramples and destroys remnant microbiotic crusts (especially since that one AUM has to roam over large areas to find enough to eat. In these lower elevation lands under current management and the absence of any clear direction in the DRMP, BLM may merely end up managing FOR cheatgrass and halogeton, and fostering continued harm. In this EIS effort, BLM must admit that portions of these lands (some with stocking rates of 20 or more acres per AUM) are NOT suitable for grazing, remove livestock and reduce permitted AUMs/AUM allocations. Once productivity drops below a certain level, lands should not be available for grazing use. N13-13

N13-14 - Less fragmented and relatively intact lands in the Ely District that are essential for maintenance and recovery of sage grouse, raptor prey, migratory bird, pygmy rabbit, pinyon jay, juniper titmouse, and other important or special status species populations, and where these

Responses to Letter N13

N13-11 The Ely Field Office does not have the mindset that endless forage exists. The Proposed RMP specifies management policies and actions and provides programmatic and implementable direction for management of the public lands. Evaluation of livestock grazing use relative to achievement of the standards for rangeland health is a continual and on-going process. Grazing use will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring, all of which will occur during plan implementation.

N13-12 Please refer to Response to Comment N13-7 for a discussion of data collection.

N13-13 Please refer to Response to Comment N13-11. Virtually all lands within the Ely RMP decision area are suitable for grazing.

N13-14 Please refer to Response to Comment N13-13.

Letter N13 Continued

N13-14 species populations or habitats are being harmed by the grazing of large numbers of AUMs and/or threatened by new livestock facilities or vegetation treatments ---- should be found unsuitable for grazing. These competing values hold increasing importance. The solution is not to juggle seasons of use and build more harmful facilities, but to determine, when weighing relative values, if livestock grazing, or at high current stocking rates, is appropriate.

N13-15 Tables and charts of information on grazing allotments should be presented in the EIS. Actual use/real stocking rates, summaries of monitoring information such as upland utilization, browse use, and use on all riparian areas figures over the past two decades should be presented to the public in the EIS, to see how these may deviate from permitted levels, and so that BLM can conduct necessary analyses of forage and land allocations in the District.

N13-16 If BLM fails to do this, and fails to allocate resources appropriately and based on most current science, and failing to adjust stocking rates to reflect the suitability, capability and productivity of lands for livestock use, BLM is artificially inflating and propping up the sale values of public land grazing permits, plus keeping the door open for the livestock industry to exert political pressure to graze livestock far in excess of sustainable levels. This casts aside or harms other important values of public lands.

N13-17 Lands in the RMP area must also be assessed for suitability in comparison with/weighing against their other uses by society (rare species habitats, scientific reference area value, recreational uses, etc.).

N13-18 Depleted seedings that have lost productivity should be identified for restoration to native vegetation, and removed from the "forage" base. If ranchers did not take care of seedings, the public deserves to have the lands restored and taken out of the forage base. Their depletion shows the unsustainability of grazing livestock on them.

PROTECTION OF NATIVE VEGETATION

N13-19 First and foremost, BLM must use current ecological science to develop a range of alternatives that act to protect remaining native vegetation communities from activities that result in disturbance that could lead to weed invasion/proliferation of exotic species that threaten sagebrush salt desert shrub, pinyon-juniper and other vulnerable vegetation communities, and their ultimate further fragmentation. Protection of these communities is the first step to ensuring that their ultimate restoration may be possible. BLM must conduct a current inventory of native plant community condition and restoration needs.

DESCRIPTION OF SPECIAL STATUS SPECIES, LANDSCAPES/ECOSYSTEM VALUES, WATERSHEDS AND AQUIFERS AS A BASIS FOR ENVIRONMENTAL ANALYSIS

N13-20 BLM must include a description and analysis of all the significant sagebrush, pinyon-juniper, forest, playa, spring, linked aquifer, watershed, and special status species habitat values of the RMP area and surrounding lands. This includes a discussion of the regional and national significance of less-fragmented sagebrush landscapes, wild raptor habitats, etc. sage grouse

Responses to Letter N13

N13-15 Please refer to Sections 2.4.16 and 3.16 in the Proposed RMP and Final EIS for grazing allotment information that is appropriate for the level of analysis in a land use plan. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP for the Ely decision area.

N13-16 Comment noted. Management of grazing at sustainable levels within a multiple use context is a consideration of the Proposed RMP and Final EIS.

N13-17 Please refer to Response to Comment N13-13.

N13-18 Seedings within the Ely RMP decision area are slowly reverting to native species. Proper management has maintained their suitability for grazing and their retention in the forage base. Virtually all lands within the Ely RMP decision area are suitable for grazing.

N13-19 A range of alternatives was presented and analyzed in the Draft and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/ desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes. Please refer to Response to Comment N13-7 for a discussion of data collection.

N13-20 Please refer to Response to Comment N13-7 for a discussion of data collection.

Letter N13 Continued

N13-20 habitats, etc. For example, BLM should describe the setting, and discuss in detail the unique and significant biological features of the lands, as its first and foremost consideration. The RMP is an opportunity to evaluate the ecological and conservation significance of these lands from the standpoint of special status species and scarce desert waters. BLM must consider livestock grazing as one of many uses of these public lands, and analyze it accordingly.
This analysis must encompass native vegetation, soils, microbiotic crusts, native wildlife specie occurrence and habitats, special status species occurrence and habitats, roadless lands, livestock facilities, fragmentation, weeds, desertification, etc. Sdaly, this has not occurred.

N13-21 We believe it is necessary for BLM to establish large ACECs to protect the significant special status species, conservation, watershed and wild land values. BLM should designate RNAs, embedded within a larger matrix of an ACEC of sufficient size to protect important ecological values.

N13-22 Large ACECs and avoidance criteria for conflicting land uses across all BLM lands under the RMP should be part of the EIS process - for example, all identified sage grouse habitat should be withdrawn from ALL new development of livestock water, due to the extensive habitat fragmentation that could occur if new pipelines are built, and subsequent increased chronic depletion were to occur.

N13-23 Seasonal avoidance of activities such as exploration or livestock grazing should occur during periods when sage grouse and migratory birds are nesting, when pygmy rabbit young are in shallow natal burrows, etc.

N13-24 ALL WSAs, significant unroaded lands suitable for wilderness, all ACECs, etc. should be protected from new or increased livestock intrusion in all parts.

ROADLESS WILD LANDS/WILDERNESS

N13-25 BLM must use this planning process to expand its understanding of unroaded lands beyond that of the out-dated, deeply flawed and politically biased wilderness inventory process of over 20 years ago. The importance of large parcels of interconnected unroaded wild lands in these allotments becomes greater with each passing day – as more information about roads causing disturbance to species during sensitive times of the year, roads serving as conduits for weed invasion (Gelbard and Belnap 2003), with weeds then being spread into wild lands by livestock, and road impacts to watersheds, is gathered.

FLPMA requires BLM to undertake a continuing inventory of the public lands and to use this inventory to develop land or resource management plans. Current ecological science demontrates the many values of unroaded lands to watersheds, wildlife, and te public.

Review of BLM's own records on the 1979-1980's wilderness inventory process show that BLM engaged in flawed, biased and irrational analysis. It focused primarily on canyons or very rugged mountainous terrain, and rejected plateau, basin and alluvial fan lands where the livestock industry hoped to increase livestock use through construction of new livestock installations or

Responses to Letter N13

N13-21 The Nevada BLM designates ACECs to highlight areas where special management attention is needed to protect and prevent irreparable damage to: important historic, cultural, and scenic values; fish or wildlife resources; or other natural systems or processes; or to protect human life and safety from natural hazards. The Proposed RMP proposes the designation of 17 new and 3 existing ACECs for a variety of resources. The boundaries of all ACECs proposed in the Proposed RMP were closely reviewed and adjusted to ensure sufficient special management requirements can be met for the relevant and important resources of those areas. Research Natural Area is not a designation that is allowed under the new BLM Land Use Planning Handbook.

N13-22 The Ely Field Office determined that an ACEC was not necessary for management of sage-grouse habitat and leks. Sage-grouse habitat and leks could be effectively managed through land use plan decisions including leasing stipulations and permit terms and conditions. Please refer to Section 2.4.7.7 of the Proposed RMP and Final EIS for sage-grouse management actions.

N13-23 Please refer to Section 2.4.7.7 and the best management practices in Appendix F, Section 1 of the Proposed RMP and Final EIS for seasonal restrictions of activities that are designed to protect a variety of species of wildlife.

N13-24 Increases in livestock grazing and facilities in existing wilderness study areas may only occur if they can be shown to not impair the areas' suitability as wilderness. Areas with wilderness value outside of current wilderness study areas have been reviewed and designated through the Lincoln County, Conservation, Recreation, and Development Act of 2004 and the White Pine County Conservation, Recreation, and Development Act of 2006. Livestock grazing in new proposed ACECs would be managed through terms and conditions set during the ACEC management planning process.

N13-25 Areas with wilderness values outside of existing wilderness study areas have been reviewed and wilderness has been designated through the Lincoln County Conservation, Recreation, and Development Act, and the White Pine County Conservation, Recreation, and Development Act. Please refer to Section 2.4.14.1 of the Proposed RMP and Final EIS for clarification of how comprehensive travel management planning will occur in the Ely RMP planning area.

Letter N13 Continued

"treatments". Besides being fraught with political bias, the lens through which BLM evaluated roadless values in those bygone days is outdated, and unsupported by current scientific knowledge of the accelerating fragmentation of sagebrush habitats, and the sensitivity of sage grouse and many other species to disturbance or habitat degradation resulting from roading, the need for large intact landscapes to protect native species and biodiversity, and the growing public appreciation of wide open spaces. BLM's old inventory often rejected sagebrush and salt desert shrub lands because "a visitor could only find a sense of monotony" in the early 1980s. Yet now, BLM is singing the praises of the expansive vistas and feeling of wild untrammeled spaces of the bits of plateau country included in the canyon-focused WSAs.

N13-26 BLM must conduct an inventory of all roading, and evaluate its impacts in fragmenting habitats for special status species, and all threats posed to these species habitats (weed spread – especially when coupled with the added impacts of livestock crisscrossing road conduits and spreading weeds into adjacent wild lands, catalytic converter fires from recreational use on such roads, etc.). On BLM lands, roads are often the result of livestock facility construction or maintenance.

N13-27 In addition, BLM can use this EIS effort to newly evaluate and add to an understanding of: Naturalness, solitude, primitive and unconfined recreation, special feature. Plus, BLM must update the "Special features" that in 2004 certainly includes presence of sage grouse or pygmy rabbit habitat, presence of native vegetation communities with minimal exotic species infestation, importance of large unfragmented "sagebrush sea" expanses, etc. Impacts of livestock grazing on WSAs or other Roadless land values must be thoroughly evaluated under all alternatives. We understand that a White Pine Wilderness Bill may in progress, but we do not believe that either the Lincoln County Bill or the one in the works will have sufficiently addressed Wilderness issues.

THE SAGEBRUSH SEA

Sagebrush plant communities Westwide are besieged by an array of threats. These threats include exotic species, altered fire cycles, continued disdain in the eyes of the livestock industry, continued destruction by livestock grazing: livestock alteration of the native herbaceous understory with resultant cheatgrass invasion; livestock breaking or consuming sagebrush or other shrubs and destroying the physical structure with resultant destruction of the necessary shrub structure for nests of species such as loggerhead shrikes or overhead protection for the pygmy rabbit; plans to hack, beat, thrash, burn and otherwise remove sagebrush to conduct "seedings" or to thin or remove sagebrush in sites susceptible to cheatgrass or weed invasion, especially under harmful grazing practices (stocking levels, levels of use, no real rest) under the Decisions. Note: Many past BLM seedings, green strips, and sagebrush thinning projects have been ecological disasters – leading to loss of topsoil, cheatgrass and other weed invasion, and loss of habitat for native species.

N13-28 Public appreciation of sagebrush country values and the beauty of wide open space and Basin and Range landscapes is growing. Sagebrush dependent wildlife species are known to be rapidly declining or jeopardized (Dobkin and Sauder 2004). The protection, enhancement and restoration of native sagebrush plant communities including: Wyoming big sagebrush, Basin big sagebrush,

Responses to Letter N13

N13-26 Please refer to Response to Comment N13-7 for a discussion of data collection.

N13-27 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP. The Proposed RMP and Final EIS does not recommend new wilderness study areas, and the designation of wilderness is the responsibility of Congress.

N13-28 The restoration of sagebrush communities is a key element of the vegetation treatment proposed in the Draft RMP and EIS and Proposed RMP and Final EIS. Please refer to Section 2.4.5.5 (Salt Desert Shrub) and Section 2.4.5.6 (Sagebrush) in the Proposed RMP and Final EIS for discussions of the proposed management actions for these vegetation communities.

Letter N13 Continued

N13-28 mountain big sagebrush, big sagebrush-bitterbrush, big sagebrush islands/inclusions in black or low sage brush - should be the basis driving management decisions in this EIS effort. In addition, the lower elevation salt desert shrub communities interfacing with sagebrush and found in the valleys, provide essential habitat for many special status species or their prey, and must also be considered a high priority. Livestock are causing weed invasion, and shifts in shrub species and loss of shrub structure through consumption and physical damage.

SAGE GROUSE

N13-29 Recent sage grouse research has revealed that vast acreages (across hundreds of square miles) may be used by sage grouse in the course of a year. BLM must fully consider the vast acreages needed by sage grouse for leks, nesting, brood rearing, and winter habitats. ACECs of sufficient size to include all the lands required by populations must be designated accordingly.

RESTORATION

N13-30 BLM must identify lands in the allotments to be restored to native vegetation. These include: exotic seedings, annual exotic communities, livestock-damaged native communities, areas highly impacted by livestock facilities or management activities.

N13-31 "Restoration" means returning native vegetation to a site, with ecosystem processes in a natural condition - as near to "pristine" as possible. It does mean achieving some artificially constructed "Desired Future Condition".

N13-32 Specific areas to be restored to native vegetation composition and structure: Crested wheatgrass seedings, halogeton-infested salt desert shrub communities, cheatgrass communities.
In addition: the degraded lower elevation salt desert shrub/Wyoming big sagebrush communities with cheatgrass understories, wet meadow complexes and springs and seeps throughout the RMP area, Utah juniper or pinyon-juniper communities with livestock-degraded understories or where BLM has converted forests to crested weed grass seedings, and some have now become primarily invasive species infested areas, such as halogeton or white top/hoary cress.

N13-33 The first step in restoration throughout many areas of these lands is reduction or removal of livestock grazing for sufficient periods to enable establishment of fragile native species and/or recovery of native understories. Only native plants should be used in all restoration, and in all post-wildfire seeding. Passive restoration techniques, such as reduced livestock grazing or road closure should be

N13-34 Fire, at present, is not an appropriate restoration technique in many areas due to the risk associated with the threat of exotic species invasion following fire disturbance. The looming threat of exotic species invasions following site disturbance such as fire on livestock-degraded lands makes playing with prescribed fire a dangerous undertaking that may have irreversible consequences. Fire is simply an additional (and often drastic) site disturbance on top of the ongoing chronic disturbance of livestock grazing that has altered species composition, function and structure on these lands (Fleischner 1994). Until BLM sufficiently controls livestock

Responses to Letter N13

N13-29 Please refer to Response to Comment N13-22.

N13-30 Please refer to Response to Comment N13-18.

N13-31 Please refer to Section 1.5.1 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of planning criteria, specifically general criterion #18 regarding the use of NRCS ecological site descriptions for all vegetation communities. The management prescriptions for all vegetation communities reflect the necessary actions to maintain or restore these systems to achieve desired future conditions. These desired future conditions reflect managing vegetation systems in the context of multiple uses and are not "artificially constructed".

N13-32 Please see Response to Comment N13-31. Seedings do not meet ecological site descriptions, but the Ely Field Office is managing for the return of native species into these seedings. Actions are designed to manage for multiple use and sustained yield, thus all available tools will be used to contain or reduce invasive species and noxious weeds.

N13-33 An implementation strategy will be developed as part of watershed analysis for one or more watersheds, as the site-specific situation may require. Site-specific management actions could include reduction or exclusion of livestock grazing in areas prior to treatment. If seeding is necessary, again site-specific analysis would determine appropriate seed mixture, and this could include native species. Road closure through transportation planning could also be recommended through the watershed analysis process.

N13-34 An implementation strategy would be developed as part of the watershed analysis. Site-specific analysis would consider the use of all tools and techniques, singly or in combinations, to achieve land health standards. Fire may be an appropriate tool for restoration given site-specific conditions.

Letter N13 Continued

N13-34 grazing, and sites recover and heal, use of fire further jeopardizes many native plant communities. Plus, many BLM "prescribed burns" have gone awry in the past. Careful and selective cutting of trees is the best strategy to reduce "encroaching" trees. However, this should only be done after surveys that determine that any trees are actually encroaching and livestock grazing has been sufficiently controlled. Leaving trees and branches on-site maximizes watershed values, provides safe-sites for germination of native grasses and forbs, and shades the ground surface and traps snow, thus enhancing site moisture.

N13-35 Protection of old growth and mature trees should be a primary focus of all efforts.

LIVESTOCK GRAZING AND ALTERNATIVES DEVELOPMENT

There is now an overwhelming scientific understanding of the harms to arid western lands caused by domestic livestock grazing. We refer BLM to Professor Debra Donahue's excellent recent book *The Western Range Revisited.* This book describes and catalogues the loss of biodiversity, exotic species, soil erosion, water pollution, and ask that you incorporate it as part of our comments. Note that during her professional career, Professor Donahue spent time in sagebrush habitats working for BLM on its livestock-degraded lands in Idaho and Nevada.

N13-36 BLM must prepare the EIS based on this now-overwhelming and irrefutable body of scientific knowledge about the harms caused by livestock grazing to native species and their habitats. First and foremost, BLM must honestly assess harms being caused by livestock grazing, the importance of this land for other uses, and carefully and honestly evaluate whether continued grazing on damaged lands is in the public interest.

N13-37 If BLM, using current science and following detailed inventory and assessment finds it may be suitable for livestock as a use of public lands to continue in any areas, the EIS must establish specific measurable standards of livestock grazing use as Terms and Conditions of grazing permits. A 6" stubble height must be the trigger to move livestock from springs, seeps and riparian areas. A trampling standard of 5% or less of accessible bank area with livestock trampling is another trigger/threshold that must be instituted. When the 5% trigger/threshold is crossed, livestock should be removed from the area. Riparian browse use should be 15% or less on new growth.

N13-38 Upland utilization standards must be 25% or less of native species, or levels sufficient to allow a minimum seven inch **residual** herbaceous stubble height, with no grazing allowed during critical growing periods or sensitive periods for native species. 10% or less browse and breakage use by livestock should be the maximum allowed on **all** shrubs, both upland and riparian species. Winter grazing desiccates native grasses, strips them of standing material necessary to protect sensitive crowns from winter freezing, eliminates food and cover for native wildlife, and typically occurs during periods when some growth actually is occurring on native plants, and needs to be very carefully controlled and/or eliminated. Microbiotic crust damage from livestock trampling occurs at all times of years - in summer when crusts are powdery dry, and in winter when moist soil conditions results in deep cow hoofprints in soft soil conditions during thaws.

Responses to Letter N13

N13-35 In accordance with the Healthy Forest Restoration Act, the Ely Field Office has made protection of old growth a priority. Please refer to Section 2.4.5 for old growth characteristics for pinyon-juniper, aspen, and high elevation conifers.

N13-36 The Federal Land Policy and Management Act stipulates that the BLM manage public lands for multiple uses and sustained yield. Watershed analyses are being used to determine if land health standards are being met and what the casual factors are if standards are not being met. If livestock grazing is found to be contributing to not meeting standards, appropriate adjustments in livestock management would be made.

N13-37 The RMP specifies management policies and actions and provides programmatic and implementable direction for management of the public lands. Specific measurable standards and objectives are used during rangeland monitoring. Evaluation of livestock grazing use relative to achievement of the standards for rangeland health is a continual and on-going process. Grazing use on these areas will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring.

N13-38 Please refer to Response to Comment N13-37.

Letter N13 Continued

N13-39 BLM must develop a range of alternatives that rely on the implementation of measurable standards of use, coupled with significant reductions in stocking rates and active herding management by permittees, to protect lands from livestock damage. It must not backslide into the construction of even more livestock facilities, or convoluted grazing schemes when the fundamental problem is over-stocking and over-use, and the grazing of lands that under any grazing scheme will be damaged.

Relevant scientific references detailing the ecological harms caused by livestock grazing also include include: Fleischner 1994, Belsky 1996, Belsky et al. 1999, Belsky and Gelbard 2000.

ALTERNATIVES ARE FLAWED AND MUST BE REVISED

N13-40 BLM must develop a range of suitable and clear alternatives that protect special status species, watersheds and ecosystems. Unfortunately, the Draft RMP alternatives do not present an adequate range, and within alternatives, "poison pills", have been inserted, which contain something blatantly unacceptable to various factions of public lands users who might otherwise support that alternative.

N13-41 Given the outstanding values and significance, and vulnerability to weed invasion and ecosystemic change of many of these lands, BLM must develop several alternatives that focus on ecological protection. All alternatives must have clear, measurable standards of use and objectives for livestock grazing.

WATER QUALITY AND QUANTITY

N13-42 Livestock grazing is the primary (and often the only) cause of water quality degradation in the EIS area. Livestock grazing causes watershed destruction ranging from desiccation of headwater springs and seeps to downcutting and gullying of streams resulting in rapid runoff and limited water storage.

We have collected water quality samples on springs, seeps and headwater streams on BLM lands in Idaho, with similar conditions to those we have observed on Ely lands. Coliform and fecal coliform bacteria levels of hundreds of thousands are common. Sadly, it is precisely these areas that are critical to declining species such as sage grouse, and to pronghorn antelope who are forced to drink what is essentially a brine of liquid livestock feces, urine and mud.

N13-43 BLM must collect baseline water quality data on springs, seeps, streams and other riparian areas during periods of the year when livestock are present, and/or runoff is occurring, as part of this process. This is necessary to allow up-to-date and informed decisionmaking on compliance with state water quality standards and the CWA, and much-needed additions to the 303d list. It includes bacterial, temperature, sediment and other data. BLM cannot merely rely on state lists - since in many cases, state agencies regulating water quality have old, or out-dated information that includes only a very limited number of sites.

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N13-39 Please refer to Response to Comment N13-37. A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes.

N13-40 A reasonable range of alternatives was presented and analyzed in the Draft and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes. The management actions that are presented in the Proposed RMP were developed through consideration of the planning criteria presented in Section 1.5 of the Draft RMP and EIS and Proposed RMP and Final EIS, public scoping comments presented in Section 1.6, BLM policy especially as presented in the Land Use Planning Handbook, and the professional judgment of the staff in the Ely Field Office. The Proposed RMP incorporates comments from a wide array of users of the Ely RMP planning area.

N13-41 The alternatives analyzed represent a complete range of reasonable alternatives for analysis in the Ely RMP, including considerations of ecological protection. All alternatives share the same goal for management of livestock grazing, as presented in Table 2.9-1.

N13-42 Livestock grazing may be one factor among many for not meeting water quality standards in a specific area. The BLM is required to maintain water quality where it presently meets approved state water quality requirements, guidelines, and objectives, and to improve water quality on public lands where it does not meet those requirements, guidelines, and objectives. A priority for the Ely Field Office management is protection of riparian systems and healthy functioning watersheds.

N13-43 Please refer to Response to Comment N13-7 for a discussion of data collection.

Letter N13 Continued

N13-44 BLM must assess the effects of livestock-caused pollution of springs, seeps and all surface waters on recreational uses, and on aesthetics.

N13-45 BLM must provide for compliance with water quality standards with definite triggers and responses to water quality problems that are clearly spelled out in the EIS. Application of specific yearly water quality monitoring procedures must be a made a term and condition of livestock grazing permits in the EIS area. BLM must analyze watershed-scale impacts of livestock grazing. This has not been presented in the DRMP.

LARGE LIVESTOCK-FREE REFERENCE SITES AND WATERSHEDS

N13-46 BLM must designate large (greater than 10,000 acres) sites, and entire watersheds, over several representative portions of the EIS area to act as scientific reference sites to provide refugia for native species whose habitats have been degraded by livestock grazing practices and livestock facilities, and to allow evaluation of livestock grazing impacts to these wild lands.

LIVESTOCK RANGE INSTALLATIONS AND VEGETATION TREATMENTS

N13-47 BLM must inventory and identify all livestock facilities, range projects and zones of heavy livestock concentration such as salting or water haul sites, and present this information to the public in the EIS - wells, pipelines, troughs, spring projects, fences, cattleguards, corrals, etc. The location, operating condition and state of repair of all installations (including presence of operative wildlife escape ladders) must be revealed to the public, as well as their cost at time of construction, and maintenance responsibility. Junk and debris associated with facilities must also be examined (nearly every Nevada BLM allotment we visit is littered with debris associated with dilapidated range facilities, large junked water tanks, old pipes strewn about, etc.). For example, if there is a rusted out cow trough sitting surrounded by a pool of mud that resulted from a spring development, the public needs to know this. How many spring-projects have resulted in drying of the spring water source? How much water is removed from the spring, and how much remains, for all spring projects? Likewise, vegetation treatments must be detailed. How many seedings exist on these lands, and what is their current condition and productivity (compared to what the productivity was planned to be)? How are these projects or facilities fragmenting habitats? All direct, indirect and cumulative impacts must be identified.

N13-48 How are these installations or treatments impacting soils, vegetation, cultural sites, habitats, etc. on adjacent lands? How are they impacting the broader landscape? BLM must provide an analysis of range installations that may be degrading important wild land sites. For example, if a cow trough is leading to increased disturbance of soils in a WSA or a cultural site or sage grouse nesting habitat, then that cow trough should be removed, and lands rehabilitated. What threats does each of these facilities pose to special status species or their habitats? BLM must examine such impacts across land ownership lines.

Livestock permittees routinely clamor for more projects, and BLM - in an attempt to avoid reductions in livestock numbers necessary to protect public lands values - obliges. Past fencing and development sprees have resulted in the many ill-designed and poorly maintained de-

Responses to Letter N13

N13-44 Livestock grazing is one of the multiple uses that occur on BLM-administered lands. Wherever water sources are provided for livestock, they will congregate. Some public land users may view the evidence of livestock use around water sources negatively, but such site-specific effects are inherent in multiple use and would be managed as necessary under the existing grazing regulations.

N13-45 The Ely Field Office is required to maintain water quality where it presently meets approved state water quality requirements, guidelines, and objectives, and to improve water quality on public lands where it does not meet those requirements, guidelines, and objectives. Water quality indicators are outlined in Resource Advisory Council Standards and would be evaluated as part of the watershed analysis process.

N13-46 There are no laws, regulations, or policies that require the Ely Field Office to designate "scientific reference sites". The Federal Land Policy and Management Act stipulates that the BLM manage public lands for multiple uses and sustained yield. Watershed analyses are being used to determine if land health standards are being met and what the casual factors are if standards are not being met. Native species habitats are evaluated against a habitat standard as part of watershed analysis, and casual factors for not meeting the habitat standard are also determined.

N13-47 Please refer to Response to Comment N13-7 for a discussion of data collection.

N13-48 Individual range installations or treatments are beyond the scope of the Ely RMP. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for range facilities are prepared and evaluated through follow-up monitoring.

Letter N13 Continued

watering spring projects, shifted livestock use that caused new weed problems as zones of intense livestock concentration are invaded by weeds.

N13-49 After compiling a comprehensive inventory and analysis of range installations, BLM must identify those which are no longer working/in repair, and also those which are causing harm to special status species, raptor prey, springs, watershed, or other important public lands values, and act to remove them. It does not matter if these facilities were built pre-FLPMA or not. BLM must review all project information in its files, and thoroughly examine the facility network on-the-ground, visit all installations, collect complete and systematic information on their impacts on soils, microbiotic crusts, native vegetation, watersheds, wildlife, and cultural sites, and determine whether it is in the public interest to remove them and restore damaged lands.

We are tired of visiting BLM wild lands and encountering seas of livestock feces, bare dirt or weeds surrounding cattle tanks, and on closer examination seeing extensive areas of lithic scatter being newly exposed by erosion from livestock concentration, or expanses of halogeton or white top spreading outward from them. In addition, even modest maintenance and protective measures for native wildlife are often lacking. Floats to promote water flow conservation are lacking, there are no wildlife escape ladders so troughs are deathtraps for migratory birds, etc.

N13-50 BLM must also evaluate the impacts of fences and fence posts on special status species and their habitats. For example, if a fence is located in important sage grouse nesting habitat and it is providing perches for sage grouse nest predators such as ravens, the fence should be removed. See Connelly et al. 2004 for a discussion of harmful impacts of fences. Plus, fences are a significant source of mortality to grouse that fly into them. Fences in important sage grouse use areas should be slated for removal.

N13-51 In the past, the construction of these facilities has been the justification for continued excessive stocking rates. A key part of BLM's analysis must be the suitability/capability studies, and reduction in livestock numbers and changes in livestock management practices that includes facility removal and subsequent site restoration.

REMOVAL OF LIVESTOCK WELLS AND PIPELINES

N13-52 In particular, BLM must assess the impacts of all wells, pipelines, water haul sites, stock ponds and other artificial upland water sources on special status species, watersheds, and native vegetation, and analyze the removal of harmful artificial livestock water sources in the EIS alternatives. These artificial water sources are resulting in serious damage to surrounding lands due to concentrated and/or increased livestock use. These facilities and the excessive livestock use associated with them is a serious threat to special status species. It greatly increases site vulnerability to exotic species invasion, creates habitat and behavioral conflicts with wildlife, degrades recreational experiences, etc. These artificial water sources are impediments/little compatible with achieving enhancement or restoration of damaged special status species and sagebrush sea habitats.

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N13-49 Please refer to Response to Comment N13-48 for a discussion of range installations.

N13-50 Individual fences are beyond the scope of the Ely RMP. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for the installation or removal of fences are prepared and evaluated.

N13-51 Please refer to Response to Comment N13-37.

N13-52 Individual livestock water developments are beyond the scope of the Ely RMP. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for water developments are prepared and evaluated.

Letter N13 Continued

WATER HAULING

N13-53 Water hauling is associated with a great risk of weed infestation and spread (regular vehicle trips through weed-infested roads and roadsides, and then deposition of weed seeds in areas of livestock disturbance and ready dispersal. BLM should not continue allowing water hauling. Lands that are too arid to provide surface water to livestock should not be grazed. Water hauling leads to road damage and disturbance of wildlife, as well as ranchers clamoring for road improvement, which may lead to increased human use and disturbance of wildlife. Any sites where water is hauled - even for one grazing season - will suffer permanent harm from trampling - soil compaction, loss of microbiotic crusts, and grazing -weakening or loss of native grasses, structural damage to shrubs, depletion of desirable plants. Plus, water sources for hauling may be on weed-infested private lands (such as white top/hoary-cress infested lands), and water hauling may rapidly spread weeds into wild lands through seeds on vehicle tires, weed infestation and then subsequent cross-country spread by livestock.

NO TNR

N13-54 BLM should not allow Temporary Non-Renewable Use (TNR) on these lands through this RMP. TNR use is not compatible with restoration of damaged plant communities, protection of special status species habitats, or maintenance of wildlife populations. TNR has typically occurred in the winter - when there are significant conflicts between wintering wildlife and human intrusion on special status species, raptor, big game and other winter habitats.

VALUE OF JUNIPERS AND PINYON JUNIPER AND DENSE SAGEBRUSH

N13-55 BLM must recognize values of juniper and pinyon-juniper as native tree species. In areas where junipers may be thought to be increasing, BLM must collect site-specific data to verify this information. BLM must determine first - does an "invasion" really exist? There are many scientific articles on the promiscuous burning by sheepherders and livestock in post-settlement times. In addition, there was widespread deforestation across Nevada associated with mines.

N13-56 If BLM an "invasion" actually is occurring, what is the cause? Have soil erosion, and the loss of native understory vegetation due to livestock grazing, actually resulted in site conditions more suitable to juniper? If so, what actions will BLM take to heal these damaged sites before undertaking any vegetation alteration?

N13-57 Any treatment should be selective hand-cutting of trees with the entire felled tree left in place. This method is selective, leaves all nutrients on site, and the structure of the felled tree helps to trap moisture on site, and provides suitable micro-habitats for native species establishment.

N13-58 Due to the impacts to understories, soils, microbiotic crusts, etc. from 140 years of livestock grazing, and the looming threat of exotic species invasion in post-burn environments, burning is simply too risky. Plus, burns may extend intense use by cattle or wild horses into previously less used areas.

Responses to Letter N13

N13-53 Grazing use and water hauling will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring. Water hauling is an activity allowed by regulation and therefore will not be analyzed as a management action in the Proposed RMP. The Proposed RMP specifies management policies and actions and provides programmatic and implementable direction for management of the public lands.

N13-54 Temporary Non-Renewable Use (TNR) is a grazing activity that will occur during implementation of the plan. Grazing use and TNR will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring. TNR is an activity allowed by regulation and therefore will not be analyzed as a management action in the Proposed RMP. The Proposed RMP specifies management policies and actions and provides programmatic and implementable direction for management of the public lands.

N13-55 The Ely Field Office recognizes the value of pinyon/juniper woodlands to watershed functions and wildlife habitat. Please refer to Section 1.5.1 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of planning criteria, specifically general criterion #18 regarding the use of NRCS ecological site descriptions for all vegetation communities. Soil maps describe and illustrate the extent and distribution of ecological sites on a landscape basis. Site-specific data will be collected prior to applying any management prescriptions for ecological sites in the Ely RMP decision area. The Proposed RMP and Final EIS does not characterize the expansion of pinyon and junipers onto range sites as an "invasion". Please refer to Section 3.5 for a discussion of vegetation trends within the Ely RMP planning area.

N13-56 Please refer to Response to Comment N13-55 for a discussion of pinyon/ juniper "invasion". Also see Appendix A in the Proposed RMP and Final EIS for a discussion of the process found in BLM Handbook H-4180-1 Rangeland Health Standards. This process is used to determine if watersheds are meeting land health standards (rangeland health standards). This process will be applied to identify causal factors for not meeting land health standards. An implementation strategy will be developed as part of watershed analysis for one or more watersheds, as the site-specific situation may require. Site-specific data collection will also occur to accommodate adaptive management concepts.

N13-57 Please refer to Appendix H in the Proposed RMP and Final EIS for a listing of mechanical treatments for vegetation.

N13-58 The Federal Land Policy and Management Act stipulates that the BLM manage public lands for multiple uses and sustained yield. Burning is only one of many tools available as a treatment, alone or in combination with others tools, that the Ely Field Office may use to achieve land health standards. Which tools are appropriate at any one site will be decided after watershed analysis and site-specific data assessment and monitoring have occurred.

Letter N13 Continued

Please review Joy Belsky's articles on western juniper (Belsky 1997), and livestock as a causal agent of "doghair thickets" of trees inarid forests due to the stripping/destruction of understory vegetation by livestock (Belsky and Blumenthal 1997), available on-line at www.onda.org .

N13-59 We are extremely concerned that BLM in Nevada is relying on SCS/NRCS soil surveys as the basis for claims that sites are not forested sites. These inventories overlooked the recent (post-settlement) history of the site, and the degree of deforestation that has occurred in the past 150 years. Thus, they can not be used as the basis for claims that sites that were not occupied by pinyon or juniper at the time of settlement were not pinyon or juniper sites.

DIE-OFF AND DROUGHT MUST BE ASSESSED

N13-60 Recent die-off of sagebrush, pinyon pine and juniper has occurred on many areas of public lands. BLM must inventory and assess areas of plant die-off across these allotments and surrounding lands. How will any die-off affect habitats? What actions can be taken to minimize impacts to native wildlife? Impacts of recent on plant vigor and species composition must be assessed.

N13-61 What are the likely impacts of global warming on forested and other habitats managed by ELY BLM?

All of these issues are not addressed in the DRMP.

POST-BURN/TREATMENT REST FROM LIVESTOCK USE/POST BURN FENCING/TRESPASS

N13-62 A minimum period of five years rest from livestock grazing following any wild fire or BLM vegetation treatment/manipulation must be standard operating procedure on EIS lands. This is necessary to allow recovery and establishment of native species. Grazing should then be allowed only if specific measurable criteria for establishment of native vegetation and microbiotic crusts have been met.

N13-63 Only native species should be used in any post-fire seeding effort, or in any seeding effort (such as road rights-of-way, areas where cow troughs are removed, etc) in EIS lands.

N13-64 BLM should not construct new or temporary fences in burned lands. The already existing pasture fences should be used to control livestock. Electric fences very often fail, and burn trespass occurs.

N13-65 Any livestock trespass of burns or areas being rested from grazing must result in permit action against the responsible permittee. The public's investment in fire rehab is often tens of thousands of dollars, and it can be destroyed through trespass.

ROAD MAINTENANCE

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N13-59 The SCS/NRCS soils survey data are based primarily on soil characteristics rather than simply being a depiction of existing vegetation communities. Thus, they present the best available indication of potential vegetation communities on a given site in a manner that is relatively independent of post-settlement history of the site.

N13-60 Please refer to Response to Comment N13-7 for a discussion of data collection. Monitoring of vegetation die-off is ongoing and such changes in vegetation communities will be considered in individual watershed analyses.

N13-61 The effects of global warming on the Ely RMP planning area are unknown. Thus, to formulate management actions based on potential climate changes would be speculative.

N13-62 There are no laws, regulations, or policies that require the Ely Field Office to implement 5 years of rest from grazing following a fire or vegetation treatment. Since recovery varies by site and climatic conditions, the policy of BLM is to rest a burned or treated area at least two years, or until site objectives for vegetation are met, as determined through pretreatment assessment and monitoring.

N13-63 If seeding is necessary, site-specific analysis would determine the appropriate seed mixture, and this could include native species.

N13-64 The need for construction of fences associated with burned lands is evaluated on a case-by-case basis and is addressed in Emergency Stabilization Plans. Grazing use associated with burn areas is addressed on a case-by-case basis. Management actions can range from full or partial closure to a change in grazing use in which existing pasture fences could be used to control livestock

N13-65 Livestock grazing closures are issued when immediate protection due to fire is required. Closure of burn areas or allotments and actions associated with unauthorized use are regulatory actions that are addressed on an annual basis. Refer to the best management practices (Appendix F, Section 1) in the Proposed RMP and Final EIS under watershed management for reference to closure of livestock grazing in burned areas.

Letter N13 Continued

N13-66 Road maintenance must be kept under controls. BLM lands in the West are increasingly characterized by examples of overkill in maintenance that results in blading willows, blading huge bare swaths (as weed corridors) on the roadsides, and unnecessary drainage furrows hundreds of feet long in relatively flat terrain. BLM must try to maintain and promote native vegetation on roadsides and keep them from becoming weed corridors (see Gelbard and Belnap 2003).

PREDATOR KILLING

N13-67 BLM must assess the impacts of predator control actions across these lands on special status animal species and native plant communities. BLM must prohibit aerial gunning of coyotes - which causes intrusive disturbance in wild land areas and may disturb sensitive wildlife species during critical periods of the year. Activities of Wildlife Services can damage public lands. For example, WS may harm public lands and values by: driving roads when muddy, disturbing wildlife during sensitive times of year; cross-country travel by OHVs spreading weed seeds, crushing vegetation or harming soils; trapping in sensitive species habitats or near popular recreation areas or important wildlife habitats; altering population structure of native predators; removing badgers that are important in providing burrows for burrowing owls; reducing predator kills and thus reducing carrion for bald eagles and some other raptors; accidental mortality of golden eagles or other raptors in traps, etc.

N13-68 BLM must propose alternatives that constrain or remove WS activities from sensitive species habitats on Ely District lands. Removal of native predators only results in increased predation problems, and upsets the stable social structure of coyotes or other native predators. If a rancher claims a predation problem, then that rancher should be responsible for protecting livestock by increased herding and vigilance. If the rancher is unwilling to do that, the livestock should be removed from the public lands.

N13-69 BLM must present accurate and detailed information on the areas where predator control activities currently occur, and the amount and timing of such activities.

WEEDS/EXOTIC SPECIES

N13-70 BLM must fully recognize the fact that domestic livestock are the primary cause of weed infestation across the EIS area lands. Livestock: travel cross-country transporting weed seeds in mud on hooves, fur and feces; create zones of intensive disturbance that are ideal sites for infestation by weeds, harm and weaken native vegetation giving aggressive exotic species an advantage.

N13-71 BLM must identify lands that are currently "at risk" for weed invasion, and identify specific preventative measures that will be taken to prevent their spread. BLM has shrugged aside the role of livestock in weed infestation, and thus has been largely ineffective in weed control. BLM continues to graze sites of known weed infestation, thus ensuring that infestations spread – as livestock are tremendous vectors of weed seed spread and create disturbance where weeds thrive. BLM's approach is obviously not working.

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N13-66 In response to your comment, best management practice #1.18.2 for road maintenance has been added to Appendix F, Section 1 of the Proposed RMP and Final EIS.

N13-67 Predator control is not conducted by BLM. Thus, the topic of this comment is beyond the scope to the Ely RMP.

N13-68 Please refer to Response to Comment N13-67.

N13-69 Please refer to Response to Comment N13-67.

N13-70 The Ely Field Office does not agree that domestic livestock grazing is the "primary cause of weed infestation" across the Ely RMP planning area. The Federal Land Policy and Management Act stipulates that the BLM manage public lands for multiple uses and sustained yield. The Ely Field Office is concerned about the potential for increased noxious weed invasions and will use allowable management techniques in treating them.

N13-71 The Ely Field Office is currently inventorying and treating for noxious weeds and will use this data as part of the watershed analysis process. As part of watershed analysis, implementation strategies will be developed to deal with weeds and vectors of weed infestation. One of the objectives of the Proposed RMP is to improve the control of weeds across the decision area.

Letter N13 Continued

N13-72 BLM must take all possible measures to prevent the spread of weeds into the fairly intact native vegetation communities in the RMP area, including quarantining cattle or sheep before turnout on public lands for sufficient periods for weed seeds to pass through their systems, and prohibiting trailing or movement from a weed-infested pasture/area into one without weeds.

N13-73 Rapidly expanding threats in the RMP lands includes white top and knapweed/, which have the potential to become established in disturbed sites - such as livestock-trampled wet meadow and spring margins. These species then move out into surrounding native vegetation. BLM's past failure to act to control livestock grazing practices and reduce stocking rates has resulted in the rapid spread of ineradicable exotic species.

N13-74 BLM must specify actions that will be taken to prevent infestation - such as closing pastures or allotments to all grazing until weed infestations are under control.

N13-75 Vehicles are also a source of weed transport, so banning cross-country travel by ORVs and closing jeep trails or minor roads in lands "at risk" for weed infestation are logical ways to limit vehicle transport of exotic species seeds. This must include ranchers, too!

SOILS/MICROBIOTIC CRUSTS/DESERTIFICATION

N13-76 Livestock grazing during all periods of the year damage soils and microbiotic crusts, and increase soil vulnerability to wind and water erosion. Trampling damage to soils effects everything from burrows of native animals, to larvae of native pollinators to roots and mycorrhizae of native tree shrubs and trees. Since harms to soils are hard to quantify and monitor from year-to-year, it is essential that BLM establish upland standards of use that provide maximum protection for soils.

N13-77 In addition, BLM must conduct annual use pattern mapping to identify zones of intense livestock use. Use in no areas of a pasture/allotment should be allowed to exceed upland standards. This means there should be no sacrifice zones to livestock - such as areas close to water sources. If standards of use - upland or riparian - are exceeded anywhere in the pasture/allotment, this should be the trigger to remove livestock.

VISUAL RESOURCE MANAGEMENT

N13-78 BLM must designate manage large areas of roadless lands greater than 5000 acres in size, and all portions of ACECS as VRM I. This is fully compatible with special status species habitat management – for example, VRM I or 2 classification would result in removal or no new construction of elevated sage grouse predator-perches in wide-open sagebrush landscapes.

CULTURAL VALUES

Important cultural sites are often located in association with rare springs, plateau rimrocks, canyons, or pinyon pine nut harvest or associated camp sites. Threats to these sites include

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N13-72 Weed risk assessments are conducted associated with activities such as grazing term permit renewals and range project development. Weed Risk Assessments assess the likelihood of noxious weed species spreading and the consequences of noxious weeds establishment, both associated with grazing activities. Preventative management measures for noxious weeds are then developed to reduce the risk of introduction or spread of noxious weeds. Refer to the best management practices (Appendix F, Section 1) in the Proposed RMP and Final EIS under noxious and invasive weed management for reference to actions and activities to eliminate and control the introduction and spread of noxious weeds.

N13-73 The contention that the Ely Field Office has failed to act to control livestock grazing is unsubstantiated. Please refer to Response to Comment N13-72.

N13-74 Please refer to Response to Comment N13-72.

N13-75 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning would occur in the Ely RMP planning area. Please refer to Section 2.4.21 for a discussion of expected reduction in risk of weed spread associated with the limitations on off-highway vehicle use.

N13-76 Please refer to Section 1.3.3.5 and Appendix B in the Proposed RMP and Final EIS for discussions of Resource Advisory Council standards and guidelines that apply to livestock grazing and effects on soils.

N13-77 Specific measurable standards and objectives are used during rangeland monitoring. Evaluation of livestock grazing use relative to achievement of the standards for rangeland health is a continual and on-going process. Grazing use will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring.

N13-78 Areas with wilderness value outside of current wilderness study areas have been reviewed and designated through the Lincoln County Conservation, Recreation, and Development Act of 2004 and the White Pine County Conservation, Recreation, and Development Act of 2006. Areas designated as Wilderness would be VRM Class I. ACECs in the Proposed RMP were assigned visual resource management classes to manage for specific threats facing the resource for which the ACEC is being proposed. Where scenic values were not identified as a resource, visual resource management classes were not adjusted from the baseline inventory. Please refer to Section 2.4.22 of the Proposed RMP and Final EIS for clarification of management prescriptions for each ACEC. VRM Class II designation would not necessarily eliminate the construction of facilities that could serve as elevated perches.

Letter N13 Continued

increasingly easy road access due roads resulting from livestock facilities and management purposes. Increased or more improved roading leads to vandalism or disturbance of cultural sites.

Livestock cause erosion and damage or loss to artifacts and sites - particularly in the vicinity of springs, seeps and other riparian areas. Livestock facility construction causes shifts in livestock use that may lead to new or extended damage to sites – spanning the range from disturbance of rimrock stone blinds, to trampling and breakage of artifacts. Invariably, BLM's cultural specialists are forced to allow range developments to proceed, despite shifted use to new areas that may also have cultural importance.

N13-79 Comprehensive cultural surveys must be conducted in the vicinity of all springs and seeps, and all livestock facilities, and the impacts of current livestock grazing on sites must be studied as part of this process.

N13-80 The best way to protect cultural sites from looting is to limit roading and motorized access to sensitive areas. BLM must analyze significant road closures of salt site roads, or other facility roads (require routine maintenance or salt placement by horseback, limit new livestock developments - that inevitably lead to increased roading), and take other measures to limit ease of access that might damage these sites.

N13-81 Livestock harm and/or destroy cultural sites in many ways, including: trampling and soil compaction breaking artifacts and destroying site stratigraphy; erosion revealing artifacts to surface collection and livestock trampling damage; erosion destroying site stratigraphy; defiling sites with large amounts of feces and urine. BLM must act to stop this damage under all alternatives of the RMP, and this has not been done.

PALEONTOLOGICAL VALUES

N13-82 The impacts of livestock grazing and facilities under all alternatives on paleontological values of these lands must be thoroughly assessed. Paleontological values are threatened by haphazard collection (exacerbated by networks of livestock facility roads) and livestock grazing and trampling that results in site erosion, exposure of fossils or strata and other impacts. BLM must inventory and assess paleontological sites, evaluate impacts of grazing activities and facilities on these sites, and identify measures to be taken to protect them from damage or loss.

WILD HORSES

N13-83 While we are not wild horse advocates, and understand the ecological harms that wild horses cause to native vegetation communities, we have repeatedly witnessed Nevada BLM cutting horse numbers while at the same time keeping livestock numbers the same – or even allowing increases. BLM must carefully differentiate between the impacts of livestock and horse use across the RMP area, and it has never collected necessary monitoring data (utilization that truly differentiates between horse and cattle/sheep use) to do so. Instead, the agency sacrifices horses to meet the demands of the livestock industry for maximizing livestock numbers. We are

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N13-79 Please refer to Response to Comment N13-7 for a discussion of data collection. Also, refer to Section 4.9 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the effects of grazing on cultural sites

N13-80 The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for transportation, including road closures, are prepared and evaluated.

N13-81 Please refer to Section 4.9 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of livestock impacts to cultural resources. The Ely Field Office is aware of these impacts and will address them when and where necessary on a case-by-case basis.

N13-82 Please refer to Response to Comment N13-7 for a discussion of data collection. As reflected in Section 4.10 of the Draft RMP and EIS and Proposed RMP and Final EIS, livestock grazing would have minimal interactions with paleontological resources. Also, refer to Appendix F, Section 1 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of best management practices for paleontological resources.

N13-83 Please refer to Response to Comment N13-7 for a discussion of data collection. The Ely Field Office does not sacrifice wild horses for livestock grazing; both are valid multiple uses of public lands. The Ely Field Office disagrees that a small number of wild horses are being provided for in the Proposed RMP. The plan identifies 1,695 wild horses that initially are to be managed within the Ely RMP planning area. This will still make Ely Field Office the third largest wild horse manager within the Federal Government.

Letter N13 Continued

N13-83 appalled at how much the RMP proposes to cut horse herd areas, while keeping cow use areas largely the same.

PERMIT BUYOUT/PERMIT RETIREMENT

N13-84 Federal legislation implementing a buyout of grazing permits and the permanent removal of livestock grazing from the affected lands is a very reasonably foreseeable development in public lands management in the EIS area within the next few years. BLM must recognize this in its EIS process, and identify allotments the high priority for permanent protection of many of these lands – such as the better condition sagebrush communities - from livestock grazing impacts, and the value of permit buyout for restoration purposes, to protect critical habitats, to protect cultural sites, to reduce conflicts with wildlife and recreation uses, etc.

N13-85 Such clear identification of lands in the RMP will also streamline any permanent allotment closures that may go through a LUP Amendment process. BLM must take all measures necessary in to make allotment closures as easy as possible.

N13-86 BLM must provide clear facts and figures on who actually grazes these lands - including pastures within allotments, the number of AUMs each permittee has within each pasture, associated base properties, the various AUM categories, etc. to streamline understanding of lands at stake in the future buyout processes.

LAND ACTIONS

N13-87 BLM should pursue acquisition of additional lands located in key habitat areas, acquisition of private inholdings through purchase with Land and Water Conservation funds or other conservation funding. There should be no net loss of public land.

ROAD REHAB/RESTORATION

A large number of the roads in the wild lands of these allotments were pioneered or constructed only because they allowed ranchers to drive salt to the top of hills, or because they access cattle installations, or have just spring up on the path of a pipeline due to construction and subsequent maintenance.

N13-88 Incursions on unroaded lands are routine – such as those undertaken by livestock permittees to develop or maintain water sources, place livestock installations, place salt licks, etc. As part of its analysis, BLM must examine roading in the context of livestock activities. Roads and jeep trails whose primary purpose is placing salt or checking on a water trough should be closed and restored/obliterated. Livestock permittees own horses, and can and should use them in pursuing public lands livestock grazing.

N13-89 BLM must identify methods of road closure and restoration, and roads to be closed. This has not been done in the RMP.

Responses to Letter N13

N13-84 Combined with N13-85.

N13-85 Buyouts of grazing permits have been completed in desert tortoise habitat. The Ely Field Office disagrees that it is reasonable that buyouts would continue to happen on a broader scale outside of desert tortoise habitat. Therefore, buyouts of grazing permits have not been included in the cumulative impact analysis in the Draft RMP and EIS and Proposed RMP and Final EIS.

N13-86 Please refer to Response to Comment N13-7 for a discussion of data collection.

N13-87 Please refer to Management Common to All Alternatives in Section 2.4.12.3 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of land acquisition.

N13-88 Please refer to Response to Comment N13-80.

N13-89 The type of issues raised in your comment will be considered by the Ely Field Office when transportation plans are developed through coordination with local agencies, residents, and interest groups. Please refer to Section 2.4.14.1 in the Proposed RMP and Final EIS for a discussion of transportation plans.

Letter N13 Continued

UTILITY CORRIDORS/RIGHTS-OF-WAY/SITING

N13-90 BLM must strengthen environmental protection for all rights-of-way on RMP lands. Protections include: Limiting use during sensitive nesting, fawning, wintering or other periods of use for all native wildlife, assessing impacts of rights-of-ways on spreading exotic species onto surrounding lands and revocation of rights-of-way when weed infestation or wildlife disturbance results. BLM's planning process must not authorize new utility corridors, and must re-examine the suitability of existing corridors. All direct, indirect and cumulative impacts of mining, wind, geothermal, and other energy development on populations of special status species or aquifers across the EIS region must be considered.

N13-91 The maps in the RMP depict an alarming number of utility corridors, and we do not believe man of these are needed.

ECONOMIC ANALYSES

Ranches are increasingly being bought by hobby ranchers, speculators, or large or corporate interests.

N13-92 The quite minor economic importance of public lands ranching in must also be studied here, as well as the huge number and type of subsidies that surround it.

N13-93 BLM must detail its annual cost of administration of livestock grazing on affected lands under the current and alternative systems. BLM must provide the percentage of these administrative costs that are covered by BLM's income from the small grazing fee, and present this to the public in its economic analysis. Please also review the recent GAO report (GAO 2005) on ranching costs to the public.

N13-94 BLM must detail its other costs in administration of these lands (recreational opportunities lost, weeds invading and treatments, increased fire suppression costs with livestock-caused weeds like cheatgrass) and present this to the public in its economic analysis. This is necessary to understand the administration of livestock grazing. Of particular concern is the lesser funding traditionally spent on wild lands restoration, habitat enhancement, and collection of essential baseline biological data.

We look forward to working with you in moving forward with actions to protect and enhance these nationally significant public lands. Please contact us if you need clarification or additional information on any of the above comments.

Sincerely,

Katie Fite
Biodiversity Director
Western Watersheds Project
PO Box 2863

Responses to Letter N13

N13-90 The topic of your comment will be considered by the Ely Field Office when project-specific plans are submitted by private and public entities seeking rights-of-way. The status of current rights-of-way will be assessed in the individual watershed analyses, and the need for actions on existing rights-of-way and stipulations for future rights-of-way will be determined. Please refer to Appendix F, Section 1, for best management practices that apply to rights-of-way.

N13-91 Comment noted. Major utility corridors are designated in the Proposed RMP in response to demonstrated need.

N13-92 Thank you for expressing your concerns. The administrative parameters associated with grazing on public lands, including grazing fees, do not fall within the purview of the local field office.

N13-93 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP and does not require further agency response.

N13-94 Landscape restoration is an overarching theme of the Proposed RMP. Livestock grazing is administered under existing laws, regulations, and policies. Please refer to Section 4.23 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the economic effects associated with the proposed management actions. Administrative costs of the Ely Field Office are beyond the scope of the Ely RMP.

Letter N13 Continued

Boise, ID 83701
208-429-1679

Letter N14

November 18, 2005

Gene Kolkman
District Manager
Ely District BLM
702 N. Industrial Way
HC33 Box 33500

RE: Lands of Blue Mass Scenic Area and other parts of the Tippett allotment

Dear Manager Kolkman,

First, I want to thank your staff for promptly responding to my phone call yesterday concerning grazing impacts to the Blue Mass Scenic Area and other portions of the Tippett allotment.

WWP is very disappointed at the condition of lands located within and surrounding the Blue Mass Scenic Area observed during a visit earlier this week. We followed BLM signs to the Blue Mass area, and drove along the access road to the watershed divide. Extremely heavy current year's use by livestock was visible throughout the watershed, and continued to the ridge top on the watershed divide. We walked in several portions of the upper watershed, including areas distant from the stream. T12S R69E sec 31, T 12S R 68E sec 36, T13S R 68E sec 1.

N14-1 The damage being done to this very beautiful upland area, the scarce desert stream, spring and meadow waters, and the degradation and desertification at the watershed level is appalling. BLM has a unique area under its management, and grazing is destroying the watershed.

Domestic cattle are a very major cause of the site conditions. Very abundant cattle waste of all ages is found everywhere, including under mahoganies, pinyon and juniper in all areas accessible to cattle. Anticipating BLM claiming that damage here was due to horses, I looked closely at cattle sign. The current year's extreme grazing, browse and trampling use to uplands and riparian areas can not be blamed on wild horses. Plus, old, weathered cattle waste from previous years is ubiquitous and far exceeds that of horses.

WWP is also concerned about what we are seeing across Ely lands in the aftermath of fire – both wild and prescribed. There are serious impacts to soils, vegetation watersheds, and wildlife habitats from fire disturbance, and pre- and post-fire grazing disturbance such as in the Blue Mass watershed greatly magnifies those impacts. Upper portions of the watershed have burned in the past decade or so. Extensive areas now include a significant component of cheatgrass. In many patches of burned mahogany, there has been little to no regeneration. The mahogany plants that have managed to seed in among the

Responses to Letter N14

N14-1 Please refer to Section 2.4.22.1 in the Proposed RMP and Final EIS for a discussion of the Blue Mass Scenic Area, which is being proposed as an ACEC in the Proposed RMP. Specific management needs for the area will be developed as part of the ACEC management plan.

Letter N14 Continued

cheatgrass and cattle trampling are severely browsed. Thus, pockets of mahogany consumed by fire, and with seedlings now hammered by livestock, are in danger of being extirpated.

N14-2 Your staff informed me that there had been two fires, and both were wildfires. In what years did they occur? How much cheatgrass was present pre-burn, and where was it present? How have you tracked cheatgrass presence and abundance post-burn? What was the condition of the vegetation communities pre-burn? What is the condition post-burn? How have you tracked conditions of the vegetation post-burn?

N14-3 What criteria were required to be met (mahogany regeneration and height, recovery of native grasses, recovery of riparian vegetation, bank stability, etc.) post-burn? How long was the area rested following fire? Were soil and vegetation recovery criteria, if any were applied, met before grazing resumed? What levels of use does current monitoring of woody browse show here?

N14-4 There appears to be very little mountain big sagebrush regeneration following the burn – perhaps the cheatgrass, is serving to limit regeneration, or perhaps the cattle are eating the sagebrush ??? We have observed extensive cattle use of young sagebrush on overstocked Jarbidge Idaho BLM lands, so this is possibly occurring here. Was sagebrush seeded following the fires?

N14-5 In livestock-accessible unburned stands, and pockets of mahoganies amidst the burn, nearly every younger age class mahogany is heavily to severely browsed. What browse use levels have you monitored in the unburned areas here over the past decade? What are the standards of use that are to be met? What does your current year's monitoring show? If you haven't yet monitored this or other livestock use here, please do so, and let us know what is found.

Few larger-sized native bunchgrasses remain, and the forage present in the smaller-sized "increaser" native grasses is minimal. Non-palatable and poisonous forbs comprise much of the native forb component. Soils are extensively trampled by cattle hoofprints, with much damage to microbiotic crusts.

The Blue Mass watershed illustrates the failure of agencies in trying to apply structural fixes to deep-seated grazing problems of overstocking and failure to require standards of upland and riparian use as triggers for livestock removal. We observed three small exclosures near the road that were constructed in a failed attempt to stave off large-scale erosional problems and severe head-cutting.

The uppermost exclosure has been extensively trespassed by cattle this year. This exclosure is clearly visible from the access road, and if the permittee had checked on cattle, this would have been quite visible. However, such attention is not likely to have occurred, as the bottom wires on this exclosure at the downstream crossing appear to have been purposefully bent up to provide cattle access. Thus, it seems exclosure trespass may have been a purposeful action.

Responses to Letter N14

N14-2 This comment is specific to the field trip conducted by the commenter and not the Draft RMP and EIS. No response is necessary in the Proposed RMP and Final EIS.

N14-3 Please see Response to Comment N14-2.

N14-4 Please see Response to Comment N14-2.

N14-5 Please see Response to Comment N14-2.

Letter N14 Continued

Some older current year's cattle waste was also present in the middle exclosure. This area appears to have also included a tiny smaller older exclosure that had not been kept up over the years.

Construction of these exclosures did nothing to address the serious grazing problems throughout the watershed. It merely served to shift and intensify cattle use outside the exclosures, and accelerate large-scale soil erosion processes there. New gouged out eroding trails are found in the streambanks by the exclosure fences.

The third, and lower, exclosure illustrates the severity of the watershed-level degradation and erosion processes. Large-scale soil erosion **this year** has left the downstream fence on the lower exclosure dangling in the air, as a 5-6 foot or greater headcut proceeded upstream, intruding on the band-aid exclosure. I will be sending you photos illustrating conditions in a separate e-mail.

N14-6 Additionally, why was a large junked tank, rusty pipe, and other debris from previous failed livestock projects left, littering public lands amidst the band-aid exclosures --- if BLM crews were out on this area constructing exclosure fences? Although this is a minor concern, it illustrates the attitude towards livestock grazing and livestock facilities – a past facility failed, just build more facilities and ignore the failure of the past facility, and leave the old facility junk out there, littering public lands.

Someone appears to have tied white flagging to the exclosure fences to make them more visible to birds or horses to see, but the flagging has quickly weathered off – with only the tied area remaining, so it is no longer serving to alert wildlife such as sage grouse to the wire hazards and collision mortality danger of the barbed wire fence.

Another concern, though minor in scale compared to the cattle damage, is the use of ugly metal pipe as fence corner posts. Why are these being used, especially here? And lastly, stays that were too short were used on the upper exclosure, so in many places the bottom wire has pulled loose of the stay, or the stay was never even twisted into the bottom wire in the first place. We stress that this is NOT why cattle gained access – the downstream fence crossing of the upper exclosure has purposefully bent up wires and stays that show what occurred. We will be sending you a photo of this, too.

N14-7 These exclosures illustrate the folly (and waste of taxpayer dollars) in construction of small band-aid exclosures when cattle or sheep grazing is having large-scale watershed-level impacts. Large-scale erosion processes continue, and are likely intensified and accelerated by concentration of grazing impacts from facility construction. One large deficiency in the RMP is its failure to catalogue facilities, and assess impacts, and develop a range of alternative actions that focus on habitat and watershed improvement without livestock facility construction, and that remove facilities having harmful impacts.

N14-8 We ask that the ineffective and ugly Blue Mass exclosures be removed. We also ask that grazing be terminated on BLM lands in the watershed. If you are unwilling to do this, the

Responses to Letter N14

N14-6 Please see Response to Comment N14-2.

N14-7 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes. Alternative D includes the elimination of livestock grazing on public lands in the Ely RMP planning area. The analysis of individual range installations or treatments is beyond the scope of the Ely RMP.

N14-8 Please see Response to Comment N14-1.

Letter N14 Continued

N14-8 watershed must be rested until streambanks are stabilized, and headcuts begin to heal. At a minimum, this area needs 10 years of rest to jump start recovery. If you are unwilling to do that, and plan to let grazing damage continue, please apply measurable standards of livestock grazing, browsing and trampling use that serve as triggers for removal of livestock from the area.

The impacts of grazing to uplands and riparian areas (including intermittent or ephemeral areas) extend far up and downstream from the area with the exclosures. Plus, the fence separating the downstream private land from BLM is not functioning and looks like it has been abandoned, so it appears that grazing the BLM allotment lands is causing damage to the essentially intermingled (due to lack fence maintenance) private lands, too.

Some cattle were still quite visibly present and very hard to miss encountering – we observed 2 very visible black bulls repeatedly, standing by the road, several animals on a steep sidehill near the road up to the watershed divide, and 2 other black cows in the mahoganies. It's hard to believe that the permittee has misplaced the bulls and other cattle. I understand the allowed use period has ended. Isn't this trespass?

N14-9 We also observed LIMITED sign of sage grouse use – including a single dropping on a ridge, and 3 droppings by a degraded and dying wet meadow in the upper portion of the watershed. What is the status of the sage grouse population in this area? Are these lands critical brood rearing habitats, nesting habitats, or other important habitats? Why is there so little sign of sage grouse use here – is it perhaps due to the extensive degradation of riparian and mesic areas, and fire-caused loss of sagebrush in upper portions of the watershed? This area appears to be at the periphery of a large expanse of non-suitable habitat, so it is quite important that it be protected and actions taken to enhance grouse habitats.

N14-10 WWP recommends the Blue Mass Scenic area, including its entire watershed and neighboring portions of the Kern Mountains, be designated a large ACEC under the Ely RMP. This is necessary to apply integrated and decisive management to control ongoing grazing damage, and to restore the fire and livestock-damaged lands. The lands shown in the Draft RMP map as an ACEC here are far too small. It is impossible to tell just what the lands are, as the DRMP maps are very poor and unreadable at the scale provided. The DRMP chart page 2.5 – 217 shows only 900 and some acres being included in an ACEC. The DRMP also - outrageously - shows status quo grazing practices continuing. If protected from abusive grazing, the riparian areas could provide important nesting migratory and other birds, as well as refueling areas for migrants. BLM should identify the downstream lands for acquisition, and pursue acquisition of the downstream private lands with Clark County funds, and manage the area for watershed recovery.

N14-11 In the Antelope Range, we observed 6-7 cattle congregated in the small wetted area in Tunnel Canyon near the "pictograph" symbol on BLM's land status map. The area is already heavily used by livestock. What are the levels of allowable use of riparian vegetation by cattle here? What have you measured? Are cattle currently allowed to be

Responses to Letter N14

N14-9 Please see Response to Comment N14-2.

N14-10 In response to this and similar comments, the Ely Field Office considered the size of the Blue Mass Scenic Area ACEC but did not change the area proposed for designation. Please refer to Section 2.4.22.1 of the Proposed RMP and Final EIS for a description of the Blue Mass Scenic Area ACEC. The Nevada BLM designates ACECs to highlight areas where special management attention is needed to protect and prevent irreparable damage to: important historic, cultural, and scenic values; fish or wildlife resources; or other natural systems or processes; or to protect human life and safety from natural hazards. The Proposed RMP proposes the designation of 17 new and 3 existing ACECs for a variety of resources. The boundaries of all ACECs proposed in the Proposed RMP were closely reviewed and adjusted to ensure sufficient special management requirements can be met for the relevant and important resources of those areas.

N14-11 Please refer to Response to Comment N14-2.

Letter N14 Continued

N14-11 grazing in this area? If so, how long will this use continue? What use has been measured in this riparian area in years past?

N14-12 Other concerns with conditions observed in the allotment include extensive cheatgrass and halogeton invasion of salt desert shrub and Wyoming big sagebrush habitats in many areas of the Antelope Valley. Loss of winterfat and its replacement with large expanses of halogeton are of great concern. This, and many other examples of the depletion of forage-producing plants and significant problems in the allotment stemming from abusive livestock grazing and overstocking, demonstrate the need for large-scale cuts in livestock numbers in the allotment. These problems include invasive species proliferation and dominance over large areas of public lands – including cheatgrass, halogeton, now purple mustard, and other weeds. Plus, the prevalence of cheatgrass and other weeds following fire, lack of regeneration of native vegetation like sagebrush following fire, and other problems are not addressed adequately in any alternatives in the DRMP.

N14-13 Please also include this letter as part of WWP's comments on the Ely DRMP. It illustrates at the site-specific level some of the very significant and near-ubiquitous problems associated with livestock grazing, fire, invasive species, loss of riparian areas, loss and degradation of wildlife habitats, soil erosion, and other serious problems affecting public lands across the Ely District. These are not sufficiently addressed in alternative actions in the DRMP.

Sincerely,

Katie Fite
Biodiversity Director
Western Watersheds Project
PO Box 2863
Boise, ID 83701

Responses to Letter N14

N14-12 A watershed analysis has been completed for the North Antelope watershed in which the Antelope Valley lies, and it has addressed standards. Part of the watershed analysis process is to develop an implementation strategy for identification of management actions to meet standards. The watershed analysis addresses all the grazing allotments in the watershed; however, the Proposed RMP does not address the management of individual grazing allotments.

N14-13 Thank you for your comment. The Proposed RMP and Final EIS addresses livestock grazing, fire management, invasive species management, loss of riparian areas, loss and degradation of wildlife habitats, and soil erosion at the land use planning level. The resolution of site-specific problems will be addressed in the individual watershed analyses and restoration plans. The type of issues raised in your comment will be considered by the Ely Field Office during implementation when project-specific plans for livestock grazing, vegetation treatment, weed control, and other management actions that could affect related resources such as soils, riparian vegetation, and wildlife are prepared and evaluated.

Letter N15

November 24, 2005

Gene Kolkman
BLM District Manager
Ely Field Office
HC 33 Box 33500
Ely, NV 89301

Dear Mr. Kolkman,

I recently drove from McGill to cherry Creek on the west side of the Steptoe Valley. This trip visit resulted in several concerns related to land management and vegetation manipulation or conditions in this area.

N15-1 West of McGill. There is a burn in the North Egan Range west of McGill. This burn has been invaded by dense growths of cheatgrass. When did the burn occur? What was period of rest from livestock grazing that was applied? What was the understory condition of these lands pre-burn? What actions have you taken to recover native vegetation on the site post-burn? Was this a wild or prescribed fire? What recovery criteria were established? Were they met?

N15-2 We observed extensive understory depletion and invasion by cheatgrass in this area. Halos of cheatgrass are present surrounding pinyon or juniper in many areas, also. The presence of even some cheatgrass in understories will mean that cheatgrass will increase dramatically following fire, including prescribed fire. How have you measured cheatgrass composition and risk in the burns that have occurred, or may still be planned?

N15-3 We observed extensive areas where sagebrush and/or sagebrush interfacing with pinyon-juniper had been removed and crested wheatgrass planted. Even these seedings of the aggressive soil-depleting alien grass are in varying stages of depletion. Inm some areas, the only trace of old cwg plantings is palnts protected by sagebrush. We sincerely hope that you plan to manage these old, dying seedings for native plant increase, and NOT act to remove or thin sagebrush that has managed to move back into these extrenmely livestock –depleted lands.

N15-4 We observed extensive current year's livestock grazing and trampling impacts to winterfat and sagebrush communities. 11S 0680189, UTM 4381493. There is a utilization cage here. What were the results of the current year's monitoring? What levels of livestock grazing use (utilization, trampling, browse) are allowed? There is extensive trampling damage to soils. How have you measured this? Who is the permittee, and what is the allotment, season of use, and stocking rate? What is being done to address halogeton and other weed invasion of salt desert shrub communities?

Responses to Letter N15

N15-1 This comment is specific to the field trip conducted by the commenter and not the Draft RMP and EIS. No response is necessary in the Proposed RMP and Final EIS.

N15-2 A watershed analysis assesses current cheat grass composition in the dominant ecological sites and evaluates the data to determine if standards for rangeland health are being met. If they are not being met, the causal factors are determined and recommendations are made to meet the standards or make progress towards meeting the standards. Part of the watershed analysis process is to develop an implementation strategy for identification of management actions to meet the standards. The potential for cheatgrass expansion will be a consideration by the Ely Field Office when project-specific plans are prepared. Pre- and post-monitoring of all burns includes the consideration of cheatgrass composition and risk of spread.

N15-3 Crested wheatgrass seedings do not meet ecological site descriptions, but the Ely Field Office is managing for the return of native species into these seedings. Seedings are considered altered states within state and transition models. Mid-scale analyses of watersheds will address all vegetation communities within watershed boundaries. Past seeding projects in the major ecological sites of the watershed will be considered, along with factors such as current livestock management.

N15-4 Please refer to Response to Comment N15-1.

Letter N15 Continued

N15-5 I also observed many bands of newly burned areas that extended far uphill. These burns are non-discriminate, and appear to have burned old growth and mature pinyon, juniper and other trees. Are there any bristlecone pines at higher elevations in this range? If so where? How were they protected?

N15-6 New burn just south of Cherry Creek. I observed an extensive new burn area south of Cherry Creek. There was very little "mosaic" pattern to the burn, and the burn appeared to have been much hotter and more intensive than that described by agencies in their claims for prescribed burns. We understand this was a prescribed fire? Why did it burn so intensively? We understand BLM lost control of a prescribed burn on the other side of the mountain range, that the fire blew back east up and over the range and then burned north to the edge of another prescribed fire area. Why is BLM burning large areas with extensive cheatgrass already present in understories? In addition, removing and clearing woody vegetation here will result in a large-scale increase in OHV activity. There is significant fire risk associated with expanded OHV use in cheatgrass-infested areas. How much did this cost taxpayers to date? What additional costs will result? How will you control cheatgrass?

N15-7 What age class, and what species of trees were present in all areas burned – both the mosaic and the huge block. What was the current production of pine nuts from all areas that were burned?

N15-8 We observed dangerous old open mine shafts, and it is clear that mining deforestation likely occurred across this landscape, and extensive areas of pinyon and juniper were removed. This is precisely the type of information that needs to be depicted in greatly expanded vegetation mapping in the RMP effort.

N15-9 Sagebrush mowing at Cherry Creek. I observed a large block of newly mowed sagebrush with fresh drill rows evident at Cherry creek. What is the reason for mowing such a large area? What species of special status wildlife inhabited these lands, and what was their ecological condition, pre-mowing? What seed did you drill in here? What will be the period of rest from livestock grazing, and what recovery criteria will be applied before grazing is allowed to resume?? Are you mowing such large areas, and then seeding, to maintain stocking rates on depleted lands? How much did this cost?

N15-10 Old burn on slopes above Cherry Creek. Was this a wild or prescribed fire? There appears to be a severe cheatgrass problem. What are you doing to address this? How many acres of existing burns or treatments in the Ely District have 10 percent or greater cheatgrass occurrence in the understory?

N15-11 Please apply this letter to WWP's comments on the DRMP – we are very concerned about the lack of success in restoring cheatgrass-infested lands – yet BLM's preferred alternative would inflict large-scale disturbance that will result in extensive cheatgrass invasion and spread. Why make more of a mess when you can't fix the messes that already exist?

Sincerely,

Responses to Letter N15

N15-5 Please refer to Response to Comment N15-1.

N15-6 Please refer to Response to Comment N15-1.

N15-7 Please refer to Response to Comment N15-1.

N15-8 While it is acknowledged that pinyon and juniper trees were utilized during the historic mining period (approximately 100 years ago), the precise locations where trees were cut is not known and can not be mapped in detail. Further, this information would not be used in determining the types of vegetation treatment that would be appropriate in specific locations within watersheds across the Ely RMP decision area.

N15-9 Please refer to Response to Comment N15-1.

N15-10 Please refer to Response to Comment N15-1.

N15-11 The Federal Land Policy and Management Act stipulates that the BLM manage public lands for multiple uses and sustained yield. The Ely Field Office does not agree that vegetation treatment will result in "extensive cheatgrass invasion". The potential for the spread of weeds will be one of the factors considered in developing site-specific restoration plans. The Ely Field Office is concerned about the potential for increased noxious weed invasions and will use allowable management techniques in treating them.

Letter N16

November 25, 2005

Gene Drais
U.S. Dept of Interior
Ely Field Office
HC33 Box 33500
Ely, NV 89301

Dear Ely BLM,

N16-1 Here are additional comments by Western Watersheds Project on the deeply flawed Ely RMP effort. It is necessary for you to prepare Supplemental EIS to correct deficiencies noted in these and our preceding comments.

N16-2 We are quite concerned that the dramatic reduction in wild horse/burro herd areas and wild horses proposed in the RMP (reduce herd management areas by 1.76 million acres) would sacrifice wild horses to make way for continued high and abusive levels of cattle and sheep grazing on public lands. We do not believe that Ely BLM has ever conducted sufficient monitoring to allow it to separate impacts and uses by horses and cattle, or to determine the resources available to horses (particularly in areas that are to be eliminated as herd or use areas) – or the ecological impacts of livestock vs. horses. If the lands are so poor in quality, inhospitable or other wise unsuitable for horses, why, then, are they not unsuitable for domestic cattle and sheep? If one use is abolished, why is not the other being done away with, also?

What percent of the land area and population of wild horses does this land area represent (1.76 million acres)? Is this linked to loss of horses on other lands, too? In addition, why have you not considered an action alternative that eliminates livestock grazing across 1.76 million acres of lands where impacts are severe, where lands are fragile, where communities of plants are jeopardized, or why not eliminate it across the same lands where horses will be eliminated? Wildlife would certainly benefit from this, and such benefits to wildlife are extolled by you in the DRMP at 4.6.20.

N16-3 BLM has failed to provide both regional, area and site-specific data that separates horse and livestock use, especially that examines the often separate geographic areas grazed by horses and domestic livestock. Cattle graze flatter terrain, while horses roam over much hillier and more rugged topography- and are actually far more suited to grazing in many of the areas than are cattle or sheep. Additionally, horses travel very long distances from water – in contrast to domestic livestock. Please analyze a full range of alternatives in a supplemental DEIS that compare and contrast the use, suitability and allocation of these lands to horses vs. cattle/sheep. You will need to conduct detailed analysis on current ecological condition, vegetation production, carrying capacity, sustainability of native vegetation, and suitability for wild horses, cattle and sheep – something you have not

Responses to Letter N16

N16-1 As required by Council on Environmental Quality Regulations [40 CFR 1503.4(a)], the Ely Field Office has responded to comments on the Draft RMP/EIS by modifying alternatives; supplementing, improving, and modifying impact analyses; and making factual corrections and updates. These responses are contained in the Proposed RMP and Final EIS. Thus, a Supplemental Draft RMP/EIS is not required. Further, please refer to Comment Letter F3 where the U.S. Environmental Protection Agency gives the Preferred Alternative (the Proposed RMP) their highest rating of "Lack of Objections".

N16-2 The long term maintenance of wild horses as described in the Draft RMP and EIS and Proposed RMP and Final EIS utilizes BLM Policy and Guidance for Land Use Planning in determining the feasibility for long-term management of wild horses on public Lands. Table 3.8-2 in the Draft RMP and EIS and Proposed RMP and Final EIS identifies the suitability for management of wild horses in each existing Herd Area/Herd Management Area within the Ely RMP decision area. The plan identifies an appropriate management level of 1,695 wild horses within the Ely RMP decision area on over 3.6 million acres. This will still make the Ely Field Office the third largest wild horse manager within the Federal Government. The Proposed RMP identifies retaining over 80% of all wild horses and lands in current Herd Management Area status. Only areas that are persistently lacking suitable habitat with historical starvation, dehydration, and suffering of wild horses is being identified for non-designation.

N16-3 Please refer to Section 3.8.1 through 3.8.3 in the Proposed RMP and Final EIS for a discussion of specific ecological impacts, behavior, and herbivory that is germane to differentiating wild horses from livestock and wildlife. Also, please refer to Response to Comment N16-6 for a discussion of data collection. The Ely Field Office disagrees that wild horses are not being provided for in the Proposed RMP. Wild horses are in fact being considered comparably with other resource values (CFR 4700.0-6). Only areas that are persistently lacking suitable habitat with historical starvation, dehydration, and suffering of wild horses is being identified for non-designation.

Letter N16 Continued

N16-3 done, and base allocations on that information. Far more members of the public value wild horses than value domestic cattle and sheep. Yet, you are proposing to eliminate wild horses from vast land areas, while at the same continuing to graze damaging levels of cattle and sheep almost everywhere across the District.

N16-4 You have failed to provide information on water sources, and the use by livestock, horses/burros and wildlife of water sources, across these allotments. You have also failed to provide information on the impacts of human development on these water sources. Information that clearly separates horse and cattle use and impacts to soils, waters, native vegetation, cultural sites, recreational uses, special status species habitats, MIS species habitats, etc. is lacking.

N16-5 To better understand the impacts of livestock on ALL allotments, as well as to understand impacts of horses/burros vs. domestic livestock on those lands where they currently graze in common, you must provide livestock utilization (upland and riparian areas), browse (upland and riparian areas), trampling (upland and riparian areas), and actual use for the past 20 years.

N16-6 How many Key Areas are there? Where are they located? What is the ecological condition of all vegetation communities across all allotments on these lands? What are current ecological conditions at all Key Areas? What is the current production (of native vegetation, of increaser vs. decreaser species, etc.) at all Key Areas? How does this compare to the site potential? Which key areas exhibit the most livestock, horse or wildlife use? How was use separated between types of animals? How regularly has compliance monitoring been conducted – for trespass, numbers of livestock, etc.? How often have you counted cattle and sheep, and in what allotments?

N16-7 You have failed to provide information on all range facilities and water haul sites across the allotments. Where are they located? What are the water sources for all livestock water facilities? To what aquifer are they tied? How have facilities or other projects or other uses of these lands affected aquifers? What are the impacts of all facilities to important values of the public lands? How long has each facility been in place? What is its maintenance history and repair? Have facilities resulted in new or extended roading? How do facilities affect roading or extend OHV use? Which roads that sprung up as a result of facility construction can be closed, to help reduce negative impacts to soils, vegetation, watersheds, and wildlife?

N16-8 What information does all use pattern mapping show? When and where has it been conducted? How did it separate horse/burro, cattle/sheep, and wildlife use?

N16-9 What is the current livestock permitted use in all pastures of all allotments? How does this compare to the domestic livestock use in all pastures of all allotments? How many suspended AUMs per allotment? What has been the level and history of any TNR use here? In which areas has TNR occurred? What have been the impacts of TNR use? What special status species habitats, T&E species, special land areas, etc. have been impacted by TNR use across the District?

Responses to Letter N16

N16-4 Identification of specific water sources and range improvements will be considered by the Ely Field Office when specific plans for livestock projects are prepared. During the planning process, the Ely Field Office identified where to manage wild horses and an overall view of how to manage wild horses on the public lands. The management of wild horses is limited to Herd Areas identified after the Wild and Free Roaming Horse and Burro Act (PL-195) was passed in 1971. From these Herd Areas, designation of Herd Management Areas (HMA) occurs, which identifies areas that are suitable for the long-term maintenance of wild horses. Within these HMAs, wild horses are free to roam as one multiple-use of many under a specified appropriate management level, so as not to exceed the capacity of the rangeland to support a thriving natural ecological balance. Please refer to Response to Comment N16-3 for a discussion of resource use by wild horses and livestock. The Proposed RMP and Final EIS has addressed the impacts that would occur from the planning level wild horse management actions.

N16-5 Actual use stocking levels for livestock and appropriate management levels for wild horses are included and evaluated in the allotment evaluation process, including the term permit renewal process and watershed analysis. Monitoring information is also evaluated which includes utilization. These calculations are included in the Desired Stocking Level formula. The number of years used in the calculation varies depending upon circumstances and availability of data.

N16-6 NEPA regulations direct federal agencies during their preparation of an EIS to reduce the "accumulation of extraneous background data" [40 CFR 1500.2(b)]. Thus, the BLM is not required to collect all potentially useful data before proceeding with the preparation of an EIS. However, where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment is more detailed than that required to prepare an RMP/EIS for the Ely planning area.

N16-7 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-8 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-9 Please refer to Response to Comment N16-6 for a discussion of data collection.

Letter N16 Continued

Information complied by Dr John Carter (contact info: utah@westernwatersheds.org) of Logan Utah shows that average weights of slaughter cattle have increased to 1251 pounds in 2004. For the period 1938-1940, the average turnoff weight of mature cows (when the left the range) was 959 pounds. In the 1930s a cow-calf pair was 1340 pounds. With breeding, supplements and hormones, weights have increased over time. For example, Anderson et al 2000 calculated a 35% increase in dressed weights per animal between 1975 and 1995. This all translates into INCREASED forage demands, and greater impacts to soils and vegetation by modern-day cows grazed under the guise of the old AUM allocation on public lands. These old allocations are no longer valid. This RMP must provide data on cattle and sheep grazed on BLM lands that allow a current inventory and understanding of the AUM demands being placed on these lands, and the sustainability of soils, vegetation, waters, watersheds under these demands. Many public lands livestock are implanted with hormones, receive mineral supplements, and have been bred to be even bigger and more lumbering that their predecessors. Plus, it is our observations that they are increasingly inefficient processors of forage, as diarrhea-like waste often soils them. It is also important to understand the pollution of surface waters by concentrated use or increased levels of livestock waste, including possible hormones and breakdown products that may affect aquatic and terrestrial biota exposed to them.

N16-10

N16-11 How many allotments are grazed by cow-calf pairs, and what is the weight of the calves grazed on public lands? What is the turn-off weight of cows?

N16-12 You have not provided current information on rangeland health assessments, a summary of findings from those that have been completed, a tally of how many have been completed. As Ely has been delaying current assessment of livestock impacts, you must collect essential baseline information on ecological conditions as part of this RMP process. There is no other way to evaluate the impacts of various alternatives and take the necessary "hard look" required by NEPA.You must examine the role of livestock and/or wild horses in affecting soils (wind and water erosion, stability, condition of microbiotic crusts, compaction, etc.) vegetation (native, weed invasion and spread, ecological condition, structural attributes, etc.) important wildlife, special status species, or T&E species habitats.

N16-13 It is especially important that you provide evidence of very regular compliance monitoring to accompany any utilization or other data and analysis that you may provide. This is necessary because we routinely observe trespass cattle in wild horse herd areas on Nevada BLM lands, yet BLM has attributed the use during this period to HORSES – and not the cattle that were responsible.

N16-14 How might any vegetation treatments – especially the massive pinyon-juniper removal proposed under the Preferred Alternative extend the land areas grazed by cattle or sheep? What impact might this have on wild horses/burros? How might this extend human disturbance and harassment, and roading or OHV use? How do lands where veg. treatments are likely to occur correspond to horse herd or use areas? What is the current road density per mile across all watersheds of the District?

Responses to Letter N16

N16-10 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-11 As stated in Section 3.16.1 of the Proposed RMP and Final EIS, livestock (sheep and/or cattle) grazing is currently actively administered on 240 allotments within the planning area. Of these, 234 allotments are administered by the Ely Field Office and Calliente Field Station. The subject of cattle weight is beyond the scope of the Ely RMP.

N16-12 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-13 Regular compliance checks are an important activity related to livestock grazing. Compliance checks occur on a regular basis. If livestock grazing is not in compliance with the terms and conditions of the term permit or annual grazing authorization, appropriate action is taken. Priorities are set annually and are based on the term permit renewal schedule and permittee performance.

N16-14 The Ely Field Office is assessing and evaluating vegetation condition through watershed analyses to determine if rangeland health standards are being achieved. Resultant implementation strategies and site-specific management actions will consider the current uses in the watershed that will help achieve land health standards. Subsequent constraints pertaining to multiple uses will be determined during the planning process for successful implementation. The Ely Field Office is not proposing "massive pinyon-juniper removal". The impact issues raised in your comment will be considered by the Ely Field Office when site-specific restoration plans are prepared and analyzed in appropriate NEPA documents.

Letter N16 Continued

N16-15 How have you determined livestock trailing impacts, and their effects to soils and vegetation --- by livestock, as well as horses. What segments of which specific riparian areas are impacted by horses vs. cattle? How does this compare to the entire length or wetted area of the riparian or mesic site?

N16-16 For all data and information provided, please also present the authorized period of livestock use compared to the time when data was collected. In each year and/or monitoring period, what was utilization or other measurable data collected prior to livestock turnout in the pasture or use area?

N16-17 Please provide actual use for the past 20 years in all allotments, and within pastures of each allotment, if available. How is this related to climatic factors?

N16-18 The DRMP is devoid of information on the current degree of livestock impacts to naturalness, solitude, primitive recreational opportunities and special or important natural features or communities in ACECs, WSAs, Wilderness Areas or other special use areas.

N16-19 What monitoring of livestock or horse impacts has been conducted specifically in WSAs, wilderness areas, ACECs, Recreation, and other special use areas?

N16-20 How do current or proposed utilization or other measurable standards or use levels applied/to be applied on Ely BLM lands mesh with scientific information on levels that maintain a thriving ecological balance? What are the standards in each pasture in each allotment? Does the livestock utilization level that you apply affect the number of horses that can be free roaming and the number that can be grazed to maintain a thriving ecological balance?

N16-21 When were the livestock AUMs in all allotments adjudicated? Was later allocation done? When? What was done to verify the validity of stocking rates? Were all adjudicated AUMs ever used? Were AUMs cut? Were allotments changed from sheep to cattle? If so, what AUM reductions occurred? Was this paper cut or a cut in numbers actually grazed on these lands?

N16-22 Under all alternatives, to maintain the necessary "thriving ecological balance", you must address domestic livestock in tandem with horses/burros, and reduce livestock parallel to reductions in horses. Are you currently reducing authorized livestock grazing levels on these allotments in tandem with reducing horse numbers?

N16-23 What changes need to be made in cattle or sheep management to maintain a thriving or natural ecological balance, prevent the range from deterioration, and maintain multiple use relationships?

N16-24 How has grazing use been shifted or altered over the years through the development of range projects?

Responses to Letter N16

N16-15 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-16 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-17 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-18 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-19 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-20 Utilization levels are established based on BLM manual direction and scientific information. Utilization levels consider criteria to include: season of grazing, timing of grazing, current habitat ecological condition, and other resources such as wild horse herd management areas, special status species, and wildlife. In addition to meeting plant health requirements, utilization levels are also one of the indicators assessed to determine achievement of the upland sites standard as related to ground cover and litter. Utilization levels, including the actual levels resulting from grazing use and the utilization objective levels set by the Ely Field Office, are reviewed and included in a desired stocking level formula when setting appropriate management levels and reviewing stocking levels for livestock. The purpose of setting appropriate management levels (AMLs) and stocking levels in this manner is to achieve and maintain a thriving ecological balance for wild horse herds.

N16-21 The history of adjudication of livestock in the planning area is beyond the scope of the Ely RMP. Livestock stocking rates are determined through the allotment evaluation process and will be conducted as outlined in the Proposed RMP and Final EIS.

N16-22 Livestock grazing levels were considered when establishing the appropriate management levels (AMLs) for wild horses during the allotment evaluation process. Where AML has not been established, this is still one of the criteria that would be considered along with water and available herd management area size. AML has been set for the herd management areas within the Ely RMP decision area.

N16-23- Livestock grazing use relative to achievement of the standards for rangeland health is a continual and on-going process. Changes to grazing use are evaluated during the term permit renewal process, during watershed analysis, and during annual grazing authorization.

N16-24 The impacts or benefits of the development of range projects varies and is different by allotment. Projects have resulted in improved distribution of livestock due to water development and fencing. Developments such as water improvements sometimes results in concentrated and heavy use around and near the water source. Effects of range projects on grazing use are evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring and changes are made as appropriate.

Letter N16 Continued

N16-25 How was livestock use changed during or in the aftermath of drought here? What effects did drought have on native vegetation? Please provide site-specific data and analysis that shows effects of drought in horse, livestock and wildlife use areas, and the location of the studies.

N16-26 What information does wildlife monitoring show concerning overlapping use by species such as elk or mule deer with cows, sheep, horses/burros??? How have wild horse use and population levels, livestock use and stocking levels, vegetative condition and production, been assessed across all allotments involved?

N16-27 We are very concerned that you have not collected necessary data to assess the current suitability, carrying capacity and productivity of the lands in these allotments, as well as ignored the effects of desertification processes and watershed-level degradation by livestock.

BLM Uses Flawed Models and Analyses of Vegetation Communities and Composition

N16-28 BLM uses flawed models and analyses based on soil survey data as its the basis for its large-scale disturbance treatment under its flawed alternatives, and the falsely named "restoration". Instead of "restoration, many of the actions proposed - especially their scale – are more aptly likely to result in permanent loss and long-term destruction of older or mature communities.
BLM ignores historic data on widespread deforestation associated with mining in the 1800sandearly 1900s across Nevada.

N16-29 BLM must:

Present detailed analysis of historic data. Please provide maps that show: all historic mining areas, estimates of the amount of wood needed for processing ores, estimates of the lands area deforested by mining. See Dr. Ronald Lanner's book, *The Pinyon Pine*, describing how wood was so scarce that stumps were dug up. Please provide acreage estimates for lands across the Ely FO and neighboring areas. Provide a review and assessment of the amount of burning by sheepherders and settlers and others that occurred following settlement.

N16-30 Provide information on the amount of soil erosion that has occurred on all lands. How much top[soil has been lost, and where has this occurred? This is critical to understanding "potential" vegetation, outcomes of treatments, and irreversible changes that may have occurred to soils or the vegetation communities that they can support since European settlement.

N16-31 Provide a study of desertification processes across the District. See Sheridan CEQ 1981. The more arid the lands, the more desertified they have become, the less resilient the lands are following disturbance, and the less likely

Responses to Letter N16

N16-25 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-26 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-27 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-28 The proposed management actions are designed to restore vegetation communities to healthy ecological conditions as defined under the RMP planning criteria and the applicable Resource Advisory Council standards. As indicated in the Proposed RMP, watershed analyses will be followed by development of site-specific treatment plans to address the management needs of individual watersheds. Monitoring of treatment results and adjustments, if necessary, in subsequent treatment approaches will help ensure successful implementation.

While it is acknowledged that pinyon and juniper trees were utilized during the historic mining period (approximately 100 years ago), the precise locations where trees were cut is not known and cannot be mapped in detail. Further, this information would not be used in determining the types of vegetation treatment that would be appropriate in specific locations within watersheds across the Ely RMP decision area.

N16-29 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-30 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-31 Please refer to Response to Comment N16-6 for a discussion of data collection.

Letter N16 Continued

N16-32 Until you do this, you can not determine what is or is not a naturally functioning ecosystem, what is "healthy", and particularly, what - exactly – restoration is, and the potential of sites to be rehabbed or restored. Also, you can not determine what is a natural "mosaic", or how healthy mosaics really are, until you understand this.

N16-33 This is also necessary to understand the impacts and naturalness of any degree of "acceleration" in comparison and contrasting of any alternatives. This is also necessary to develop a science-based reasonable range of alternatives.

N16-34 It is necessary to understand thresholds, what thresholds exactly may be crossed and what vegetative community or ecological process is or is not more or less desirable on any site.

N16-35 "Assumptions for Analysis" RMP at 4.1.6 are flawed, or just plain wrong. BLM assumes that the "successful application of treatments developed for a specific watershed would, at a minimum, result in maintenance of the desired vegetation species in approximately the desired proportions ...". BLM has not conducted a science – based assessment of ecological risks and/or irreversible impacts of disturbance/treatments that it proposes to impose across 12 million acres. These risks and irreversible impacts include: accelerated soil erosion and loss, invasive species infestation and/or proliferation; loss of habitat and populations of wildlife – this risk is particularly acute for species dependent on old growth or mature vegetation communities targeted for massive alteration by BLM under the preferred and other alternatives.

N16-36 4.1.7. It is hard to understand just where analysis of impacts of Lincoln County Land Act will occur. Will all impacts – even land disposal, or aquifer depletion – occur in a separate EIS process? The ecological impacts and changes in the aftermath of this Act must be considered in the RMP effort, as aquifer depletion, habitat fragmentation for important and special status species, increased human intrusions including noise, stench, and weeds spread by motorized use, etc. will all ensue on BLM lands. The indirect and cumulative impacts of development – ranging from water depletion to large housing developments and infrastructure from communication towers to powerlines to expanded roads and habitat intrusions in currently little-populated areas –will be immense in this arid wide open landscape.

N16-37 4.1-8 admits that "existing vegetation composition and resiliency" in Great Basin and Mojave systems is incomplete. BLM MUST develop much more complete information as part of this process, as it plans to radically alter and disturb these native vegetation communities (where rehab and restoration are highly uncertain and little understood, and where Ely BLM has demonstrated few if any successes to date) - through profligate and highly invasive "treatments". BLM, apparently, claims no data is available to understand restoration of pinyon juniper, and little for sagebrush communities. The risk is great that BLM will destroy magnificent public wild lands, important special status species habitats, desertify watersheds, and deforest and convert to invasive species/weeds economically important forested lands, converting them to weedlands devoid of most native wildlife species. BLM must make sure this information is available before

Responses to Letter N16

N16-32 Please refer to Section 1.5.1 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of planning criteria, specifically general criterion #18 regarding the use of NRCS ecological site descriptions for all vegetation communities. The management prescriptions for all vegetation communities reflect the necessary actions to maintain or restore these systems to achieve desired future conditions. These desired future conditions reflect managing vegetation systems for healthy functioning ecosystems in the context of multiple uses.

N16-33 The meaning of the phrase "degree of acceleration" in the comment is unclear. An adequate range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes. The management actions that are presented in the Proposed RMP were developed through consideration of the planning criteria presented in Section 1.5 of the Draft RMP and EIS and Proposed RMP and Final EIS, public scoping comments presented in Section 1.6, BLM policy especially as presented in the Land Use Planning Handbook, and the professional judgment of the staff in the Ely Field Office. The Proposed RMP incorporates comments from a wide array of users of the Ely RMP planning area.

N16-34 Please refer to Appendix C in the Proposed RMP and Final EIS for a discussion of State and Transition Models. Thresholds identified for the various communities are discussed in Section 2.5 of the Draft RMP and EIS and Proposed RMP and Final EIS.

N16-35 Based on historic revegetation and treatment success observations and current state of the revegetation / reclamation / rehabilitation science, the assumptions identified are reasonable. The inherent risks associated with any proposed treatment are identified and discussed in the Draft RMP and EIS and Proposed RMP and Final EIS. Also, please refer to Section 4.1.4.1 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of incomplete or unavailable information regarding vegetation treatment and watershed management.

N16-36 The impacts from actions identified under the Lincoln County Land Act and the Lincoln County Conservation, Recreation, and Development Act will be analyzed as needed in appropriate NEPA documents when specific projects are proposed. These land acts are included in the analysis of cumulative impacts in Section 4.28 of the Draft RMP and EIS and Proposed RMP and Final EIS.

Letter N16 Continued

N16-37 undertaking radical alteration of the landscape, as is proposed under the preferred and other alternatives. This tremendous uncertainty, along with the lack of systematically collected current baseline and inventory data that shows the current ecological conditions across the landscape, necessitates preparation of a Supplemental EIS, with a new range of much more cautious alternatives.

BLM claims that this information is unavailable, and that BLM doesn't have to develop it as part of this process in order to understand baseline conditions or the impacts of the radical deforestation and other treatments it proposes, because the cost would be exorbitant.

N16-38 BLM fails to provide an honest and accurate assessment of the cost of all "treatment" actions envisioned under each current alternative. WWP estimates the cost (planning to completion – and without even taking into account any monitoring or extensive and doomed-to-fail weed removal efforts) is likely very conservatively $40 per acre. If BLM would treat 2.5 million acres, then the public will spend $100,000,000 dollars on BLM's aggressive "treatments". This would amount to a further vast subsidy to livestock interests, and small handful of local interests. We very much doubt, in the days of runaway budget deficits resulting from aggression by the U. S. in foreign lands, that this funding will be available.

N16-39 The cost may be far greater, as BLM proposed to treat approx. 50 square miles of pinyon-juniper under the guise of Urban Interface protection, in which the Eastern Nevada Landscape Coalition was deeply involved and supporting. BLM budgeting predicted costs of 10 to 12 million dollars over several years to achieve this.

N16-40 Understanding the scale of such costs to taxpayers, and the way BLM in the past grossly inflated projects and the need for projects (following WWP litigation, a Settlement agreement was reached and the project area was scaled back to approx. 13% of the original area proposed, based on the opinion of national-level fire experts), is essential to understand how overblown BLM's estimates of treatment needs are, and in order to address the feasibility or likelihood of proposed actions occurring.

N16-41 WWP incorporates by reference WWP, CHD and ALA comments on, and appeal and litigation-related documents for the Ely-Mount Wilson Urban Interface projects, and also asks that issues raised in this process be fully addressed in a Supplemental EIS.

N16-42 BLM has failed to present any information or data on the "cost' in nutrients lost in smoke-volatilization or wind or water erosion, potential biomass export of nutrients from wild ecosystems, costs to address weeds invading disturbed lands over the long-term, etc. of all the treatments it proposes.

N16-43 BLM must prepare a supplemental EIS that lays out all the ECONOMIC and ECOLOGICAL COSTS of the massive treatments proposed under the preferred and other alternatives.

Responses to Letter N16

N16-37 NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP/EIS for the Ely planning area. It is important to keep in mind that vegetation treatment across the Ely RMP decision area would take many years to complete. Through the adaptive management process, successes and failures in treatment and landscape restoration would be incorporated into each successive watershed analysis and management plan. The Ely Field Office shares the same concerns regarding restoration success as expressed in this comment; however, it is not necessary to issue a Supplemental Draft RMP and EIS.

N16-38 The cost of vegetation treatment would be dependent on the tools and techniques selected. Since this would not occur until individual watershed restoration plans are prepared, overall costs can not be estimated.

N16-39 Comment noted.

N16-40 Comment noted.

N16-41 Council on Environmental Quality (CEQ) regulations at 40 CFR 1503.3(a) state that comments on an environmental impact statement or on a proposed action shall be as specific as possible and may address either the adequacy of the statement or the merits of the alternatives or both. The comments referenced are specific to an appeal and litigation from 2002 concerning an implementation decision under the Schell Management Framework Plan and are not specific to the current statement or proposed action. Therefore, they do not require further agency response.

N16-42 In response to your comment, the text in Section 4.21 of the Proposed RMP and Final EIS has been expanded to include general comparisons of weed control costs among alternatives over the short and long term. It is already recognized throughout the text that various management practices have the potential to contribute to differing degrees of resource consumption, erosion and soil loss, and opportunity costs. However, assessment of "cost" in terms of potential nutrients lost through prescribed fires, biomass consumption, and erosion is beyond the scope of the Ely RMP.

N16-43 Please refer to Response to Comment N16-1 for a discussion of the need for a Supplemental Draft RMP and EIS.

Letter N16 Continued

WWP's recent field visits to Ely lands (see WWP letters of November 2005 re: Blue Mass and McGill to Cherry Creek) show that Ely BLM cannot even take cares of the existing ecological problems, and ecological catastrophes such as massive head-cutting or weed invasions resulting from mis-management across the District lands. See letter re: Blue Mass and Tippett, letter re: McGill to Cherry Creek, -grazing, sterile and depleted seedings, and burn treatments gone awry. Since Ely BLM has shown no ability to restore lands currently infested with cheatgrass, or ability to control "prescribed fire", it is outrageous and reckless to propose massive new disturbances across the landscape. The observations documented in our letters can be applied to watersheds across the Ely District.

N16-44

DRMP at 4.1.9 states that vegetation and watershed information is incomplete, and that "some vegetation conditions in the Great Basin are deteriorating (including reduction of species diversity, loss of perennial understory grass and forb species, increase in abundance of invasive annual species, and/or increased density of wood[y] species". These are all EXTREMELY serious conditions, and will all result in a much greater likelihood of negative outcomes for the massive disturbance/treatments proposed by BLM across the district.

N16-45

BLM's biased analysis perspective can be turned on its head. For example, BLM claims that pinyon-juniper expansion removes understory shrubs. Yet, BLM has not collected necessary information to understand which areas pinyon-juniper are expanding in, and which areas of pinyon-juniper are just recovering from past deforestation (mining or settlement-related or BLM's own past livestock forage increase projects/manipulations) in. What is "expansion", and what is "recovery" of either the natural vegetation community or the primary community that degraded sites where large amounts of soil have been lost now can support? Nor is BLM attempting to understand how site potential may have changed with massive erosion and desertification, or how climatic factors and climate change may be affecting the health and persistence, and resilience of vegetation communities to disturbance across the District and surrounding lands.

N16-46

The information presented by BLM on Vegetation Condition and Trends in Sections 3.5 and 3.19 and Table 2.14.1 is flawed and incomplete, as BLM has not collected information necessary to catalogue vegetation communities, their current expansion or contraction, and their current condition and ecological health.

N16-47

BLM bases much of its analysis on flawed and biased assumptions of the livestock industry and 'range" advocates.

N16-48

The "State and Transition" models that BLM hides behind to justify large-scale alteration contain inadequate information on the role of livestock of livestock grazing and trampling and other human disturbance in degrading communities to the point they are in danger of being pushed over "thresholds", and the extreme difficulty of even general rehab. in the face of continued grazing pressures in arid lands. Evidence is clear – you build a new livestock pipeline and extend and shift concentrated livestock grazing and trampling use into little-grazed arid sagebrush or salt desert shrub uplands, invasive species will

N16-49

Responses to Letter N16

N16-44 Comment noted. Land restoration will be conducted as determined appropriate through the watershed analysis process. Prescribes fires are carefully planned and managed with the intention of keeping them under control.

N16-45 Comment noted. Vegetation treatments will be planned and conducted to produce the desired results, not "negative outcomes". Treatments will be conducted in varying watersheds across the Ely RMP decision area over several decades and thus should not be construed as "massive disturbance".

N16-46 The Ely Field Office considers pinyon-juniper communities existing on "woodland" type soils to be actual pinyon-juniper woodlands (with or without sagebrush understory vegetation), while pinyon-juniper communities occurring on "sagebrush" type soils are most commonly the result of pinyon and/or juniper establishment and spread in traditional sagebrush areas. The primary data involved in this assessment are soil survey data and direct observation of pinyon-juniper distribution.

N16-47 Vegetation data was extrapolated from ecological status inventory and cover data that are available for three watersheds in the Great Basin and from SW REGAP vegetation data in the Mojave Desert, all within the Ely RMP planning area. No substantiation is provided for this data being flawed. NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP/EIS for the Ely planning area.

N16-48 Comment noted. Your allegation is unsubstantiated.

N16-49 The management actions that are presented in the Proposed RMP do not "hide behind" modeling results. A state and transition model is used to describe vegetation dynamics and management interactions associated with each ecological site. A state and transition model provides a method to organize and communicate complex information about vegetation response to disturbances (e.g., fire, lack of fire, drought, unusually wet periods, insects, and disease) and management. Management as used here includes current livestock grazing, which will be a consideration in all watershed analyses.

Letter N16 Continued

N16-50 increase –irreversibly – and depletion of native vegetation will increase over time. BLM must recognize the role of livestock facilities, continued high and excessive stocking rates, and other management failures of its own making on public lands, and pushing lands over "thresholds". Particularly, BLM must study the impacts of past fire (wild and prescribed) past seedings and removal of woody vegetation, and other 'treatments" in pushing communities over thresholds form which recovery is difficult, if not impossible. Please start with an examination of the cheatgrass invasion of prescribed and wild fires.

N16-51 The extensive cheatgrass invasion in areas ranging from McGill to Cherry creek to the Blue Mass following prescribed or wild fires demonstrates. BLM's RMP maps that purport to show areas with cheatgrass invasion risk are far too limited – and much more acreage across the district is at great risk of cheatgrass invasion or increase under the manipulation and grazing of the preferred and other alternatives.

N16-52 Plus, nowhere in this entire RMP is a reader ever provided with accurate readable maps showing lands on which crested wheatgrass has been purposefully seeded in past BLM projects (thus pushing plant, soils and animal communities across thresholds from which recovery may be impossible – BLM has not demonstrated that it can even successfully restore these messes of its own past manipulation making. Nor are there maps of current cheatgrass dominance of understory, percent cheatgrass present, etc. Cheatgrass mapping has been done in Nevada! What does current data show? How does drought affect cheatgrass? How has prolonged drought affected Ely lands? What areas have suffered shrub die-off (sagebrush, shadscale, etc), or tree die-off (spruce, pinyon, juniper, etc.). Please provide maps and a current inventory.

N16-53 Before it undertakes large-scale new manipulation BLM must inventory and assess acreage, condition, and impacts of existing plan t communities, and the condition of past projects, and provide data and analysis on the native vegetation communities that were destroyed or altered (pinyon-juniper, sagebrush, salt desert shrub) in these manipulations/planting. Many of these exotic or highly altered communities resulted from mis-management or purposeful seedings post-fire, too. Data on crested wheatgrass, forage kochia or other exotic seedings planted post-fire, and not specifically as livestock forage must also be provided. Data on condition and effectiveness of seedings planted as livestock forage must be assessed. This has never been done by Ely BLM, and must be provided in a Supplemental EIS

N16-54 There is no current inventory of fire or treatment-altered communities across the district. A Supplemental EIS must be prepared to provide this data and analysis. This information must reside in BLM files. Many of the areas where BLM's maps depict pinyon-juniper "invading" are instead areas where trees have been chained, sprayed, burned or otherwise killed, thinned or removed in order to plant crested wheatgrass and/or to increase livestock forage.

N16-55 Thus, because BLM does not provide a current inventory of many important elements and conditions across the District, it is impossible for it to undertake necessary analysis to develop a range of reasonable alternatives, or to assess impacts of the narrow and flawed existing alternatives direct, indirect and cumulative impacts. At great risk under the

Responses to Letter N16

N16-50 Watershed analyses consider the role of livestock use in relationship to conformance with Resource Advisory Council standards and guidelines. Current livestock management includes current or future facilities to manage for desired range of vegetation conditions in the watershed. This desired range of conditions is founded in state and transitional pathways. Cheatgrass invasion has been identified as an altered state that needs to be reduced or eliminated. The role of cheatgrass in the reburn cycle is recognized.

N16-51 In response to this and similar comments, the Map 3.5-6 in the Proposed RMP and Final EIS has been updated to display the most up-to-date information in relation to the risk for cheatgrass invasion.

N16-52 Please refer to Response to Comment N16-6 for a discussion of data collection and Response to Comment N16-51 for a discussion of cheatgrass mapping. Mapping of crested wheatgrass is not necessary to support the management actions or impact analysis presented in the Proposed RMP and Final EIS. Seedings do not meet ecological site descriptions, but the Ely Field Office is managing for the return of native species into these seedings. Seedings as well as cheatgrass dominated communities are considered altered states within state and transition models. Mid-scale analyses of watersheds will address all vegetation communities within watershed boundaries. Past seeding projects and cheatgrass composition in the major ecological sites of the watershed will be considered, along with factors such as current livestock management. Watershed analysis has and will continue to consider climate as part of the evaluation process.

N16-53 Please refer to Response to Comment N16-37.

N16-54 Please refer to Response to Comment N16-37.

N16-55 NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP for the Ely planning area. Adequate information was available to develop a reasonable range of alternatives and analyze the impacts of those alternatives. Special status species and other sensitive resources will be protected by BLM policy, the management actions presented for the Proposed RMP in Chapter 2, and the best management practices in Appendix F of the Proposed RMP and Final EIS.

Letter N16 Continued

N16-55 Proposed Action are special status and T&E species habitats and populations, and many other and important values of the public lands. In this context, the No Action alternative is by far the best, and has much less risk attached to it that any of the Action alternatives.

N16-56 BLM has assured us that an alternative based on conservation principles provided by WWP and CHD would be considered. This has not been done. BLM's alternatives appear to purposefully contain ANTI-conservation measures, or "poison pills", embedded in them. Alternative B does not reflect many of the issues raised by us. For example, BLM claims horses would essentially run amok under Alt. B., yet WWP's Scoping comments were aimed at balancing livestock and horse use in appropriate areas to prevent damage to the public lands, not run amok horses.

N16-57 BLM's alternatives analysis also fails to clearly differentiate between the PASSIVE RESTORATION that was the basis of our scoping comments and alternatives suggestion and invasive aggressive restoration techniques. Very disturbingly, nowhere are measurable standards of livestock use, which are critical to prevent annual and chronic depletion of resources, included in the Alternatives analysis. Specific conservative measurable criteria of livestock use must be the basis for understanding stocking rates, resource allocations (including those for livestock and horses), regulation of livestock impacts post-fire or other treatments – and thus predicting outcomes of treatments, etc.

N16-58 Nowhere are acreages to undergo each specific type of "treatment" provided. This is necessary to understand the degree of disturbance? Will biomass nutrient export occur, and where? Will fire be used, and where?

N16-59 BLM's RMP discussion of contaminated sites omits mention of petroleum or other spills or contamination in association with wells or other livestock facilities, or pesticides used in association with sheep or cattle on public lands. In addition, BLM omits discussion of possible interactions between pesticides (such as those used by APHIS) and herbicides used on public lands, and contaminants. BLM does not provide information on how much herbicide and contaminants might increase under the preferred or other alternatives. BLM does not catalogue the full array and acreage of insect spraying or herbiciding that currently occurs, and provide maps where this activity occurs, on the district lands. BLM fails to discuss the role of poor or disturbed land condition in fostering outbreaks of insect pests. This must be understood, as use of pesticides not only represents human health concerns, but also kills insects essential for sage grouse chick and migratory bird survival.

N16-60 BLM's massive deforestation and disturbance/treatment must be assessed in the light of the extensive additional fragmentation of habitats and communities that will occur across the district as current planned and proposed actions are carried out. These actions range from aquifer depletion and thus loss of surface waters and lack surface water needed by many special status species, migratory birds, important wildlife such as pronghorn antelope, mule deer and elk, etc. to ongoing and exploding Oil and Gas and mining exploration and development, powerline corridors and infrastructure linked to renewable

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N16-56 The majority of WWP and CHD scoping comments were incorporated into Alternative D. However, the comments were limited and did not result in a complete alternative. Therefore, other management actions were added in keeping with the intent of the proposed Alternative D to make it comparable to the other alternatives. There was no attempt to add "poison pills" to any of the alternatives. Several alternatives (including Alternative B) attempted to balance the use of public lands by livestock, wild horses, and wildlife, with the emphasis varying among alternatives. Alternative D would have the least active management of wild horses.

N16-57 Again, WWP's scoping comments were incorporated into Alternative D (see Response to Comment N16-56). The subject of this comment is beyond the scope of the Ely RMP. The Ely RMP does not address grazing allotment adjudication or livestock stocking rates.

N16-58 Please refer to Section 3.5 in the Proposed RMP and Final EIS for a discussion of the acreage to be treated in each vegetation type. The type of treatments or tools to be used will be determined by the Ely Field Office when project-specific plans for vegetation treatment and watershed restoration are prepared and evaluated in the appropriate NEPA documents.

N16-59 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-60 Please refer to Section 4.28 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of cumulative impacts.

Letter N16 Continued

N16-60 or coal energy, etc, resulting in extensive new weed spread, predator travel corridors and the like.

N16-61 Ely's "RMP Management Focus" flaws are discussed throughout this comment letter. We are particularly concerned about your reliance on "adaptive management".

N16-62 Sharp Constraints and Clear Methodology Must be Placed on "Adaptive Management". We are alarmed at the repeated references to "adaptive management" in the DEIS (example, page 4.1.8). A specific set of management actions and goals must be established, with specific steps to be taken to meet these and specific triggered changes to be implemented in place in a specific time frame if these are not met. This must be laid out in detail. Open-ended "adaptive management" provides no certainty in public lands management, and leaves the door open to spur-of-the-moment decisions that may result in irreversible ecological harms. Resorting to "adaptive management" is now in vogue as a way for agencies to avoid full public involvement, public disclosure, and public participation in new or expanded environmental analyses. It leads to cronyism, and even corruption, with deals made with the livestock industry. The risk is particularly great here, as BLM proposes massive disturbance "treatments", and where permittees may be the financial beneficiaries of such "treatments", as they kill woody vegetation and may increase (temporarily, or in the form of weeds) livestock forage, plus BLM may cut deals with permittees to undertake projects. Thus, it is imperative that adaptive management NOT allow for closed-door deal-making between the livestock industry and the BLM.

N16-63 "Adaptive management" is particularly risky as BLM admits it does not have a current inventory of many of the important ecological factors necessary to understand current ecosystems and their health, and the location and condition of public resources across the District. Under such circumstances, an array of alternatives based on precautionary and conservative management, with clearly structured management actions, must be applied. Otherwise, long-term harmful irreversible changes will occur to soils, waters, watersheds, special status and important species habitats and populations, recreational opportunities, etc.

N16-64 BLM must to establish specific actions to be taken, in a targeted and systematic manner, if use standards are not met, or if new or unforeseen circumstances arise. These should include specific reductions in season of use, reductions in livestock numbers, rest from grazing, or other specific actions must be taken as specific remedial steps if measurable standards of use are not met.

N16-65 You can not rely on loose "adaptive management" where specific Actions are NOT triggered.

N16-66 Unfortunately, with statements about the need, essentially, for lax management, it appears that the BLM's aim with this RMP is to allow loose and unaccountable grazing by permittees, the energy industry, or exploitive or self-serving local interests. This will place the public lands, waters, wildlife and other resources of the Ely District in much jeopardy. It will also hide and conceal agency actions from the public, and circumvent public

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N16-61 Thank you for expressing your concerns. Please note that the discussion of adaptive management in Section 1.7.1 and monitoring in Section 2.4.23 of the Proposed RMP and Final EIS has been updated.

N16-62 Adaptive management would not focus solely on livestock grazing and is not intended to benefit the livestock industry. Adaptive management is an approach to allow the Ely Field Office to achieve desired conditions for as many resources as possible. When required by regulations, additional NEPA analysis including public input and review would be conducted before modified management actions are implemented. Please note that the discussion of adaptive management in Section 1.7.1 and monitoring in Section 2.4.23 of the Proposed RMP and Final EIS has been updated.

N16-63 The Ely Field Office will continue to work with the Eastern Nevada Landscape Coalition and The Nature Conservancy to ensure that the most up to date science is brought into the adaptive management process for the Ely RMP decision area. When there is a consensus that not enough information is available to proceed with a management action, that action would be placed on hold until the Field Manager deems it appropriate to proceed. Please note that the discussion of adaptive management in Section 1.7.1 and monitoring in Section 2.4.23 of the Proposed RMP and Final EIS has been updated.

N16-64 Evaluation of livestock grazing use relative to achievement of the standards for rangeland health is a continual and on-going process. Grazing use will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring.

N16-65 Comment noted. Adaptive management, and monitoring to provide the necessary feedback, have been clarified in the Proposed RMP and Final EIS (see Section 1.7 and Section 2.4.23).

N16-66 Adaptive management is a concept that is being incorporated into the Ely RMP and currently is not employed in other existing land use plans. Please refer to the revised text for adaptive management in Section 1.7.1 and the monitoring guidelines in Section 2.4.23 of the Proposed RMP and Final EIS.

Letter N16 Continued

N16-66 involvement. Please provide concrete examples of where effective adaptive management has been undertaken. Please provide detailed case examples, and science-based studies conducted by ecological scientists without ties to the livestock industry or federal agencies that support these claims. As part of all alternatives, BLM must include the public, through NEPA actions, in the all steps of any "adaptive management" process.

N16-67 Under NO circumstances should the BLM be allowed to conduct Decisionmaking, on grazing, the dominant and most significant resource degrading, desertifying and destructive land use occurring across the District, behind closed doors, or in dealings solely with livestock permittees. Under NO circumstances should BLM be allowed to conduct decisionmaking on vegetation treatments behind closed door or without full and open public involvement at the level of, minimally, an EA circulated for public comment. In many instances, preparation of an EIS will be necessary, as the current DRMP is largely devoid of current and accurate information necessary to understand the current situation, ecological conditions, or the outcomes of "treatments". This must be specified in a greatly expanded framework for any adaptive management to be applied, in a SEIS.

N16-68 You have not specified particular steps and triggers under AM. EACH step in any AM process to be applied to any management action type must occur in full and open view of the public, and have specifically defined, measurable, quantifiable and specifically triggered actions developed as part of the Plan amendment. For example, if a stubble height/utilization standard on a spring or stream is not met, the specific action to be triggered would be that the agency will cut livestock numbers by 20%, and continue cutting until herd size becomes able to be managed by permittee and standards are met for 3 consecutive years.

N16-69 Critical steps in AM, include: Proper Problem Definition and Situation Assessment, Identify Key Uncertainties, Management Experience. These must be included, and the many uncertainties with each analyzed in a Supplemental EIS. Given the constant shifting of agency personnel in the BLM, management experience is often lacking, plus the EIS admits great gaps in knowledge. We thus have little faith that appropriate management oversight and experience will be applied to an AM process.

N16-70 You must conduct a risk assessment of each specific triggered step in any AM system that you develop. Please present Tables of "Vulnerability" of Resources to Adverse Change in relation to any action that may occur. This is necessary to gauge the irreversible impacts to soils, waters, watersheds, native biota populations and habitats, cultural sites, recreational and other uses of the public lands.

N16-71 A formal structure must be established for monitoring using measurable criteria, and it must include during-grazing/treatment/whatever management action AM is applied to, annual, and periodic monitoring regimes. Then, with whatever results monitoring shows, specific actions must be set in motion.

N16-72 Any unanticipated or unforeseen uncertainties (through monitoring) must trigger public notification and either kick into play a specific set of actions, or new NEPA at least at the level of an EA with full public input must occur.

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N16-67 The subjects of this comment (grazing decisions and vegetation treatment decisions) are beyond the scope of the Ely RMP. These issues will be addressed in the individual watershed analyses and restoration plans. NEPA review in the form of EAs or EISs as appropriate would be undertaken for all watershed restoration plans, which could include changes in grazing practices. Such review will not take place "behind closed doors". Current conditions with respect to grazing and vegetation are described in Sections 3.16 and 3.5, respectively, in the Draft RMP and EIS and Proposed RMP and Final EIS. It is not necessary to issue a Supplemental Draft RMP and EIS.

N16-68 In response to your comment and similar comments, the discussion of adaptive management and monitoring has been revised and expanded in the Proposed RMP and Final EIS (see Section 1.7.1 and Section 2.4.23). Also refer to the Watershed Analysis section in Appendix A referring to implementation strategy.

N16-69 Please note that the discussion of adaptive management in Section 1.7.1 and monitoring in Section 2.4.23 of the Proposed RMP and Final EIS has been updated. The Ely Field Office will comply with BLM and Department of the Interior policy on adaptive management. The necessary steps in any adaptive management situation will be considered by the Ely Field Office when project-specific plans utilizing the adaptive management process are prepared. It is necessary to issue a Supplemental Draft RMP and EIS as required in the CEQ Regulations [40 CFR 1502.9(c)].

N16-70 Please refer to Section 1.7 in the Proposed RMP and Final EIS for a discussion of how adaptive management would operate. As proposed, the adaptive management process would not include a risk assessment component.

N16-71 Please refer to Response to Comment N16-68.

N16-72 Please refer to Response to Comment N16-68.

Letter N16 Continued

N16-73 If sufficient funds are not provided for every specifically scheduled monitoring point (necessary for feedback into the AM model), then a very conservative "Default" system must be put in place – designed to minimize livestock use, treatments, or disturbance. This is necessary to safeguard the very important public resources for loss or degradation.

N16-74 Plus, if significant new actions occur (mining-related exploration or development, Oil and Gas, new weed invasions, aquifer drawdown, etc.), an extra-cautionary level of management should be specifically triggered, and put in place.

N16-75 BLM can no longer view each activity that it may authorize on public lands as separate. Often, and current science increasingly shows, they are linked. For example, invasive species thrive and gain footholds in areas of disturbed soils. A County road-blading spree –or just blading extra-wide berms through existing weed patch – or mining exploration disturbance - or herding cows and sheep from weed-infested private lands onto BLM lands - can spread weed seed sources into new areas. Then, cattle or sheep grazing or trailing use on top of grazing spreads weeds irreversibly into the hinterlands.

N16-76 The AM process must first and foremost be based on current ecological science. Without firm moorings in science, and specific triggering of specific actions as a result of feedback, political bias will pervade land management decisions. In the rural West, that will mean the livestock industry will exert political power to cut, stall, delay or dilute necessary protective changes for public lands.

N16-77 The AM system should be set up to maximize insulation from political tampering. Otherwise, policy turbulence will dominate, and the land, resources, and the public will suffer.

N16-78 Full openness of decisionmaking processes to the public and shining the full light of day on all aspects of livestock management is key. Allowing full public awareness, input and review of all management steps (including the currently closed-door meetings on AOPs or permittee protests of administrative actions should be part of any AM system.

N16-79 Otherwise, public lands and resources will be subject to significant adverse effects, political cronyism, and are very likely to show no improvement and will deteriorate. The consequences of deteriorating resources may be large-scale soil erosion and loss – with fragile arid land soils never (at least for several millennia) being able to be recovered. Even worse, populations of important and rare wildlife such as loggerhead shrike, pinyon jay, or ygmy rabbit may disappear from habitats, or lands become overrun with uncontrollable invasive weedy species. All results of during-grazing season, annual, and other periodic monitoring must be presented in detail to the public, and posted on the Internet. Any deviation from specifically triggered steps laid out in AM scheme must be fully revealed, and subsequent actions subject to NEPA, with full public comment, and conducted at the level of at least an EA, with an EIS often being required.

N16-80 Without explicit, timely, and constantly funded monitoring over the lifetime of the plan, necessary feedback to enable any accountable or credible adaptive monitoring will be

Responses to Letter N16

N16-73 Please refer to Section 1.7.1 in the Proposed RMP and Final EIS for a discussion of how adaptive management would operate. Section 2.4.23 discusses how monitoring would be conducted. The lack of monitoring data would be a consideration in the decision to implement any specific management action. Again, adaptive management does not focus solely on livestock grazing.

N16-74 Comment noted.

N16-75 Thank you for expressing your concerns. In the Proposed RMP, BLM has moved away from managing separate activities by developing a holistic approach to managing resources and restoring landscapes. In addition, interrelated projects and cumulative impacts are considered in Section 4.28 of the Draft RMP and EIS and Proposed RMP and Final EIS and will be considered in subsequent EAs and EISs for the implementation of management actions in the plan.

N16-76 Adaptive management would be based on the latest ecological science and field data collected within the Ely RMP decision area as they are developed over the life of the plan.

N16-77 Comment noted.

N16-78 Public involvement in range management decisions is how BLM does business, and the Ely Field Office will continue to implement current BLM policy.

N16-79 Please refer to Section 1.7.1 in the Proposed RMP and Final EIS for a discussion of how adaptive management would operate. As proposed, the adaptive management process would not include specifically triggered steps or changes in management actions. Management actions would be implemented in conformance with the plan. When required by regulations, additional NEPA analysis including public input and review would be conducted before modified management actions are implemented.

N16-80 Please refer to Response to Comment N16-73 for a discussion of the relationship of monitoring to adaptive management. The adaptive management process will be an effective component of the management actions contained in the Proposed RMP.

Letter N16 Continued

N16-80 impossible. This, since BLM is chronically underfunded, and the US government is currently facing large-sale cutbacks in funding, and will face such well into the future as trillions of dollars of debt have been amassed in the past five years, there is little hope that your 'adaptive' plans will be able to work effectively.

N16-81 AM should NOT include open-ended changes in livestock use such as timing, salt, and especially CHANGING TRIGGERS. This is necessary to protect watersheds, native biota, cultural sites, recreational values, roadless areas (please provide maps overlaying all roadless lands with grazing allotments and grazing-related roading), special status and T&E species, and other important values of the public lands.

N16-82 Again, ANY change should be based on science, and part of a specifically triggered science-based action/step.

N16-83 We are very concerned that BLM's whole manipulation and management scheme assessed under the alternatives of the EIS is "extrapolated" from three watersheds and GAP analysis. GAP analysis is known to have serious flaws and deficiencies, inadequately portray invasive species presence and other disturbance factors, inaccurately and insufficiently portray condition of understory grasses and forbs, provide no information on structural integrity of shrubs, etc. It also does not contain information age class, health, or other important information that would enable BLM and the public to understand the current "mosaic" and interspersion of vegetation communities, their structure and values to wildlife, rare or declining species, forest products values or production, live vs. dead shrubs or trees, etc. It also does not differentiate complexly interspersed plant occurrences.

N16-84 For example, in large areas of the Antelope Valley in the Tippett allotment, halogeton, cheatgrass and other weeds have largely replaced the salt desert shrub communities. Yet nowhere in the EIS is information or inventory presented that enables the public to understand this current condition, or how extensive it is across the Field Office. Nowhere in the DEIS is there an inventory of the existing livestock facilities and their condition/repair (including water haul and salt/mineral sites) across the District, or an assessment in the depletion of vegetation, soils, microbiotic crusts, habitats, etc.

N16-85 This type of information is essential to understand any "sustainability" of forage production, to understand the strong need to protect still-less weedy communities, to understand and prioritize "treatments" and the type and acreage of vegetation communities that need "treatment", to analyze relevance and importance values of ACECs and the acreage necessary to include in ACECs. It is necessary to develop a range of suitable management alternatives under NEPA, the Taylor Grazing Act, PRIA and FLPMA that protect the many important values of the public lands from unnecessary and undue degradation. The RMP is supposed to provide a current inventory of the public lands, Regrettably, the DRMP is woefully lacking in current information necessary to understand what vegetation communities and wildlife habitats and desertification processes, etc. actually exist across the Ely District.

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N16-81 Adaptive management does not focus solely on livestock grazing. Maps relevant to the management actions contained in the Proposed RMP, as well as the alternatives analyzed, are contained in the Proposed RMP and Final EIS. These maps are adequate to illustrate the management actions that are being proposed and facilitate the analysis of impacts from these management actions.

N16-82 Comment noted.

N16-83 Please see Response to Comment N16-47 for a discussion of vegetation data. The data used for extrapolation purposes is for impact analyses at a level that addresses the entire Ely RMP planning area. The use of GAP Analysis for the purpose of regional analysis is appropriate. It is not encumbered by these "serious flaws and deficiencies" for use at this scale. Analyses of vegetation data has and will continue at the mid-scale level (watersheds), where the types of metrics mentioned in this comment would be more applicable.

N16-84 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-85 Please refer to Response to Comment N16-6 for a discussion of data collection.

Letter N16 Continued

N16-86 This EIS minimizes understanding of current degradation, desertification and ecological impacts of livestock grazing.

N16-87 BLM fails to provide data on grazing during critical or other sensitive growing periods, and time periods for recovery of native grasses, forbs ad shrubs if grazing at particular levels occur.

N16-88 It is impossible to understand why BLM is not providing clear and measurable science-based management goals, objectives and requirements for livestock grazing utilization, browse, trampling and other uses. A large body of current science demonstrates the need for conservative standards of use (see various Holechek articles and texts, Anderson 1991). It also demonstrates the extremely long period that arid vegetation needs to recover from uses (Anderson 1991, Anderson and Inouye 1981, Anderson and Inouye 2001). A broad range of alternatives based on measurable standards of livestock use must be developed in a SEIS. This is necessary to understand the appropriate allocations and management actions for livestock, horses, wildlife, to understand the likelihood of success, or risk associated with treatments and manipulations, OG and mining, and other energy development post disturbance recovery of veg, soils, wildlife, etc..

N16-89 Increased cattle weight has not been taken into account in analysis or allocation of AUMs in the District. Cattle grazing on public lands now weigh much more than the BLM's definition of an AUM. This results in levels of grazing and trampling damage to resources that has never been allocated or assessed under any management document. Please provide information on livestock weights, age and type of livestock, size of calves, etc. grazed on these lands. This is necessary to understand the "sustainable" nature of forage, trampling impacts to microbiotic crusts, removal and loss of biomass from public lands in the export of cattle or sheep flesh, etc. Please also provide information on the amount/quantity of water removed from natural water sources on public lands to supply water to domestic livestock, and how this removal affects watersheds, stream or spring flows, leads to new zones of livestock concentration, etc.

N16-90 Please provide a listing of all diversion and/or ditches or other rights-of-way that cross Ely lands. Please also provide analysis of the impacts of diversions or other rights-of-way.

N16-91 AT THE SAME TIME, BLM plans no significant removal of livestock from any area of the Ely District. The risk of weed invasion, continued depletion of native vegetation and harmful alteration of ecosystem processes and watershed-level desertification is greatly increased with continued livestock grazing, on which the already BLM LOSES money each year.

N16-92 There is no inventory presented of roadless lands. BLM should provide maps and assessment of all roadless tracts of lands of greater than 1000 acres, 2500 acres, and 5000 acres in size and provided a new and updated wilderness suitability inventory. Please be sure to consider BLM roadless lands in the context of adjacent roadless National Forest, Wildlife Refuge, military, or other lands. BLM should provide maps showing road

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N16-86 Please refer to Chapter 3 - Affected Environment and Chapter 4 - Environmental Consequences in the Draft RMP and EIS and Proposed RMP and Final EIS for discussions of current conditions and anticipated impacts associated with livestock grazing.

N16-87 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-88 Goals, objectives, and requirements for livestock grazing utilization, browse, trampling, and other uses are all considerations evaluated for achievement of the standards for rangeland health. These are all valid considerations that will be addressed and evaluated using measurable standards during the term permit renewal process, during watershed analysis, and during grazing use monitoring. The Ely RMP does not address allotment-specific changes in grazing management. A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes. It is not necessary to issue a Supplemental Draft RMP and EIS.

N16-89 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-90 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-91 Comment noted. Adjustments to livestock grazing are made when livestock are found to be a contributing factor to non-attainment of standards for rangeland health. The BLM makes grazing management decisions according to existing policy, and the Ely Field Office will continue to implement current BLM policy.

N16-92 An inventory of roadless areas is not germane to the Ely RMP. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific transportation plans, including road inventories, are prepared and evaluated. The Ely RMP does not recommend new wilderness study areas or designate wilderness, which is the responsibility of Congress. It is not necessary to issue a Supplemental Draft RMP and EIS.

Letter N16 Continued

N16-92 densities per square mile across the district, as this is necessary to understand watershed integrity, and overlapping impacts of grazing and roading disturbance. This is necessary to provide. Again, it must be presented in a supplemental EIS. This is also necessary to understand the importance of designation of greatly expanded ACECs, which likewise must be considered in a SEIS.

N16-93 Table 4.1-1 "Comparison of Impacts" cannot provide valid comparisons without important information current vegetation conditions, soil loss, extent of past BLM seedings or manipulations, etc. This Table is rife with unsubstantiated conclusions. For example, at 4.1.15, BLM claims that under Alt. B, C, D water resources would improve because watershed analysis and restoration would occur. BLM NEVER assesses the impacts of its disturbance/manipulation proposals on sedimentation, erosion, the impacts of continuing livestock stocking at near-status quo levels on algal and coliform pollution of water, etc. thus, there is no valid way to claim improvement. Likewise, it cannot compare the any declines or changes in groundwater recharge or seasonal surface flows.

N16-94 BLM has failed to assess impacts of Oil Gas, mining, geothermal or other exploration and development on release or contamination by radioactive materials. What is the radiological risk associated with re-injection of OG well removed-water contaminated with radiation – to the aquifer? What will be released to the air?

N16-95 BLM has failed to provide information military airspaces and training areas, and use of aerial flares or other activities that may increase fire risk, disturb or displace wildlife, etc. What areas of Ely lands are military airspace, what activities occur there, and what are the possible in environmental impacts or effects of these actions to the public, wild lands, cultural sites, and native biota??? Please provide detailed information on the current military "footprint" on Ely lands – ranging from sonic booms in bighorn sheep habitat to AGL flight levels to military air space to use of flares to ground-based activity, to number of wild land fires started by military activity, to flight noise levels over populated or wilderness or WSA areas to air pollution from contrails.

N16-96 Please also provide detailed analysis of the impacts of the proposed nuclear waste rail corridor or other associated activities or infrastructure on Ely BLM and surrounding lands and land uses.

N16-97 An assessment of current impacts and projected impacts under development under various scenarios to air and water quality and human health related to mining, Oil and Gas, and other developments on BLM lands. For example, the impacts of extensive OG leasing, exploration and development impacts to public lands, along with development of a massive renewable energy program or infrastructure, as hinted at in EIS maps. We have reviewed recent Elko and Winnemucca BLM documents that base impact analyses of OG leasing, exploration and development on out-dated models that do not reflect the current Oil and Gas Boom across the West including Nevada. You must provide truthful and detailed information on this in a SEIS.

Responses to Letter N16

N16-93 Please note that Table 4.1-1 is a summary table; additional discussion is presented in Sections 4.3 and 4.4 of the Proposed RMP and Final EIS. The watershed impact analysis was written from the standpoint of watershed processes, with consideration of current trends within the Ely RMP planning area. Literature upon which the analysis is also based is cited in the impact sections, and these references are also relevant to the concerns expressed. Additional monitoring frameworks are identified in Section 2.4.23. The watershed planning framework and specific tools and guidance are further described in Sections 1.7.3, 1.7.4, Sections 2.4.3 and 2.4.19, and in several appendices.

N16-94 Please refer to Section 4.2 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of radioactive fallout in the Ely RMP planning area. Water reinjection is controlled by state and federal regulations. Project specific implementation plans would be developed by a company proposing such reinjection. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for oil and gas wells are submitted by a lease holder and evaluated in an appropriate NEPA document.

N16-95 Thank you for your comment. Military Operation Areas have been added to Chapter 3 of the Final Ely RMP as part of the affected environment. The specific impact analysis issues of this comment are beyond the scope of the Ely RMP and does not require further agency response.

N16-96 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP. Analysis of the impacts of the construction and operation of the Yucca Mountain rail spur will be conducted by the Department of Energy and presented in an EIS prepared by that agency.

N16-97 The RFD for locatable minerals anticipates as many as 10 new mines would be put into production over the life of the plan. Currently, the Robinson and Bald Mountain mines have announced expansions and increased mine life due the current high metal prices. There has been little exploration for new deposits.

The impacts to air and water resources in relation to mineral and renewable energy development are discussed in Section 4.2 and 4.3, respectively, of the Draft RMP and EIS and Proposed RMP and Final EIS. No management actions for the health and safety considerations of mineral and renewable development are contained in the Proposed RMP, as these are outside the jurisdiction of the BLM.

Letter N16 Continued

N16-98 BLM presents an map that shows virtually every ridge or elevated areas across the FO as potential wind energy sites, yet fails to provide necessary analysis of the impacts of such massive development and associated infrastructure such as powerlines, roads, areas avoided by wildlife and wildfire disturbance, on important values of public lands, especially recreational use, and native biota. BLM must not simply allow wind energy developers (often tied to huge oil companies, including foreign companies) to place facilities anywhere they want on public lands, but must instead use specific criteria to determine appropriate vs. inappropriate siting, and thus establish valid and scientifically tenable allocations under this Land Use plan. The same applies to geothermal, solar and other energy development on public lands. Otherwise, these forms of energy cannot be called "green" energy, but instead energy red with the blood of killed bats, golden eagles, burrowing owls, and extirpated sage grouse populations. BLM must assess the difficulties and decreased efficiencies of siting wind facilities in some of the windiest spots. BLM must require detailed 2-3 year year-round studies that include detailed information on avian and bat migration and migration patterns as part of any energy development proposals under the EIS. While WWP supports renewable energy, we believe siting should be conducted to minimize adverse impacts.

N16-99 The RMP should provide specific avoidance of energy development and any exploration activity in important sensitive or special status or T&E species habitats. This means ALL such species, and other high-value sites such as ACECs.

N16-100 If you persist in claiming that all the land areas shown on the DRMP maps are suitable for wind or other energy development, then also please provide maps and analysis of the impacts of associated facilities and infrastructure on the public lands, so that the public can understand the massive impacts of development in so many areas would result in.

N16-101 Any corridor, right-of-way, powerline, communication or other siting should be clumped with other development and sited to avoid important habitats or unroaded lands to the maximum extent possible.

N16-102 Given that a huge new coal-fired power plant is already proposed for the Ely area, which currently is supposed to have some of the cleanest air in the nation, the EIS should provide detailed information on current air quality across the district. This means conducting air quality monitoring for a broad range of pollutants. This includes mercury (related to gold mining in Nevada), ozone, carbon monoxide, sulfur dioxide, particulate matter, haze, visibility, lead hydrogen sulfide, and other pollutants. This is also essential to understand the impacts of Oil and Gas or mining development (ranging from haze from fossil fuels to fugitive dust) that may occur under an alternative of the RMP, and will require preparation of a Supplemental EIS.

N16-103 We are very disappointed in the inadequate economic analysis that is provided in the DRMP. It makes the extremely minor role of livestock grazing in local, regional or state economies. It also does not provide necessary information on the costs of implementing all alternatives of the EIS, especially the treatment/restoration activities. It does not present information on the likelihood of failure – and thus even greater costs – of various

Responses to Letter N16

N16-98 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. These decisions and subsequent proposals would be made by private industry. Thus, while renewable energy development could be an authorized activity under the plan; the Proposed RMP does not designate the location or magnitude of specific projects. The general impacts associated with these types of development, including the amount of surface disturbance anticipated within the Ely RMP decision area during the life of the plan, are discussed in Chapter 4 of the Proposed RMP and Final EIS. When application for a specific project is made to the Ely Field Office, appropriate NEPA review in the form of an EA or EIS would be undertaken before the project is approved.

N16-99 The Proposed RMP does not designate avoidance areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. All applications will be subject to NEPA analysis and the Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS (Appendix F, Section 3, of the Ely Proposed RMP and Final EIS). The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for wind and solar energy development are received and evaluated

N16-100 Please refer to Response to Comment N16-98 for a discussion energy development. The Ely Field Office does not anticipate that the entire areas shown on the maps would be developed.

N16-101 Please refer to Sections 1.4.1 and 1.4.2 and 2.4.12.7 in the Proposed RMP and Final EIS for a discussion of land use authorizations and specific criteria to be considered in approving or rejecting applications.

N16-102 NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP/EIS for the Ely planning area. BLM does not deem the data that is requested in this comment as being necessary to prepare the Ely RMP. It is not necessary to issue a Supplemental Draft RMP and EIS.

Letter N16 Continued

N16-103 "treatments" or rehab actions under continued livestock grazing at near-status quo AUM levels. Please also incorporate information from the latest GAO report on the annual costs of livestock grazing to taxpayers. Please note thus report does NOT take into account the huge costs related to livestock spread of weeds, watershed damage and loss of surface waters, water pollution, loss or conflict with recreational uses, etc.

N16-104 The DRMP lacks analysis of the current extent if disease organisms and health risks to public land users of livestock-related pathogens in soils and waters of the District. Please conduct detailed water sampling across the district during the period of time when livestock grazing is occurring in particular allotments. Please also sample soils for Q fever, and other organisms. Please present this information to the public, so a full understanding of the impacts to public health (and wildlife health) can be understood.

N16-105 Please also assess the role of livestock increasing occurrence of West Nile virus on public lands. Not only do livestock provide a bonanza of a large-bodied food source typically found much of the time near water for mosquitoes that may result in higher mosquito populations and thus higher levels of West Nile virus and wildlife exposure, livestock trampling depressions at the margins of moist areas provide ideal sites for mosquito larvae development.

N16-106 We are very concerned that we can find no map that depicts the location of known special status species occurrences (both animal and plant) in the lands of the District, nor any map that depicts the land areas with current surveys for special status species.

N16-107 We are currently in the process of reviewing the BLM Weed EIS. In 2002, WWP and several other conservation groups met with EIS leader Brian Amme, and submitted a restoration alternative focused on passive restoration. Mr. Amme informed us that the Weed EIS would NOT set allocations/stocking/suitability related to livestock, and that the LAND USE PLANNING process (i. E. this RMP effort!) would establish these allocations. Unfortunately, we can find no place in the EIS where current inventory data is used to establish, adjust or change allocations for livestock. The only place where any "allocations" change is in relation wild horses –where they will be eliminated from close to 2 million acres, thus INCREASING allocations for livestock.

N16-108 Application of sound fire science. We are very concerned that the EIS lacks a firm application of principles of fire science and detail on how they would be applied across the landscape and in specific projects affected by the RMP. This is critical, as under the grazing and disturbance regimes to be imposed, great damage can be caused by fire or treatment. For example, at a site proposed for treatment, what would be a minimum level and kind of treatment - based firmly on fire science, that would achieve objectives, best protect resources, etc.? Calculations of flame length, topography, fuel loads, invasive species, and post-treatment invasive species risks, and many other factors, must all be considered using best available science.

N16-109 A broad range of alternative based on protection and enhancement of pinyon pine and other forests due to their ecological, aesthetic and economic value, must be assessed in a

Responses to Letter N16

N16-103 Please refer to Section 4.23 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the assumed expenditures for implementation. More detailed costs will be developed over time as the Ely Field Office compiles actual experience from detailed watershed analysis and implementation; however, actual outlays for treatment and restoration activities will be affected by actual appropriations. The experience gained over time will also allow the Ely Field Office to adapt and revise the treatment and restoration activities to increase their effectiveness. The other information that is requested in this comment is beyond the scope of the Ely RMP.

N16-104 Please refer to Response to Comment N16-6 for a discussion of data collection.

N16-105 Please refer to Section 4.28.8 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of West Nile virus concerns within the Ely RMP planning area. The virus affects primarily birds and horses, and any role of cattle in the spread of the virus has not been documented.

N16-106 Please refer to Map 3.7-1 for generalized locations of federally listed fish species, and to Map 3.7-2 for desert tortoise habitat, both in the Draft RMP and EIS and in the Proposed RMP and Final EIS. Additionally, Map 2.4.22-1 shows Areas of Critical Environmental Concern, several of which relate to the presence of special status species. Numerous other special status species, e.g., greater sage grouse, occupy broad areas of habitat for which mapping would have little relevance. Management objectives for such species will be considered by the Ely Field Office when project-specific plans are prepared.

N16-107 Please refer to Current Management Direction under the Parameter- Lands Available and Not Available for Livestock Grazing, which addresses allocation, lands available for livestock grazing, and the amount of forage available. Grazing use will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring. The Proposed RMP specifies management policies and actions and provides programmatic and implementable direction for management of the public lands.

N16-108 The Ely RMP does not address the management of individual natural or prescribed fires within the Ely RMP decision area or the rehabilitation of such burned areas. During the site-specific planning process and development of a prescribed burn plan and an environmental analysis, many scientific factors will be evaluated and in your comment you have stated a few. Other factors, such as cumulative impacts, will bear heavily in the decision where and if a particular prescribed fire, fire use fire, or other vegetation treatment is conducted. Watershed analysis will also play an important role in decisions on how to best manage a watershed. Fire science along with other fields of science will be used to plan, implement, and monitor projects across the landscape.

Letter N16 Continued

N16-109 SEIS. A growing body of data shows the great importance of the pinyon pine and forest sin Nevada to persistence of the pinyon jay and other native biota, as large-scale tree die-offs and climatic change occur across the West. What is the potential value of pine nuts produced currently on BLM lands? How would this be altered by the massive and widespread deforestation under the preferred action and other alternatives? The U. S, currently imports large amounts of pine nuts. Emphasizing prudent and conservative management of pinyon and other forest resources should be a number one priority and allocation made under this land use plan. Please see the information on economic and other values of pinyon pine available on-line at www.pinenut.com concerning values of Nevada's pinyon pine. Nevada pinyon pine recently received

N16-110 We are very concerned about the proposal under the preferred and other alternatives, to dispose of significant acreages of public land – on top of the land privatization and development set in motion by the Lincoln County Act and additional foreseeable land privatization under a brewing White Pine bill. Alternatives based on no net loss of public land, and significant acquisition of private land to reconnect habitats, restore watersheds and fisheries, reduce habitation interfaces and heightened fire danger, restore pygmy rabbit habitats, etc. should be assessed.

N16-111 As we have previously expressed to you, the errors in the DEIS make review difficult, and the maps are terrible. A SEIS with expanded mapping, and mapping showing much greater detail is urgently needed.

Sincerely,

Katie Fite
Biodiversity Director
Western Watersheds Project
PO Box 2863
Boise ID 83701

Responses to Letter N16

N16-109 Maintenance of healthy pinyon-juniper communities is one of the objectives of BLM's vegetation management programs, but not to the exclusion of other vegetation communities. BLM has determined that its array of alternatives outlined in the Draft RMP and EIS and Proposed RMP and Final EIS addresses the maintenance and management of pinyon-juniper on the "natural" woodland sites (approximately 3.6 million acres) and control of the community where it is expanding into "natural" sagebrush sites (approximately 1 million acres). The Proposed RMP does not include any "widespread and massive deforestation." Please refer to Response to Comment N16-1 regarding a Supplemental Draft RMP and EIS.

N16-110 Please refer to Section 2.4.12 in the Proposed RMP and Final EIS for a discussion of management direction for lands and realty. The management direction for land disposal under Alternative D specifies no net loss of public lands.

N16-111 Please refer to Response to Comment N16-1 regarding a Supplemental Draft RMP and EIS.

Letter N17

November 27, 2005

Gene Drais
Ely Field Office
HC 33 Box 33500
Ely, NV 89301

Dear Mr. Drais,

Here are additional comments of Western Watersheds Project on the Ely DRMP effort. If these are redundant, I apologize as I am working at home on a different computer than earlier comments may have been submitted from.

Springs, Seeps, Wet Meadows, Springbrooks, Streams

N17-1 BLM must conduct a full inventory and assessment of the location, condition and characteristics of all spring, seep and wet meadow areas, including historically wetted sites. BLM must study the role of historic and ongoing livestock grazing and trampling activity (and other disturbances such as roads, mining, wild horse use, etc.) in altering, degrading or desiccation of these scarce sites. The inextricable link between the health of springs, seeps and wet meadows and watersheds must be addressed.

N17-2 A full suite of restoration actions for damaged, degraded or diverted riparian areas must be assessed under all alternatives – including an array of passive treatments, such as stubble heights, rest to jump start recovery, or until recovery, then limited, if any grazing.

N17-3 BLM's own data must be collected to provide evidence of the failure of past structural or excavational developments and its failed riparian management actions – especially accompanied by high livestock stocking rates - to protect public land values. Despite the damage it has caused in the past, BLM's alternatives will allow it to develop and irreversibly alter even more fragile springs without a necessary inventory of current impacts.

Springs are "hot spots of "hot spots" in arid lands. 75 percent of 505 springs surveyed by Sada in northern Nevada were highly or moderately disturbed (Sada and Herbst 2001). Degradation of springs in the Great Basin is widespread. Their isolation and small size render many spring communities particularly vulnerable to disturbance and loss. **"The continued development of springs for livestock by ranchers and state and federal agencies also poses a threat to the continued existence of spring biota"**. These actions typically involve fencing off an area, immediately adjacent to springs, piping most or all of the water off the site to livestock tanks. Although some riparian vegetation may be retained, "the essential flowing character of the spring is lost, and often no exposed water remains on the surface". Livestock grazing poses a serious threat to spring

Responses to Letter N17

N17-1 These resources and disturbances will be considered during the watershed analysis process. NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP/EIS for the Ely planning area.

N17-2 Specific restoration actions for riparian areas are dependent on site-specific conditions and are not appropriate for inclusion in the Proposed RMP. Restoration actions for riparian areas will be recommended as part of the evaluation process and delineated as part of the implementation strategy, all of which are part of the watershed analysis process.

N17-3 Please refer to Response to Comment N17-1 for a discussion of data collection.

Letter N17 Continued

communities. Livestock trampling reduces substrates to mud, can completely eliminate vegetation, and alters flow characteristics. The magnitude is likely great because of complete alteration of vegetation and substrate structure. www.biology.usgs/gov/s+t/SNT/noframe/gb150.htm

N17-4 Sada and Pohlman (2003) provide a series of protocols to be followed to assess spring condiitons. Given the scarcity of springs across these allotments, the extreme damage that has been caused by livestock grazing and other disturbance, often coupled the ill-conceived developments that have occurred, often killing all natural water flows at spring sources, BLM must conduct Level I (locate and provide reconnaissance level characterization of springs, delineate important species distribution and salient aspects of habitat, and unique circumstances/challenges) Level II (qualitatively sample riparian and aquatic communities to determine community structure quantitatively sample salient physiochemical elements to identify aquifer affinities), and Level III Surveys (quantitatively sample to determine\aquifer dynamics, sample riparian and aquatic communities and habitats to determine spatial and temporal variation in environmental and biotic characteristics, and to quantitatively determine biotic and abiotic interactions). Identify and characterize all sites. BLM must then follow this with surveys that fully assess the ecological scene, and the effect of management and livestock use and other uses, across a broad area.

These Protocols must include collecting information necessary to assess the extreme importance of springs and the continuum of hydric and mesic vegetation communities in their vicinity to sage grouse, especially in providing essential summer brood rearing habitats (green forbs); to migratory birds (deciduous shrubs and trees); and many other important attributes vital to other native animals. Level III surveys can add this element.

N17-5 Thus, in addition to all the important issues raised for consideration, the importance to sage grouse and other wildlife must be fully considered. We believe this elevates ALL spring areas here (especially since so much damage - including harmful development - has been allowed to occur, and the potential at many sites so greatly reduced) that ALL springs, seeps, wet meadows here are worthy of restoration to whatever potential can be achieved.

N17-6 We urge BLM to very carefully examine all intermittent and ephemeral drainages, as well. Often, water not only persists in intermittent and perennial drainages in pockets as a result of runoff, but seep, spring and mesic areas may be present, and interspersed along the length of these drainages. Erosion, downcutting and lowered water tables stemming from livestock grazing is often a primary cause of perennial reaches becoming intermittent. BLM must also determine if stock ponds or other livestock facilities have been built/placed/gouged into or on top of spring, seep or meadow areas. Restoration potential must be assessed, and plans must be developed to restore such sites and incrase perennial flow under all alternatives.

N17-7 BLM must conduct studies of all desiccated, dried up, or otherwise altered springs, and develop plans for restoration of riparian area structure (areal extent of wetted area, native vegetation components), and flows. The benefits of restored or more natural springs to

Responses to Letter N17

N17-4 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-5 The Ely Field Office agrees that sage-grouse and other wildlife are important, and they have been fully considered in the management actions contained in the Proposed RMP. Springs are also important, and "harmful development" has not been and will not be allowed under the plan. At a minimum, all riparian/wetlands need to be properly functioning. This and other habitat needs have been and will continue to be evaluated to determine if they are meeting/achieving Resource Advisory Council standards. Implementation strategies will be developed to address situations where standards are not achieved.

N17-6 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-7 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-7 native species must be assessed. For example, what are the characteristics of a riparian community sufficiently restored to support nesting Cooper's hawks in the vicinity?

Aquifer sources: Springs are supported by precipitation that seeps into soil and accumulates in aquifers (through fault zones, rock cracks, or orifices that occur where water creates a passage by dissolving rock) where it is stored. The hydrology of springs is affected by regional and local geology, and how water moves through an aquifer.

Perched aquifers often characterize high elevations, where local aquifer springs may be fed by adjacent mountain range precipitation, and may change annually due to recharge from precipitation in mountain range. They typically have cool water, and may dry out during extended droughts. *Regional aquifers* support warmer springs fed by several recharge sources that may extend over vast areas. Aquifer flow is complex, and may extend beneath several valleys and topographic divides. Seeps are small springs that support vegetation adapted to drier conditions. Springs may be small, but have larger aquatic habitats, and support larger riparian zones with moist-soil affinity species. Springs are characterized by the morphology of their sources.

Each spring and seep is a unique combination of physical and chemical conditions (Sada and Herbst 2001, Sada and Pohlman 2003). These, coupled with disturbance factors, are dominant influences on riparian and aquatic plant and animal communities. Highly modified springs have less diverse riparian communities, and may include non-natives, and upland-associated species. Plant and animal communities associated with spring-fed wetlands are a function of physical and chemical characteristics of water and soils, proximity to other aquatic habitats, and prehistorical connections with regional drainage systems (Sada and Herbst 2001, citing Hubbs and Miller 1948, van der Kamp 1995, McCabe 1998). Primary abiotic factors that influence biotic qualities of unmodified springs include habitat persistence, geographical and geological settings, and aquifer dynamics Sada and Herbst 2001 (citing Ferrington 1995, van der Kamp 1995). Springs have a more integral connection with ground water than streams (Sada and Herbst 2001).

At Ruby Marsh, Sada et al. 2001 found that substrate composition, water depth, springbrook width, current velocity, conductivity and vegetation were most influential in affecting macroinvertebrate communities. Habitat condition strongly influenced biotic characteristics. Degraded conditions often masked the influences of natural events and chemical characteristics on the macroinvertebrate community structure.

54 percent of aquatic species endemic to the Great Basin springs have suffered population losses and 62 percent have suffered major decreases because of channelization, impoundment, removing water and the introduction of non-natives. **Removing water** from springs through diversion reduces habitat for vegetation and aquatic biota by decreasing springbrook length, water width, water depth, and quantity of water available for vegetation. Groundwater pumping and surface diversion have decreased and dried up many springs and springbrooks in the Great Basin, causing loss of populations and extinctions.

Letter N17 Continued

Riparian vegetation at springs may be restricted to area just along immediate boundaries of aquatic habitat, or may extend outward over much larger areas. Wider riparian areas occur where water seeps outward and moistens hydric soils. Species may be restricted to spring sources. Rheocrene-inhabiting species are more similar to stream-inhibiting species, and limnocrene species to lake or pool inhabitants. Springs tend to be more constant environments than other aquatic habitats.

Spring size and habitat conditions influence biodiversity of springs (Sada and Pohlman 2003, citing Sada and Nachlinger 1996 and 1998), with different species inhabiting spring sources than downstream reaches/springbrooks. Ephemeral springs and seeps with harsh environments may have fewer species.

Possible relict endemic taxa may occur in Great Basin Springs springs, including these allotments. These taxa include springsnails, endemic beetles and bugs (especially if springs have gravel substrates and fast flow). High animal species diversity may exist in springs, due to relative isolation, the presence of water, and their relict nature. Plant diversity and endemism may be high too.

Spring-fed riparian habitats are of great importance to wildlife species for roosting, food, and shelter. Higher quality springs have high structural diversity created by a dense undergrowth of tangled vegetation and debris.

This vegetation may be reduced by diversion, burning, vegetation control and grazing, so suitable habitat is eliminated or degraded, with the result that the songbird nest parasite brown-headed cowbird can more readily invade and parasitize the nests of migratory birds. Migrating birds may use spring waters to drink, and vegetation and insects associated with springs to refuel. Migration stresses may cause insectivorous and frugivorous bird species to drink. Plus, granivorous species are more dependent on water. Birds are vulnerable to predation, and seek watering sites with greater tree and shrub cover. Areas with larger intact riparian vegetation may attract more migrants, and thus provide more prey for raptors such as Cooper's hawk or northern goshawk.

Small mammals such as voles may be endemic to spring-fed mesic alkali wetlands. Water produces insects whose aerial life forms are eaten by both birds and bats. Insectivorous birds forage on deciduous foliage.

N17-8 A spring creates a continuum of soil conditions from wet to moist to dry, each harboring plant and animal associations adapted to those habitat conditions. BLM must systematically inventory native fauna present in and near springs, seeps and springbrooks, over at least two years. As an example of breeding bird inventories (that should also be performed in the full spectrum of vegetation communities across a range of ecological conditions in these allotments) , see Red Willow 2004, "Pinyon-Juniper and Juniper Birds". In this two-year study, breeding bird surveys were conducted in and near riparian habitats primarily in pinyon-juniper and interfacing big sagebrush communities, which are typical of much of the vegetation in watersheds supporting springs in the project area.

Responses to Letter N17

N17-8 Please refer to Response to Comment N17-1 for a discussion of data collection.

Letter N17 Continued

N17-9 Aquatic biota must also be assessed. Sampling for invertebrates must include collection from all habitat types within a spring (spring, springbrook, degraded reaches, any undegraded reaches). All springs within the project area must be sampled for invertebrates.

N17-10 The link between the condition (health) of the watershed and the functionality springs and springbrooks must also be assessed.

Anthropogenic disturbances like livestock grazing and other uses have degraded vegetation, increased water temperature, and increased fine sediments. Aquatic and riparian habitats can be degraded or eliminated through water diversion, intense grazing and trampling, and non-native plants. Springs have often been piped, spring brooks channelized, and excessive ground water withdrawal has occurred. This affects spring biota by decreasing habitat size (drying some habitats) and vegetative cover, and changing species composition.

Level I Surveys: Locations, type of spring - rheocrene/limnocrene, volume of spring discharge, springbrook length and depth, wetted perimeter width, DO, temperature, conductivity, pH, percent of emergent cover, percent and type of emergent cover, percent of vegetative bank cover, springbrook bank incision, spring brook bank stability, percent of wetted perimeter covered by watercress, substrate composition, animals present. Estimate site condition and identify influences causing disturbance, i.e. level and cause of disturbance, grazing, horses, diversion. "natural disturbances" – drought, fire, scouring floods, avalanche – however – these can be exacerbated – or caused – by grazing effects.

N17-11 Multiple surveys are needed to measure discharge, which may vary seasonally or otherwise.

N17-12 BLM must research any existing information on spring characteristics – flow rates, aquifer depletion, BLM's own records and project files regarding any spring or other developments, any water rights filings, any water rights surveys done by BLM, etc. BLM should also research any water rights filings by other parties on spring flows, or any waters where diversion/drilling/depletion may affect flow rates from springs in the project area (which includes other nearby lands important to special status species here, or to which springs may be linked). BLM must provide detailed descriptions of past projects – and promises made during authorizations, funding agreements, etc. and/or NEPA. This is necessary to understand all direct, indirect and cumulative impacts of actions affecting spring flows, health and hydrologic integrity. BLM must describe spring provinces/complexes/clusters, also.

N17-13 What type of spring is it? What functional changes or changes in biodiversity have occurred? How can function and/or biodiversity be restored? What are flow rates throughout the year – under drought or normal conditions? What is the current areal extent of wetted area vs. historical? (Examine soil profiles and characteristics, remnant plant communities, etc.). What vegetation would be present in an undisturbed site? What

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N17-9 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-10 References to the link of various vegetation functional groups and their below-ground water consumption and links to soil water have been given. Some watersheds will exhibit linkage between watershed conditions and water resources such as springs; other watersheds will not because of different geology. In some situations, pre- and post-treatment monitoring of water resources would occur to document this linkage.

N17-11 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-12 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-13 Please refer to Response to Comment N17-1 for a discussion of data collection.

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N17-13 is the potential of the site (vegetation, flows, habitat) if livestock grazing or other disturbance is removed? Reduced by one half? Reduced by 75%? How are livestock grazing or other disturbances in the watershed affecting aquifer recharge or flow rates? How do runoff rates (and also recharge rates) from a watershed in pristine or good condition compare to the rates from watersheds in poor or fair condition? What is the condition of intermittent or ephemeral drainages in the watersheds? Is gullying, rilling, head-cutting or other erosion occurring, and how is grazing or other disturbance affecting this? What aquifer is each spring part of, and what are past, current or anticipated threats to these aquifers? How long will it take to recover flows to ¼, ½, all historically wetted areas of springs that have been highly degraded or altered through diversion? What are values of each spring as sheltering, rearing, feeding areas for sage grouse chicks, refueling stops for migrants, water for nesting songbirds across a land area, providing essential water to raptor chicks, etc.?

N17-14 BLM must develop laternatives in the RMP commit to regular scheduled monitoring of many parameters – water quality, flow rates, aerial extent of wetted area, plant species composition trampling, etc.

In review of many BLM riparian documents, such as subjective PFC assessments, we have frequently noticed a bias towards rating areas in better condition if livestock grazing has not yet occurred in an area at the time the assessment is conducted. Thus, surveys must be conducted over multiple years, and must also include surveys during periods when livestock have been present for a significant amount of time – for comparison with any studies conducted in livestock-free periods.

N17-15 BLM cannot rely on monitoring only springs in good condition. Given the extreme damage that has occurred (and continues) here – all sites should be monitored. This must be done during the time of year when livestock are actually present in the allotment. It is especially important that BLM track sheep grazing patterns, and fall/winter/spring use areas of allotments, and study impacts that are occurring throughout the period when livestock are present, and that these studies be conducted over multiple grazing years. Repeatedly, we have seen Nevada BLM blame wild horses for impacts when in reality livestock, especially trespass cattle, are present during unauthorized seasons of the year and their impacts are being attributed to horses.

N17-16 Under all alternatives in the RMP, BLM must establish long-term monitoring of effects of levels and types of resource use to riparian and aquatic macroinvertebrates, quantitatively describe biotic communities. Initiate by establishing baseline conditions that identify spatial and temporal; variability in biotic and abiotic features (Sada and Herbst 2001). Quantify baseline conditions by describing changes in vegetation and invertebrate demography and assemblage structure; and the characteristics of riparian and aquatic habitats. Sample for sufficient time to encounter a broad range of environmental conditions and fluctuations in demography and structure. Long-lived species should be sampled for a long time, short-lives species – long enough to encounter environmental variability. Sada and Herbst at 12). Springs and riparian vegetation should be managed

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N17-14 In response to your comment and similar comments, the text in Section 2.3.3.5 and Section 2.4.23 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of monitoring.

N17-15 Please refer to Response to Comment N17-14 for a discussion of monitoring.

N17-16 Please refer to Response to Comment N17-14 for a discussion of monitoring

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N17-16 as wetlands, and they can generally be protected by **guidelines** to manage similar wetland systems such as riparian zones.

N17-17 Macroinvertebrate and vegetation surveys should be conducted prior to implementing management actions that may adversely affect spring biota (Sada and Herbst 2001 at 14). These also serve as an environmental baseline to gauge any management changes. In order to be able to understand cumulative, synergistic or indirect impacts of proposed actions (and to adequately understand current conditions).

N17-18 Degradation/loss of springs and other riparian areas may be caused by groundwater pumping, hot spring development, open-pit gold mines. In areas of Nevada, extensive ground water depletion has occurred as a result of cyanide heap leach gold mining. Cumulative or synergistic impacts of such activities, if they affect aquifers or biota on these allotments, must be assessed. As springs associated with aquifer sources affected by gold mining in northern Nevada increasingly dry up, the springs of the RMP lands become of even greater regional significance. BLM must weigh the relative scarcity of undeveloped springs in the Great Basin landscape, and the increasing loss of springs across the region.

Intermittent/Perennial Drainages

N17-19 For all streams and springbrooks in or related to the project area and species of interest, BLM must assess the following: How has vegetation been changed, reduced, eliminated? How have channels been widened or degraded? Have water tables been lowered? Has erosion potential increased? How have these effects impacted habitats for raptors, sage grouse and other special status and important species?

N17-20 How does livestock consumption of overstory vegetation, elimination of shady cover, trampling of banks, etc. affect water quality (temperature, sediment, bacteria, algae) and aquatic species presence and habitats? What are the characteristics of the banks in areas accessible to livestock use? How is livestock grazing affecting recruitment of young willows and other riparian plants, and altering structure of older or mature shrubs and trees?

N17-21 What is was the historical potential of the site? What would the potential of the site be under rest from livestock grazing (coupled with flow restoration if large volumes are diverted or the spring is damaged by diversion) in 5, 10, 15, 20 or more years? How much more quickly would sites heal if livestock were removed to jump start recovery? How is livestock grazing or other current disturbance (of the stream and its watershed) affecting vegetation, banks, water quality, aquatic species, flow, stream morphology? How is livestock grazing or other disturbance contributing to the intermittent or ephemeral conditions of the stream or spring brook?

N17-22 For all riparian areas, BLM must pay particular attention to livestock trampling impacts, as over time, trampling of clay soils near springs may seal the spring, causing it to dry up completely. Plus, BLM must assess the impacts of intense or concentrated livestock use

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N17-17 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-18 Potential direct impacts of management actions in the Proposed RMP within the planning area that may affect springs are addressed in Section 4.3. Potential groundwater pumping and other regional activities that may cumulatively affect springs within the planning area are discussed in Section 4.28.3. Impacts on springs within the Great Basin overall, or for a multi-state portion of it outside the planning area, are beyond the scope of the Proposed RMP and Final EIS. Such impacts would be addressed in NEPA documents for the appropriate project areas for specific proposals. As a result, no changes to the final document have been made.

N17-19 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-20 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-21 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-22 The potential direct impacts of livestock grazing and wild horse use on springs are addressed in Section 4.3. Ely Field Office monitoring programs are described in Section 2.4.23. Please refer to Response to Comment N17-1 for a discussion of data collection.

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N17-22 in areas in the vicinity of riparian areas, i.e. troughs or dug out ponds outside small exclosures. BLM must collect detailed water quality measurements throughout the time when livestock are present, as well as during spring runoff to assess livestock impacts to water quality. BLM must fully consider the relative scarcity of these values in the arid landscape when balancing uses.

Desertification and Watersheds

There is an extensive body of scientific literature on desertification of watersheds, including in the western United States. Desertification is defined as: "a change in the character of the land to a more desertic condition", involving "**The impoverishment of ecosystems as evidenced in reduced biological productivity and accelerated deterioriation of soils** and in an associated impoverishment of dependent human livelihood systems". See Sheridan 1981, CEQ Report 1981 at iii. Major symptoms of desertification in the U. S. include: declining groundwater tables; salinization of topsoil or water; reduction of surface waters; unnaturally high soil erosion; desolation of native vegetation (Sheridan CEQ at 1). The existence of any one can be evidence of desertification. As lands become desertified, they become **less productive**, and activities such as livestock grazing become **less sustainable**. Continuing activities like livestock grazing may result in grazing becoming permanently unsustainable across the landscape. In many areas of these allotments, ecological conditions because of desertification and degradation processes that has already occurred and which is still underway, have already crossed the threshold between sustainability and, essentially, "mining" of increasingly **non-renewable** natural resources. Desertification can be both a patchy destruction, often exacerbated by drought, as well as as **the impoverishment of ecosystems within deserts.**

N17-23 The RMP must assess the levels and degree of desertification that have occurred across these allotments and surrounding lands. This is necessary to understand the suitability of these lands for livestock grazing, the productivity and carrying capacity of these lands for grazing, the effects of any alternatives developed here, the ability to meet any objectives, and the ability to sustain, enhance or restore habitats and populations of special status and other important species and native plant communities. For example, how has the extensive depletion of understories in many areas of Wyoming big sagebrush and salt desert shrub vegetation affected the degree and rate of desertification processes across the allotments? How has this affected livestock patterns of use, acres per AUM, etc.? What are the acres per AUM across all vegetation types in all conditions across these allotments? How many acres per AUM are required to sustain cattleor sheep in the lower salt desert shrub or Wyoming big sagebrush communities of these allotments? What actions can be undertaken to halt desertification processes and begin recovery? BLM must also assess the combined effects of desertification and exotic species/weed increase and infestation.

N17-24 Even PRIA acknowledged that production on many BLM lands was below potential, and would decline even further. To continue the current level of grazing under BLM's Decisions will result in even further loss of soil, microbiotic crusts, water, watershed

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N17-23 Please refer to Response to Comment N17-1 for a discussion of data collection. Mid-scale analyses of watersheds will address all vegetation communities within watershed boundaries. Watershed analysis has and will continue to consider climate as part of the evaluation process, along with factors such as current livestock management. Watershed analyses will address major vegetation communities, such as Wyoming big sagebrush and salt desert shrub, and evaluate them using the assessment data to determine if they are meeting or not meeting Resource Advisory Council standards. This process does and will continue to consider exotic species and weed increases and infestations.

N17-24 Please refer to Section 4.16 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the impacts of livestock grazing on other resources. Livestock numbers in the Ely RMP decision area are not greatly in excess of those grazed in recent decades. Evaluation of livestock grazing is a continual and on-going process. Grazing use will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring. The Ely RMP specifies management policies and action and provides programmatic and implementable direction for management of the public lands.

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N17-24 integrity, wildlife habitat, and forage on these allotments. BLM's Decisions (and "Proposed Action") allow livestock numbers greatly in excess of those grazed here in recent decades. The fact that AUMs/stocking rates much below the high permitted levels were actually grazed, demonstrates the continued loss of productivity on these lands.

N17-25 Desertification symptoms in arid lands include: Sparsity of grass; presence of invading plant species - both native and non-native, in grass areas that have survived: plants are of poor vigor; topsoil losses - in many places, topsoil is held only by pedestals of surviving plants. Surface signs of soil erosion include: pedestaling, gullies, rills, absence of plant litter to stabilize soils. Please provide an inventory of these effects across the RMP landscape.

Desiccation and erosion caused by livestock can cause water tables to drop, rilling, gullying and arroyo cutting to occur, and result in sediment flow from degraded areas (Sheridan CEQ at 14). Grazing creates extremely dry site conditions for plants due to removal of litter, loss of soil cover, and trampling of the ground that prohibits rainfall from reaching plant roots (CEQ at 15). Livestock grazing exacerbates any climate changes and shifts that may be occurring (CEQ at 16). This is of particular concern in the northern Nevada landscape periodically plagued with severe drought, and which is facing increasing heat and aridity due to global warming.

The near-absence of many species of native bunchgrasses, such as larger-sized native grasses from many areas of the allotments, such as the diminished state of the once abundant Indian ricegrass (*Oryzopsis hymenoides*), signals stress of overgrazing (CEQ at 19). Such losses are vividly shown in BLM's Key Area data for these allotments, as shown in the Assessments.

Absence of plant litter makes germination of natives more difficult. Recovery of lower elevation areas will be exceedingly slow, especially considering the aridity of the project area. Arid land recovers very slowly; massive soil erosion has exposed soils that are less able to support plant life because of lower organic content; and invader species have become well established and have the competitive edge (Sheridan CEQ at 21). Even though it is well recognized that **"the way to end overgrazing is to reduce the number of livestock in the end"** (Sheridan CEQ at 22), political pressures from ranchers results in strong political opposition to reduced grazing. Political pressures have hamstrung implementation of the Taylor grazing Act.

N17-26 This EIS/RMP process provides BLM a special opportunity to gain a better understanding of the actual capability and productivity of the vegetation and soils that meets the desires and needs of the public on these lands.

Sagebrush, pinyon-juniper and salt desert shrub vegetation communities in Nevada are now showing signs of "extensive changes" and significant stresses, with livestock grazing and aggressive non-native weeds recognized as among important causal factors. Nevada Natural Resources Status Report 2002 http://dcnr.nv.gov/nrp01/bio02.htm . Continued grazing disturbance, degradation and weed invasion will cause native plant communities

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N17-25 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-26 Comment noted. NRCS Order III soil surveys and NRCS ecological site description, 2003 edition, are being used as baseline information for the Ely RMP. Please refer to Section 1.5.1 in the Draft RMP and EIS and Proposed RMP and Final EIS for general planning criteria #18.

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to cross thresholds from which recovery is very difficult, if not impossible. The decline in Nevada's sage grouse populations and other species dependent on arid land shrub habitats is a landscape-scale biological indicator that the loss of functions and values of sagebrush ecosystems are serious and widespread. These are also signs of desertification processes across the landscape.

Imperilment of the Sagebrush Biome

A recent analysis, Dobkin and Sauder 2004,"Shrubsteppe Landscapes in Jeopardy: Distribution, abundances, and the uncertain future of birds and small mammals in the Intermountain West", examined bird and small mammal species in the sagebrush biome. The authors found that "very little of the sagebrush biome remains undisturbed", the **inherent resilience of the ecosystem has been lost and the ability to resist invasion and respond to disturbance has been compromised** (Dobkin and Sauder at 5). At least 60% of sagebrush steppe now has exotic annual grasses in the understory or has been converted completely to non-native annual grasslands (citing West 2000). More than 90% of riparian habitats have been compromised by livestock or agriculture.

The authors distilled a list of 61 species of birds and small mammals that are completely or extensively dependent on shrubsteppe ecosystems, and conducted an analysis of their distributions, abundances, and sensitivity to habitat disturbance to assess current state of knowledge and conservation needs of these species, with focus on Great Basin, Interior Columbia Basin and Wyoming Basin, based on BBS data and other studies.

The Columbia Plateau, Great Basin and Wyoming Basin are among the **least sampled** of all physiographic provinces covered by the Breeding Bird Survey. **Remarkably little** is known about the actual distributions or population trends of small mammals. "Range maps created by connecting the dots among sites where a species has been captured do not paint a realistic picture, especially in the highly altered and fragmented shrubsteppe landscapes of today. For small terrestrial mammals … our results support the view that many of these species now exist only as **small, disconnected populations isolated from each other … it is completely untenable to assume species' presence based on simply on presence of appropriate habitat in shrubsteppe landscapes of the Intermountain West**". Also, the authors "**find no reason for optimism about the prospects in the Intermountain West of any of the 61 species" (at 3). "The results of our analyses present an overall picture of an ecosystem teetering on the edge of collapse** (citing Knick et al. 2003)".

N17-27 This highlights the need for BLM to conduct a systematic and comprehensive on-the-ground survey and assessment of species presence and habitat presence and quality on these allotments and surrounding lands. BLM has a unique opportunity in this EIS process to act to identify important components of native biodiversity on these lands – and, armed with this knowledge, take management action to enhance and restore these species habitats and populations before it is too late.

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N17-27 Please refer to Response to Comment N17-1 for a discussion of data collection.

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Sagebrush Mammal Summaries (based on Dobkin and Sauder 2004)

11 of 24 mammals in the report by Dobkin and Sauder (2004) are endemic to the IM West, representing a high degree of endemism. Many of the small mammal species whose status is reviewed in the report are important prey for raptors and some other special status species. In addition, the high degree of endemism is likely even greater than species-level ranges would indicate, and genetic analyses of upland and riparian small mammals may provide more examples of "cryptic" species like has now been found in endemic ground squirrels in Idaho.

Only one of the 19 species of small mammals for which adequate trapping data was available was found in more than 62% of potentially suitable localities. This analysis of field studies is the first comprehensive attempt to quantify presence or absence across a region. The report found that **21 of the 24 small mammal species respond negatively to the effects of livestock grazing. Eleven of 18 small mammal species responded negatively to the presence of exotic plants**, with riparian mammal species exhibiting neutral responses if vegetation was thick enough.

Geographic patterns of species richness and community stability raise concern. Despite range maps showing occurrence over broad areas, many species of small mammals now exist only as small, disconnected populations isolated from each other by unsuitable habitats." Thus, **it is completely untenable to assume species' presence based simply on presence of appropriate habitat in shrubsteppe landscapes of the IM West.**" This demonstrates why BLM must systematically conduct non-lethal site-specific surveys for small mammals in representative habitat types, and assess habitat conditions, across the allotments.

N17-28

The report authors conclude: We find **no reason for optimism** about the prospects in the Intermountain West for any of the 61 species identified. Sagebrush distribution is highly fragmented, and much less extensive than large-scale maps suggest. Extraordinary fragmentation and degradation of sagebrush-steppe landscapes has been caused by livestock grazing practices, purposeful removal of sagebrush and/or seedings through prescribed fire, mechanical treatment, biological agents and herbicides, invariably done to provide forage for livestock, especially as native vegetation communities have become increasingly depleted, as well as ag-conversion, roads, mining and mining exploration fragmentation, powerline and pipeline corridors.

An untold number of livestock facilities (fences, spring projects, pipelines, trough systems salting sites, corrals, wells, windmills, water haul sites, etc.) have been constructed or placed on public lands – including across these allotments and surrounding lands. Roads almost inevitably grow up either as a direct result of facility construction/placement, or of continued facility use and maintenance. Then, roads become travel corridors for predators (Braun 1998, Federal Register 2003, Federal Register 2004, Connelly et al. 2004, Freilich et al. 2003, Connelly et al. 2004, Dobkin and Sauder 2004), and conduits for weed invasion (Gelbard and Belnap 2003). Many of these facilities have unforeseen effects, and exert influence over much larger areas than

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N17-28 Please refer to Response to Comment N17-1 for a discussion of data collection.

anticipated. For example, water developments may attract sage grouse predators and be "sinks" (Connelly et al. 2004).

Ecological changes have pushed many sagebrush landscapes beyond ecological thresholds for recovery. Cumulative effects of land use and habitat degradation are moving sagebrush habitats toward ecological collapse and dysfunction (Knick et al. 2003, Dobkin and Sauder 2004).

Although sage grouse have been the flagship species for this ecosystem, and publicity over concerns have focused mainly on grouse, it is not just sage grouse that are in trouble. Sage grouse have become a surrogate for numerous species of animals and plants that depend on sagebrush communities, and many of these species may also use salt desert shrub communities.

Shrubland and grassland birds, representing an important component of the biodiversity of the western United States, are declining faster than any other group of species in North America (Saab and Rich 1997, Paige and Ritter 1999, USGS Great Basin Mojave-Desert Region XXX, Dobkin and Sauder 2004). Species dependent on sagebrush ecosystems (Brewer's sparrow, Sage Sparrow, Sage Thrasher), may be important predictors of ecological collapse.

Contiguous expanses of higher quality sagebrush-steppe landscape must be protected. A review of field studies of small mammal response to livestock grazing (compared moderately to heavily grazed upland or riparian areas with exclosures), found **overwhelmingly negative responses** (decreased abundance or productivity) to the effects of livestock grazing for 12 species (Table 8): Upland: Paiute ground squirrel, Washington ground squirrel, little pocket mouse, Great Basin pocket mouse, Chisel-toothed kangaroo rat, desert woodrat, sagebrush vole, Riparian: Water shrew, Western harvest mouse, long-tailed vole, montane vole, western jumping mouse. 9 species have an extremely high likelihood for negative responses to livestock grazing (Table 8) are: Upland: Merriam's shrew, Preble's shrew, pygmy rabbit Idaho ground squirrel, Merriam's ground squirrel, Townsend's ground squirrel, Townsend's pocket gopher. Riparian: Townsend's pocket gopher. Plus, negative responses to presence of exotic species have been demonstrated for eight upland species, and can be inferred with high likelihood for three others.

Upland, mammals, shows that species richness for small mammals may be quite "High" (representing the interspersion of salt desert shrub communities?) Dobkin and Sauder 2004, Figure 4). Virtually no areas in the IM West exhibited much riparian species diversity. For riparian birds, areas of highest species diversity were areas of highest community stability.

Patterns of high mammal species richness were concentrated within the three primary shrubsteppe ecoregions. Species richness was high in much of the Great Basin. Remarkably little is known about the actual distribution or conservation status of small-mammal species – there is no standardized survey. Alarmingly, there was **a high**

frequency in which species were missing from studies focused on suitable habitat. This should raise concern about the current actual extent of populations. It must be understood in the context of the high degree of fragmentation and altered disturbance regimes (Knick et al. 2003), the "overwhelmingly negative response to livestock grazing", and the limited dispersal capabilities of small mammals (Dobkin and Sauder 2004). **"Our results support the view that many of these species now exist as small, disconnected populations isolated from each other by unsuitable habitats across which they cannot disperse".** Catastrophic decline of the largest population of northern Idaho ground squirrels illustrates this. The **combined effects of altered fire cycles**, (loss of fire here - as this species occurred in meadows in forest), **livestock grazing and exotic species introduction is the reality faced by many small mammal populations**.

Many species of small mammals exist as scattered, disconnected populations. One cannot assume species presence based simply on presence of appropriate habitat in shrubsteppe landscapes of the IM West.

Vole populations isolated from each other and tied to the riparian habitats among isolated mountain ranges are likely candidates for endemism to be found if genetic analyses are conducted. Several isolated subspecies of montane vole occur along the southernmost portion of the species range - likely isolated from conspecifics for millenia. Endemism among small mammals of the IM West, already high, is likely even greater. Many of the species have two or more described subspecies, and much of the described subspecific variation is based on morphological variations. Where thorough genetic analysis is conducted, there may be sufficient evidence to warrant elevation to full species.

A pattern of high species richness is much more concentrated for small mammals, and the number of endemics may represent more habitat specificity. The authors note that very little attention is paid to conservation needs of small mammals. Conservation efforts should integrate areas of high species richness for birds and mammals.

Across the IM West, **altered fire frequencies combined with ubiquitous grazing drives the loss of native plant community structure and composition on which birds and small mammals depend.** Grazing reduces competition from native grasses, and cheatgrass and other weeds flourish, with each successive fire promoting invader expansion, resulting in self-perpetuating monocultures of exotic plant species with very short fire return intervals (Whisenant 1991, Anthony and Vitousek 1992, Billings 1994, Knick et al. 2003). Exotic plant dominated landscapes are uninhabitable for nearly all native bird and small mammal species (Dobkin and Sauder 2004). Shrub-steppe habitat has diminished greatly - at least 44% of potential habitat for Greater Sage-Grouse has disappeared (Schroeder et al 2004) - and this study did not evaluate fragmentation of the rest!

Biome-wide, accelerated Oil and Gas development is occurring in Wyoming, andnow exploding in Nevada. This places landscape-scale fragmentation and soil disturbance on an even faster trajectory. Also, an astonishing number of fences and other livestock

projects that serve to fragment habitats are found across the sagebrush biome (see Connelly et al. 2004).

Sagebrush Bird Species Summaries (Dobkin and Sauder 2004)

There are significant declining trends for 16 of 25 upland bird species (64%) in the regions of the Intermountain West (Dobkin and Sauder 2004). Only 3 species showed a significant increasing population trend. 5 of 12 riparian species declined significantly over both the short and long term. "Birds that depend on native vegetation for their nests clearly are jeopardized by the loss or degradation of vegetation. Nearly all 25 upland species are obligate ground/shrub nesters, with 18 of the 25 species dependent on native shrubs for nesting and foraging.

Species richness for upland birds was concentrated in the three primary shrubsteppe ecoregions, with areas of highest species richness extending across the Columbia Plateau from southeastern Oregon to easternmost Idaho, the eastern two-thirds of the Great Basin, and southwestern Wyoming Basin. There was constancy in bird species composition in upland bird communities between 1968-1983 and 1984-2001. However, the community \composition of riparian bird communities varied substantially between periods, with a decrease in species composition of riparian communities. Plus, ecologically unsuitable habitats are now embedded in matrices of suitable habitats.

All of the upland bird species, and all the riparian species (except the yellow-billed cuckoo) listed in Dobkin and Sauder (2004), Table 1 at 9 are likely to occur in the EIS Project area, likewise, nearly all of the small mammal species found in Table 2 at 10 are likely to occur in the Project area. For some species, such as loggerhead shrike, declines were especially severe in the three primary shrubsteppe ecoregions – with population losses across large geographic areas.

Geographic patterns of species richness for birds found that areas of highest upland avian species richness correspond with areas of lowest shrubsteppe fragmentation. Bird species "Entirely" dependent on sagebrush: Greater Sage-Grouse, Sage Thrasher, Brewer' Sparrow, and Sage Sparrow. Birds "Nearly" dependent: Gray Flycatcher, Gray Vireo, Green-tailed Towhee, Black-throated Sparrow.

Riparian birds have distributions that extend beyond the IM West, as do riparian mammals. Given the relative rarity and ecological importance of riparian habitats within shrub-steppe landscapes, the high degree of instability in riparian bird community structure found in the report, reflects **the poor condition of riparian habitats** across the Great Basin, Columbia Plateau and Wyoming Basin ecoregions (Dobkin and Sauder 2004, citing Saab et al. 1995, Dobkin et al. 1998, Tewksbury et al. 2002, Krueper et al. 2003, Earnst et al. 2004) **and the dewatering of riparian zones** (Dobkin and Sauder 2004, citing Rood et al. 2003), causing damage to avifauna and habitats.

Upland Species (summarized from Dobkin and Sauder (2004):

* Greater Sage-Grouse. Causes of Declines: Habitat destruction, degradation and fragmentation, altered fire frequency (both lower and higher), livestock grazing converting shrubsteppe to annual monocultures are Threats, range "improvements", and West Nile virus are threats. (Note: Also, muddy cow tracks, such as at the margins of stock ponds or other livestock trampled areas may provide necessary breeding sites for mosquitoes in arid landscapes. Plus, large numbers of livestock may provide an unnaturally large blood food supply for mosquito populations.
* Ferruginous Hawk. Open areas, isolated trees, and edges of pinyon-juniper woodlands are used for hunting perches and nesting. "Prey abundance, particularly jackrabbits and ground squirrels, is correlated significantly with the number of breeding pairs in an area and with reproductive success. (Dobkin and Sauder 2004, citing Jasikoff 1982 and Deschant 2001 b) (at 36). Habitat destruction and degradation are greatest threats, and directly influence prey abundance, important to reproductive success. Ferruginous hawks can be particularly sensitive to human disturbance (at 37).
* Prairie Falcon. Open habitats with moderate grass cover and low-growing sparse shrubs. Nest-site availability and ground squirrel populations are important factors in habitat
selection. Activities affecting ground squirrel abundance, include livestock grazing, frequent fires, ag conversion, poisoning. Disturbance near nest sites (cliffs) can reduce breeding success.
* Long-Billed Curlew. Livestock grazing can be negative if cows trample nests, or disturb birds and cause nest abandonment.
* Burrowing Owl. Requires low vegetation and a suitable nest burrow. BOs may expand other species burrows, but do not dig their own. Excavation by ground squirrels, marmots and badgers is important in nest burrow availability. Threats are habitat degradation and destruction, and shrub-steppe degradation by livestock or ag conversion. Pesticides can reduce populations of insect prey and fossorial mammals. Badgers, coyotes, birds of prey and vehicle collisions may also be problems.
* Gray Flycatcher. Shrub-steppe, mountain mahogany and pj. In shrubsteppe, gray flycatchers are associated with tall, dense sagebrush. Chaining or burning of sagebrush and pinyon/juniper areas is known to eliminate gray flycatchers (at 46). It is parasitized by the brown-headed cowbird. Habitat fragmentation likely increases nest parasitism and predation rates.
* Loggerhead Shrike. Shrubsteppe, open woodland, field edges, and occasionally riparian areas. Presence and abundance in shrubsteppe is positively correlated with the diversity, density and height of shrubs. Population declines in Columbia Plateau and Great Basin.
* Horned Lark. May be susceptible to trampling, and affected by invasion of annual grasses.
* Sage Thrasher. Habitat destruction, degradation and fragmentation are threats, including activities that destroy shrub cover (fire, chaining, herbicide) eliminate local populations. Although authors note that livestock grazing may increase shrubs, livestock grazing also alters shrub structure, especially that of taller sagebrush or other shrubs which are areas where sage thrashers nest.
* Virginia's Warbler. P-j, mountain mahogany, mixed deciduous shrublands. Habitat destruction, livestock grazing.

* Green-tailed Towhee. Shrublands and disturbed coniferous zones. In shrubsteppe, its presence and abundance are positively correlated with increased shrub species diversity, shrub cover, and taller shrubs. Threats are habitat destruction and degradation – livestock grazing and frequent fire have impacted shrubs. Simplification of shrub cover results in population reduction or elimination.
* Brewer's Sparrow. Its presence is positively correlated with total shrub cover, bare ground, taller shrubs, patch size, and habitat heterogeneity – and negatively correlated with grass and salt shrub cover. Large population declines have occurred the in Columbia Plateau and Great Basin. Cowbird host. Threats are habitat destruction and degradation. Activities that destroy shrub cover (fire chaining herbicide, etc). A cowbird host. Positive (increased shrubs – see previous comments about shrub structure) and negative responses to grazing.
* Vesper Sparrow. Inhabits short, patchy herbaceous vegetation, low shrub cover bare ground, forbs. Habitat destruction and degradation – frequent fires, in conjunction with invasive grasses, heavy livestock grazing (which increases shrub cover), and poor range conditions created by livestock grazing during drought increase rates of nest abandonment and failure. Cowbird host.
* Lark Sparrow. Threats are fire and livestock grazing converting lands to annual grass monocultures are threats.
* Black-throated Sparrow. Desert shrub, shrub-steppe, open pinyon-juniper. Correlated with moderate shrub cover, tall vegetation, shrub species richness, and dead woody vegetation. Drought reduces the number breeding attempts and clutch size.
* Sage Sparrow. Particularly associated with big sagebrush, or may be found in mixed shrub communities with greater shrub cover, abundant bare ground, sparse grass cover. Shows high site fidelity. Habitat destruction, degradation and fragmentation are chief threats, and are caused by frequent fire, livestock grazing, range "improvements" (shrub treatments, exotic grass plantings) – and these promote other impacts – predation and nest parasitism.
* Savannah Sparrow. It has been assumed that Savannah Sparrow populations benefit from conversion to annual monocultures. However, converted habitats may not be equivalent to native grassland habitats and may serve as population sinks.
* Grasshopper Sparrow. Livestock grazing degrades habitats. While benefits from natural fire, annual grass conversion resulting from fire is negative.
* Western Meadowlark. May be affected by fire.

Other summaries of species trends support Dobkin and Sauder (2004). Many species with downward trends in population size are associated primarily or exclusively with shrub-steppe or riparian habitats. In shrub-steppe, this includes northern harrier, mourning dove, horned lark, loggerhead shrike, green-tailed towhee, vesper sparrow, sage sparrow (USGS Mojave-Great Basin at 33-51). Populations up in one area, down in another: rock wren, sage thrasher, Brewer's sparrow, black-throated sparrow, western meadowlark. Population sizes of mourning dove and loggerhead shrike, whose abundances are declining widely in western North America are also declining in the Great Basin. The preponderance of downward trends in shrub-steppe indicates continuing problems with the health of this community. In pinyon-juniper with a sagebrush and bunchgrass

understory, species include common nighthawk, northern flicker, gray flycatcher, mockingbird, chipping sparrow, and Scott's oriole (USGS Mojave-Great Basin at 33). Riparian species with downward trends: killdeer, violet-green swallow, warbling vireo, yellow warbler, lazuli bunting, savannah sparrow, song sparrow, yellow-headed blackbird, Brewer's blackbird. Downward trends in riparian species – are indicative of continuing deterioration of riparian habitats of the Great Basin (USGS Mojave-Great Basin at 34).

Waterbirds. Because of tremendous past and continuing loss of wetlands, many waterbirds should be considered sensitive. Surveys of shorebirds in western North America are inadequate. Wetlands of the Great Basin provide **critical stopover habitat during** migration for great numbers of Wilson's and red-necked phalaropes, long-billed dowitcher, American avocet, least and western sandpipers. Western snowy plover has been declining in abundance throughout its range, including Nevada (USGS Mojave-Great Basin at 35), and Franklin's gull and black tern are also of concern.

Playas, or dry lakebeds in the great Basin, are wide, flat expanses of dried salt and clay flats on basin floors, typically with alkaline and salt tolerant vegetation communities, and are seasonally inundated. Playas are biologically important for ephemeral aquatic species during seasonal inundations, when invertebrates such as fairy shrimp or brine flies explode. They become instant feeding grounds for migrating shorebirds. Little is known about the global distributions and abundance of macroinvertebrate fauna that occupy ephemerally wet playas (TNC Blueprint at 78).

Conservation Strategies, and Exotic Species/Degradation of Native Communities

The Nature Conservancy has developed a conservation portfolio of sites in the Great Basin that are important for long-term conservation of native biodiversity. It stresses protection of unique sites, or important relatively intact native communities, often at the landscape scale. Landscape-scale conservation is also a critical component of ICBEMP assessments (see Wisdom et al. 2000 – much discussion in accompanying ACEC Nominations). In the Great Basin, large browsers disappeared about 12,000 years ago. The largest ungulate was the pronghorn. Jackrabbits, cottontails, and rodents may have been the largest herbivores (TNC Blueprint, Mack and Thompson 1982, Connelly et al. 2004). Microbiotic crust occurs in areas that are not, or lightly, grazed. As a result, livestock grazing and trampling impacts cause extensive, chronic and often irreversible harm to soils, vegetation and habitats of native species. This results in an alteration of composition, function and structure of plant and native animal communities (Fleischner 1994)

Salt desert communities: Invasive species have impacted shadscale and greasewood communities, and have altered their composition and function. (TNC Blueprint at 2001). Grazing is the most common disturbance that leads to weed invasions at these lower elevations. Halogeton invades dry sites, exacerbated by livestock grazing. These communities are increasingly threatened by the proliferation of non-native annual grasses. Historically, they did not burn. (TNC Blueprint at 2001).

Letter N17 Continued

N17-29 Cheatgrass being a growing problem across the RMP lands, and intensive current surveys for this and other invasive species must be conducted as part of the RMP effort if BLM is to understand the condition and degradation of special status species habitats.

Sagebrush semidesert is highlighted for conservation because of decline of sagebrush-obligate species. Species dependent include: sage sparrow, Brewer's sparrow, sage thrasher, sage grouse, pygmy rabbit, sagebrush vole, sagebrush lizard, pronghorn (Paige and Ritter 2000).

Fire regulates the density of fire-intolerant shrubs. Invasion of exotic annual grasses has increased fire frequency in stands causing a decline in abundance of sagebrush and other non-sprouting shrubs. In some areas, knapweed or other noxious weed species may be invading annual grass-dominated sites. Grazing decreases the importance of tall bunchgrasses and increases rabbitbrush, forbs and non-native grasses.Grazed sagebrush usually lacks altogether, or has no good condition microbiotic crusts. Large tracts of sagebrush semidesert and sagebrush-steppe are needed to adequately protect these systems (GBCB at 90).

Pinyon-juniper: Lower montane ecological systems – middle elevations, including pinyon-juniper, low montane shrubland, mountain mahogany. Half of the species inhabiting these sites are endemic to the region. Pinyon jay and juniper titmouse are "restricted specialists". More than half global population of gray flycatcher breeds in lower montane systems in the Great Basin.

PJ habitats are threatened by grazing and fire, and many are in degraded condition. Chained to create rangeland for livestock. Larger tracts of lower montane systems with connectivity to lower elevation sagebrush semidesert or basin and desert scrub systems are more likely to harbor larger populations of bighorn sheep (at 102). PJ woodlands – adjacent veg. is sagebrush steppe at lower and upper elevation margins.

Montane forest and woodlands. Montane islands in the Great Basin may be important for resilience of natural communities and species responses to climate change. GBCB at 113, citing Wharton et al. 1990. Many mammal taxa in the Great Basin occur outside GB, but some are novel genetically. Many mammal taxa are confined to and isolated in mountaintop habitats, and may be genetically unique populations of more widespread species.

Although the areal extent of riparian and wetland communities in the desert ecoregion is **exceedingly small**, they are **exceedingly important** for many species. (at 132). 80% of birds and 70% of butterflies in the Great Basin are associated with riparian areas (at TNC at 132, citing Dobkin 1998, Brussard and Austin 1993).

Wetlands associated with perennial or ephemeral alkaline lakes concentrate colonial gulls, including Wilson's phalarope, white-faced ibis, eared grebe and American avocet.

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N17-29 Please refer to Response to Comment N17-1 for a discussion of data collection.

Letter N17 Continued

The Partners in Flight North American Landbird Conservation Plan (Rich et al. 2004) identifies a critical need for strategic approaches to landbird conservation, and describes overarching threats faced by landbirds, including: significant direct loss of major bird habitats (including loss of western riparian, pinyon-juniper and sagebrush habitats); fragmentation and degradation of remaining habitats due to intensified agricultural practices, inappropriate grazing, spread of exotic vegetation and other factors; failure to identify and properly protect or manage habitat used during spring migration, fall migration, and winter. Birds stressed during migration require quality habitats for food and cover; a steady, widespread increase in dispersed mortality factors. These factors collectively contribute to a **high proportion of population declines and anticipated future threats.**

The Plan describes the growing recreational importance of birds, and the economic importance of bird-associated recreational activities. Birds also contribute to the maintenance of ecosystems – from dispersing native plant seeds to consuming insect pests. Conserving habitat for birds will contribute to meeting needs of other wildlife.

The Plan stressed it does not advocate conservation based on single species only, and encourages planners to identify common issues or habitats among suites of high priority species. It assesses conservation vulnerability based on biological criteria. PIF Assessment Factors include: Population size, breeding distribution, non-breeding distribution, threats to breeding, threats to non-breeding, and population trend.

Species of Continental Importance: Includes Watch List and Stewardship Species. Watch List: Greater Sage-Grouse, Swainson's Hawk, Short-eared Owl, White-throated Swift, Pinyon Jay, Brewer's Sparrow, Mountain Quail, Calliope Hummingbird, Black-capped Gnatcatcher, Virginia's Warbler. Stewardship Species: Gray Flycatcher, Western Scrub Jay ???, Sage Thrasher, Black-throated Gray Warbler, Green-tailed Towhee, Black-throated Sparrow, Sage Sparrow, Grasshopper Sparrow (?), Yellow-headed Blackbird, Rough-legged Hawk (winter?). Rosy Finch species (winter?).

Conservation of Stewardship Species will be a step towards maintaining broader suites of species within all biomes. LCP at 31 states: **"habitat loss remains the paramount factor for most species", and "habitats in danger of significant loss in the near future include western pinyon-juniper, sagebrush, and wetlands**. It describes the impacts of habitat fragmentation, and the growth in dispersed recreation such as OHV use.

Sage grouse are threatened by "extensive degradation of its sagebrush habitat by overgrazing and invasive plants" (LCP at 31). Livestock grazing "has had enormous effects on native vegetation – a century of selective removal of palatable plant species, soil compaction, water developments and livestock management activities" (LCP 2004, citing Saab et al. 2004. Habitat loss and fragmentation are also occurring on migration routes and in wintering areas.

Letter N17 Continued

N17-30 It promotes landscape-level natural resource planning. One example of "measurable criteria" is number of agency plans into which landbird objectives have been incorporated. This EIS provides just such an opportunity!

Issues are identified that transcend biomes, including:

- Habitat loss, degradation and fragmentation
- Forestry management
- Fire management strategies
- Wetland Issues
- Exotic or invasive species
- Resource extraction/energy
- Livestock grazing management
- Climate change
- Contaminants and pesticides
- Lack of information.

The allotments lie within the Intermountain West Avifaunal Biome, which is composed of 3 Bird Conservation Regions (BCRs). "Extensive mountain ranges and broad basins produce large elevational gradients that create a complex and variable environment - including coniferous forest, pinyon-juniper woodland, and cold semidesert shrubsteppe, and important wetland complexes. The IM West is center of distribution for many birds, and over half the Biome's SCSI have 75 percent or more of their population here. **"Threats and/or declining trends face Species of Continental Importance that use coniferous forest, pinyon-juniper woodland, shrubsteppe, and riparian habitats".** For example:

* Coniferous forest: flammulated owl, Cassin's finch, others.
* Deciduous forest: Aspen forest is a declining habitat type SIC: Red-naped Sapsuckers, Mountain Bluebird.
* Woodland: Pinyon-juniper woodlands are especially characteristic of the southern portion of the IM West. This habitat type supports the largest nesting-bird species list of any upland vegetation type in the West (Beidleman 2000), cited in LCP at 53. SCI are Pinyon Jay, Gray Vireo and Gray Flycatcher. "Degradation of pj has been widespread and continuous since European settlement".

Shrub-steppe species comprise the largest number of Species of Continental Importance in this biome. Conversion for ag. invasion of non-native grasses and forbs, development, sagebrush eradication and changes in fire frequency. This has caused extensive loss and degradation of habitat, with subsequent population declines. Cheatgrass has invaded about half of the existing sagebrush habitat. It is the highest conservation priority in the Interior Columbia Basin (Saab and Rich 1997, Paige and Ritter 1999), and species include: Greater Sage-Grouse, Sage Sparrow, Sage Thrasher, Brewer's Sparrow, Green-tailed Towhee. "Montane shrublands embedded in the forests provide many species with valuable food and cover – and may be critical to hummingbirds during migration. Montane Shrubland SCI include: Dusky Flycatcher, Virginia's Warbler, Calliope Hummingbird, Green-tailed Towhee, Rufous Hummingbird, and Mountain Bluebird.

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N17-30 In response to your comment, the text in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to clarify how the Ely Field Office will manage migratory bird habitat.

Letter N17 Continued

Riparian Habitats. Characteristics of riparian habitats vary widely depending on matrix and elevation, from cottonwood gallery forests to willow thickets. Nearly all riparian areas have been substantially degraded by development or alteration of many types – including de-watering, and alteration of flows, road construction, invasion of non-native species, logging, severe overgrazing, recreation.

Conservation issues include: Inappropriate livestock grazing, invasion of exotic plants change in fire intensity and frequency, logging practices affecting forest structure, and composition – especially mature, continued degradation of riparian habitat, conversion of sagebrush and pinyon-juniper habitats, including through land management practices, water diversion, alteration of flows, and spring development, recreational OHV use.

N17-31 Recommended actions: Retain large tracts of pinyon-juniper; ensure seed supply of seed-producing pinyon pine; Maintain/promote growth of native grasses and forbs in shrub-steppe, prevent large scale wildfire, restore with native plants following disturbance. Maintain water quality and quantity and vegetation in embedded springs, seeps and riparian areas. Restore degraded habitats and habitats that have been converted to non-native grasslands. Protect high quality riparian habitat. Restore natural flows and flooding regimes.

N17-32 Interfacing Communities/Natural Diversity and Inherent Complexity of Plant Communities. The ferruginous hawk illustrates the importance of understanding interfacing habitats. Ferruginous hawks typically nest in junipers at the edge of, or interfacing with sagebrush habitats. It is critical that BLM examine the already complex interspersion of plant communities across the landscape. Sagebrush communities often exist as complex mosaics with inherent natural diversity (Montana Department of Fish, Wildlife and Parks 1995, Welch and Criddle 2003).

Native Vegetation: The ecological integrity of native plant communities is the foundation of healthy habitats for special status species, raptor prey species, and healthy watersheds and watershed processes that replenish aquifers for scarce desert springs.

Important RMP Area Species

N17-33 BLM must have with lists of species known or expected to occur in the RMP area. BLM must use its current special status species list, Partner in Flight species lists, information from the Heritage Program, information on community importance from TNC's Conservation Blueprint, and other important recent summaries, such as Connelly et al. 2004 and Dobkin and Sauder 2004, and Wisdom et al. 2000, to examine species of concern and their habitat needs. It must conduct on-the-ground surveys for species of concern, and collect thorough and up-to-date information on the quality and quantity of habitats across these allotments and surrounding lands.

N17-34 BLM must carefully review these lists, and updated information, and assess habitat conditions for these species. BLM must conduct systematic baseline surveys for breeding birds, migrants, wintering species. BLM must conduct systematic non-lethal small

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N17-31 The desired range of conditions is designed to meet the types of actions mentioned in this comment.

N17-32 Please refer to Section 2.4.5 in the Proposed RMP and Final EIS for a discussion of the desired range of conditions for the composition of plant communities and their various states desired across the landscape.

N17-33 Please refer to Appendix E in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of special status species. NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP/EIS for the Ely planning area.

N17-34 Please refer to Response to Comment N17-1 for a discussion of data collection.

Letter N17 Continued

N17-34 mammal surveys in represent habitats – in various ecological conditions – across the allotments. BLM must try to understand the impacts of depauperate vs. better condition habitats on special status species. In addition, in areas of special concern (such as the isolated montane vole population in the Goshutes (vole mentioned in NDOW's comments). BLM should work with experts to assess populations, genetic uniqueness, etc.).BLM must also fully consider the changing dynamics in wildlife populations – such as elk, and the high priority segments of the public place on this species, as well as antelope and mule deer.

Juniper and/or pinyon-juniper birds are of high conservation concern (USFWS 2002, Rich et al. 2004). Yet, pinyon-juniper habitats are among the **most consistently under-represented** habitat types in biological and ecological survey efforts (Red Willow Research 2004).

In the Great Basin Bird Conservation Region, high-priority Pinyon-Juniper species include: Pinyon Jay, Ferruginous Hawk, Plumbeous Vireo, Virginia's Warbler, and Black-throated Gray warbler. Pinyon-juniper and juniper woodlands/pygmy forest provide important breeding habitat for many wildlife species. Pinyon-juniper provides provides important food for birds and other wildlife. Avian species known to consume pinyon seeds include: Pinyon Jay, Steller's Jay, Black-capped Chickadee, Northern Flicker, Gray-eyed Junco, Black-billed Magpie, Clark's Nutcracker, Red-breasted Nuthatch, Pine Siskin, Juniper Titmouse, and Lewis Woodpecker (Martin and others 1951, cited in Red Willow 2004). Both pinyon nuts and juniper berries provide a vital food resource for birds. Juniper berries remain on trees in winter, and are important for Cedar Waxwing, Townsend's Solitaire, Pinyon Jay, Clark's Nutcracker, Western Scrub Jay, Grosbeak sp., American Robin (Martin and others 1951; Johnson 1998; PIF 2000). Townsend's Solitaires establish winter territories based on juniper berry presence and abundance.

N17-35 Extensive alteration has occurred to pinyon-juniper in many areas of the Great Basin – chaining, spraying, and prescribed fire have been used to remove pinyon-juniper and juniper to plant livestock forage, especially at lower elevations on upper portions of alluvial fans and toeslopes of ranges. Often, exotic crested wheatgrass was planted. Wildfires have consumed large acreages, including across northern Nevada. BLM must assess the integrity and continuity of pinyon-juniper communities both within these allotments, and compare it to many other areas, including the often much-fragmented Ely BLM lands to the south). The relatively intact areas of pinyon-juniper and juniper in mountainous areas may provide reference areas for unfragmented pinyon-juniper habitats.

Wisdom et al. (2000) provide additional information on understanding animal species habitat needs that are applicable to the Ely RMP area. See Summaries for Groups 30-35, for example – two specific examples provided below. Please apply information in this document to species and habitat needs analyses in the area. Examples:

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N17-35 Please refer to Response to Comment N17-32.

Letter N17 Continued

Group 30. Ash-throated flycatcher and bushtit depend on a mix of source habitats. Retain contiguous blocks of mature juniper/sagebrush, especially old juniper with nest cavities. Consider site-specific ecological potential and response to management before removing juniper trees. Retain old growth, cavities, restrict pesticides, restore native understories, minimize likelihood of exotic invasion.

Group 31. Ferruginous hawk, burrowing owl, vesper sparrow, lark sparrow, western meadowlark, shirt-eared owl and pronghorn. Ferruginous hawk populations fluctuate in response to prey populations. Breeding populations of short-eared owls are nomadic, and may occur when rodent densities are high. Burrowing owls rely on burrows provided by burrowing mammals (ground squirrels, marmots, coyotes, badgers) and may be closely tied to these mammals. Broad-sale changes in source habitats – have dramatic "decreasing" and "strongly decreasing trends". Source habitat remains in northern Great Basin. Source habitat loss – tied to loss of big sagebrush. Ag. conversion, conversion to exotics. BO populations have declined as the result of pest control programs. Meadowlark and lark sparrow success, correlated with grass. Removal of grass cover may have detrimental effects, presence of livestock may attract brown-headed cowbirds and increase brood parasitism.

Juniper expansion may have benefited ferruginous hawks. Microbiotic crusts have been widely destroyed by livestock. Roads, human activities and domestic dogs. Recreational shooting of marmots or ground squirrels impacts burrowing owls, and pesticide use may lead to direct mortality.

Management implications. Potential risks to ecological integrity are: continued declines in herbland and shrubland habitats.
Primary issues: Permanent and continued loss of shrubsteppe due to ag coversion, brush control, cheatgrass invasion; Soil compaction and loss of micrbiotic crust; Adverse human disturbance.

Strategy: Identify and conserve large remaining areas (contiguous habitat) of shrubsteppe vegetation where ecological integrity is still relatively high, and to provide long-term habitat stability for populations and provide anchor points for restoration, corridors, and other landscape-level management. Restore grass and forb components. Restore microbiotic crusts, maintain burrows. Minimize adverse effects of human intrusion.

In support of conserving shrub-steppe, identify large areas of high ecological integrity to be managed for sustainability, on large areas of federal land. Criteria for protect and enhance include: maintaining or increasing the size of smaller patches, preventing further habitat disassociation, protecting or increasing the size and integrity of corridors, all in connection with the location of core areas. Use fire suppression and prevention to retard the spread of cheatgrass. Restore cheatgrass monocultures. Restore native vegetation. Design livestock grazing to promote abundance of forbs and grasses in understory, encourage development of microbiotic crusts. Allow burrows to persist or expand.

Letter N17 Continued

BLM "Range"/Vegetation Data

N17-36 At present, BLM has very little current information on ecological conditions and the health of native plant communities across the landscape. BLM must establish, or re-visit ESI data sits, and present this to the public in a SEIS. Key Area sites are often located in only the most accessible areas, and are clustered in particular areas of the allotments, leaving vast land areas with no monitoring information at all collected. BLM also failed to collect necessary data on degradation caused by livestock facilities and management activities. Current, comprehensive data on condition of soils vegetation, and habitats must be systematically collected.

N17-37 Plus, BLM can not ignore evidence that its limited old data does show - i. e, only a small fraction of larger size grasses present are present in most sites that should be dominated by these species. Thus, "production" is greatly less than that of good or better condition sites, and this is typical of nearly all sites. BLM must also tie water developments, water hauling or other livestock management practices to site depletion and alteration of species structure and composition.

N17-38 As part of this process, BLM must revisit its limited monitoring sites, and must also establish a series of new ESI and monitoring sites across the allotments, in all vegetation types, and that represent levels of livestock use that occurs across these lands.

BLM Treatments Pose Grave Dangers to Native Species

N17-39 BLM's original, flawed and very cursory analysis for these lands involved large-scale vegetation manipulation proposals – ranging from massive burning and "treatment" of pinyon-juniper and higher elevation conifer forests to extensive fragmentation (aka burning "mosaics") across some of the most intact remaining Wyoming and mountain big sagebrush habitats. of these proposals have serious risks for the perpetuation of native species – and pose great threats of escalated weed invasion and permanent loss of plants, animals and biodiversity.

N17-40 If BLM delves at all into "treatments" in this EIS, it must conduct a comprehensive analysis of pre-existing projects and disturbance across the landscape of these allotments and others in Nevada BLM Districts, and examine the degree of fragmentation that already exists, as well as the very significant ecological problems that have arisen in the wake of many treatments.

N17-41 Plus, in our past experience with Nevada BLM, the agency has much exaggerated the needed scale of any fire prevention treatment projects that may be necessary to protect plant communities from large-scale fires. For example, in the Ely-Mount Wilson Urban interface – only around 13% of the land area proposed by the Ely FO was actually found necessary to be treated when BLM's own national-level fire experts, having assessed the situation, developed a sane and reasonable approach.

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N17-36 NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP/EIS for the Ely planning area. It is not necessary to issue a Supplemental Draft RMP and EIS.

N17-37 Water hauling and other livestock management practices are evaluated on a site-specific basis. Evaluation of livestock grazing use relative to achievement of the standards for rangeland health is a continual and on-going process. Ecological condition and production ecological sites are factors that are assessed and evaluated during the standards assessment process. Standards assessments will be conducted during the term permit renewal process, watershed analysis, and during grazing use monitoring.

N17-38 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-39 No substantiation is provided that the impact analysis provided in the Draft RMP and EIS is flawed or cursory. Mid-scale analyses of watersheds will address all vegetation communities within watershed boundaries. Watershed analysis has and will continue to consider past fires as part of the evaluation process. These analyses will also address invasive and noxious weed composition in the major ecological sites of the watershed. To meet or make progress towards meeting rangeland health standards, as well as the desired future conditions presented in Section 2.4.5 of the Proposed RMP and Final EIS, the Ely Field Office will manage for the perpetuation of native plants and animals, special status species, and biodiversity.

N17-40 Existing conditions within the Ely RMP planning area, including habitat fragmentation and ecological problems, are adequately described in Chapter 3 of the Draft RMP and EIS and Proposed RMP and Final EIS for an RMP-level analysis.

N17-41 Council on Environmental Quality (CEQ) regulations at 40 CFR 1503.3(a) state that comments on an environmental impact statement or on a proposed action shall be as specific as possible and may address either the adequacy of the statement or the merits of the alternatives or both. The comments referenced are specific to an appeal and litigation from 2002 concerning an implementation decision under the Schell Management Framework Plan and are not specific to the current statement or proposed action. Therefore, they do not require further agency response.

Letter N17 Continued

Grazing Suitability and Capability Analysis

N17-42 BLM must conduct a current livestock grazing suitability analysis. BLM is aware that it has based livestock use areas and stocking rates on old adjudication processes – where AUMs claimed and then assigned in the adjudication process were often greatly inflated by ranchers. These "adjudicated" AUMs were not based on the ability of the land to sustain such high numbers of livestock and levels of use.

N17-43 In the EIS suitability analysis, BLM must examine:
Slope, distance to natural water, dispersion of "forage" across the landscape – i.e. many lands have been so depleted that it takes dozens of acres to support an AUM – so the costs (including in weight gain/loss of livestock) are often so great that grazing is a resoundingly losing proposition, areas inaccessible due to winter snow, summer desiccation, etc.

Sagebrush and Other Habitat Assessments

N17-44 Assessments of the quality of sagebrush, salt desert shrub and other important habitats in the allotments are necessary because: habitats and populations of species continue to decline across vast areas; there are many sagebrush species of concern; threats to sagebrush are regional in scale; regional knowledge facilitates development of consistent, efficient and credible management strategies for a comprehensive set of species. Federal land managers have legal responsibilities for effective management of habitats for sagebrush-associated species of conservation concern.

Analysis procedures include: Ecoregion and spatial extent, identify species of conservation concern, delineate ranges, estimate habitat requirements, identify regional Threats and Effects, estimate and map the Risks posed by each threat, Calculate Species-Habitat effects from all risks and other steps. Other Analyses include: Fragmentation, connectivity and patch size analyses, Consideration of non-vegetative factors affecting species of concern, change detection studies. Regional knowledge provides essential context for land use planning.

N17-45 BLM must undertake a "regional" analysis for these allotments, as they each are large enough to be considered a region. Plus, we have reviewed the local sage grouse plan, and it: fails to provide information/conduct several necessary analyses at the appropriate scale, and fails to present necessary information to the public, and it does not integrate necessary information to understand scale and extent of Threats (such as livestock grazing, cheatgrass presence in understory or domination, livestock facility fragmentation, etc.) and other habitat degradation or fragmentation effects – especially for mammals, reptiles and many migratory birds. It also completely fails to describe or map attributes necessary to understand the **quality of habitats** that do exist. For example, there is no mapping or other information that shows sagebrush habitats dominated by cheatgrass; no mapping or other information to show where large understory grasses have been largely eliminated ad weakened, and replaced by small *Poas*, or squirreltail, etc.

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N17-42 Virtually all lands within the Ely RMP decision area are suitable for grazing. Livestock grazing suitability and the evaluation of grazing use relative to the achievement of the standards for rangeland health are conducted during the term permit renewal process, during watershed analysis, and during grazing use monitoring. These are issues that would be considered associated with authorizing any grazing use.

N17-43 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-44 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-45 Please refer to Response to Comment N17-1 for a discussion of data collection.

Letter N17 Continued

N17-46 In other words, BLM should take the info in the local sage grouse plan as a coarse and incomplete starting point, and work to collect on-the-ground data needed to assess, map and identify the extent and severity of Threats and Habitat Conditions/Fragmentation for Raptors, Sage Grouse, special status species and raptor prey species across these allotments and surrounding lands.

Threats to Sagebrush and Other Shrub-Dependent Species and Habitats that must be Assessed in the RMP EIS

BLM must assess the following threats to special status species and other important wildlife:

Wells and windmills
Pipelines
Troughs
Pipelines
Roads (often linked to facilities)
Salting Sites
Weed Infestations
Powerlines
Fences
Aquifer depletion

Cheatgrass-dominated understories
Cheatgrass, few shrubs

N17-47 Fire and altered fire cycles

Altered understory species composition
Altered understory species structure
Altered overstory species composition
Altered overstory species structure (see, for example, Katzner and Parker 1997, and Federal Register 68 (43): 10389-10409) describing impacts of livestock-altered or thinned sagebrush to pygmy rabbit)

Vegetation Treatments (chainings, seedings, railings, herbicidings, mechanical such as mowing) lacking key habitat components

Grazing season/disturbance conflicts with nesting, birthing, wintering or other critical period in species life cycle
Grazing use levels fail to provide necessary habitat components (cover or food) based on nest available science
Livestock structural alteration of shrubs

Energy project siting (wind, geothermal, other)
Mines and mining exploration

Responses to Letter N17

N17-46 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-47 Please refer to Sections 4.6 and 4.7 in the Draft RMP and EIS and Proposed RMP and Final EIS for discussions of impacts to wildlife and special status species. Impacts from many of the items mentioned in this comment are discussed in these sections; however, most of the items are beyond the scope of the Ely RMP. The type of issues raised in your comment will be considered by the Ely Field Office when site-specific projects are proposed by outside parties or activity plans are prepared by the Field Office. The vegetation and livestock issues will be addressed in the individual watershed analyses and restoration plans.

Letter N17 Continued

N17-47

OHV races
Areas of high OHV use
Unregulated motorized use
Road densities
Communication towers. Powerlines, other facilities or vertical structures

N17-48

Often overlooked threats from livestock facilities and structures include:

- Physical harm to species - obstacles such as fences that can cause injury or mortality;
- Structures cause species avoidance of areas, i.e. sage grouse avoid vertical structures.
- Providing elevated predator perches and nest predator perches (in the case of songbirds – brood parasite perches).
- Attract predators and act as sinks
- Attract brood parasites

All of these impacts may act directly, indirectly, cumulatively or synergistically with the effects livestock degradation associated with lands over broad areas surrounding these facilities may have to vegetation, soils and other habitat components. The end result is degradation and fragmentation of habitats for important and special status species.

N17-49

The impacts of grazing during sensitive periods of the year for native wildlife must be assessed. For example, inundating sage grouse nesting or brood rearing habitats with large numbers of cattle or sheep during nesting season may cause: Removal of cover necessary to protect nesting birds and to hide and provide essential insect food for chicks; cause flushing of birds from nests – thus revealing nests to predators; cause separation of broods and increased vulnerability to predation; strip essential cover to hide hens and nests and conceal chicks from aerial vision-oriented predators and screen scent from ground-based predators..

Altered Fire Cycles

N17-50

BLM must study the extent of cheatgrass in understories, and areas already dominated by cheatgrass. BLM must assess the risk of cheatgrass invasion of understories with continued or extended livestock use or disturbance.

N17-51

BLM cannot gloss over the role of ongoing livestock grazing in continuing disturbance that spreads cheatgrass, retarding recovery and weakening of native vegetation in plant communities that still have a significant component of native species present, etc.

N17-52

BLM must assess how the presence of cheatgrass may affect special status species. For example, how do cheatgrass-dominated understories and interspaces affect reptile species occurrence and abundance - (lizards may be prey species for small mammals)? How does cheatgrass affect the pygmy rabbit?

Responses to Letter N17

N17-48 The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for livestock facilities are prepared and evaluated.

N17-49 Please refer to Sections 4.6 and 4.7 in the Proposed RMP and Final EIS for discussions of the effects of livestock grazing on wildlife and special status species.

N17-50 Mid-scale analyses of watersheds will address all vegetation communities within watershed boundaries. These analyses will also address cheatgrass composition in the major ecological sites of the watershed. Cheatgrass dominated communities are considered altered states of state and transition models that need to be reduced or eliminated. The causal effect of livestock grazing in cheatgrass spread will be evaluated and appropriate steps will be taken if grazing is found to be involved in not meeting rangeland health standards in a specific watershed. Also, please see Response to Comment N17-51.

N17-51 Livestock grazing is one of several factors that can lead to failure in achieving rangeland health objectives or in preventing desired rehabilitation success. In such cases, BLM will examine the full array of potential causative factors to determine what management changes are necessary to achieve the desired success.

N17-52 The subject of this comment is beyond the scope of the Ely RMP. However, please refer to Section 4.7 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the effects of weed management on special status wildlife species.

Letter N17 Continued

N17-53 Plus, in any discussion of pinyon-juniper communites, BLM must examine causes of any pinyon-juniper expansion related to livestock degradation, topsoil loss and change in site potential, climate change, etc.

Altered Composition and Structure/Lost Productivity

Over large areas of the allotments, larger sized native bunchgrasses and forbs have been eliminated, or significantly weakened. Only smaller stature native grasses and weeds remain.

N17-54 Appropriate stocking levels for any areas grazed must be based on the amount of forage present on a sustainable level, and Risk of exotic species invasions must be minimized. In addition, with extensive depletion over large areas, BLM must assess the diminishing returns – and increased ecological damage done by livestock having to roam over dozens if not hundreds of acres to sustain themselves/harvest an AUM. This leads to more trampling impacts, more weeds, etc. BLM must identify areas where grazing is unsustainable, or where it will cause harm to still-intact communities.

Grazing systems, grazing intensity and season of use: Financial returns from livestock production, trend in ecological condition, forage production, watershed status and soil stability are all closely associated with grazing intensity (Holechek et al. 1998). Short-term rest or deferment can not overcome periodic heavy use.

N17-55 The conflicts with wildlife habitat needs, including food, cover, nutritional composition, space, lack of disturbance and other factors, must be studied.

N17-56 Health of vegetation communities and soils across the landscape drives the health of habitats and populations. Plant Communities - Dispersion across the Landscape: BLM must inventory and assess (including using accurate mapping) the full range and diversity of native plant communities that exist across the landscape. BLM must assess the condition of these communities, including soil stability, erosion, presence of microbiotic crusts, possible loss of soil horizons, susceptibility to wind and water erosion, and their ecological integrity.

Predator Control

N17-57 Predator control activities associated with livestock grazing activities must be assessed. Removal of predators may have serious impacts to important special status species or their prey species. In addition, non-target species – such as raptors – may be caught in traps. Removal of badgers may affect burrow availability for the burrowing owl. Healthy native predator populations may also help provide food for scavengers like the bald eagle.

Drought

Responses to Letter N17

N17-53 Mid-scale analyses of watersheds will address all vegetation communities within watershed boundaries. Watershed analysis has and will continue to consider current livestock management as part of the evaluation process, along with factors such as climate. These factors could affect pinyon-juniper and sagebrush vegetation communities within specific watersheds.

N17-54 Please refer to Response to Comment N17-42.

N17-55 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-56 Please refer to Response to Comment N17-1 for a discussion of data collection.

N17-57 The subject of this comment is beyond the scope of the Ely RMP. Predator control is not undertaken by BLM.

Letter N17 Continued

N17-58 All impacts of livestock grazing on all elements of these lands must be assessed during drought. How does drought affect productivity of vegetation? What are the additive, synergistic and cumulative impacts of grazing depletion and drought on loss of plant vigor, weakening, or death?

N17-59 How much are plants of good vs. poor vigor affects by drought? What utilization levels are appropriate on drought-stressed vegetation? What stocking rates are necessary to prevent depletion during drought?

Need for Measures to Provide Increased Herbaceous Cover to Benefit Sage Grouse And Other Special Status Species

Sage grouse depend on a variety of shrub-steppe habitats, and populations may move over large areas of land in the course of a year. Overhead cover of sagebrush and tall residual native grass cover are critical to successful sage grouse nesting (DeLong et al. 1995; Connelly et al. 2000; Hockett 2003; 69 Federal Register (77) 21489; Connelly et al. 2004). The sage grouse is reliant on sage-steppe communities, and its populations have plummeted westwide. Excessive livestock grazing strips required nesting cover that screens nests of ground- and shrub-nesting birds from ground and aerial predators, and alters long-term diversity of native forbs that produce insects essential to the diet of sage grouse chicks. Sage grouse eat only sagebrush in winter, and require intact stands for winter survival. Physical breakage of sagebrush and nipping by livestock also alter and decrease sagebrush cover essential for sage grouse and other sagebrush species.

The "Guidelines to Manage Sage Grouse Populations and their Habitats" (Connelly et al. 2000), have been adopted by the Western Association of Fish and Wildlife Agencies (WAFWA) guidelines, and present well-established information on essential habitat components and management based on sage grouse needs. The WAFWA guidelines are now buttressed by the recent WAFWA Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats (Connelly et al. 2004). A link to this voluminous CA document is found at the NDOW Website: www.ndow.org/wild/sg/resources/assessment.shtm .

The WAFWA Guidelines and the recent WAFWA Conservation Assessment (Connelly et al. 2004) underscore the following points with respect to sage grouse biological and habitat needs:

- The great importance of herbaceous cover in nesting habitats (WAFWA at 968; CA at 4-4 to 4-8). Grass height and cover are important to nest success. Herbaceous cover provides scent, visual and physical barriers to predators. (WAFWA at 971; CA at 4-4 to 4-8);
- Successful sage grouse nesting occurs under larger bushes. Nesting habitat has greater canopy cover, taller live and residual grasses, more live and residual grass cover, and less bare ground (WAFWA at 970-971; CA at 4-4 to 4-8);
- Successful nests occur in stands with greater canopy cover (WAFWA at 971; CA at 4-4 to 4-8);
- Early brood rearing habitats should have greater than 15% canopy cover

Responses to Letter N17

N17-58 The projected impacts of livestock grazing on the vegetation resource are addressed in Section 4.5 of the Draft RMP and EIS and Proposed RMP and Final EIS under Impacts from Other Programs - Livestock Grazing. Livestock use levels have been, and will continue to be, adjusted in response to unusual circumstances such as drought and fire to protect the vegetation resource. Effects of drought are also considered in Section 4.28 as a contributing factor under the cumulative impact analysis. Drought, of course, reduces the level of vegetation productivity and, therefore, also the level of available forage for grazing and seed for regeneration. It also reduces the level of carbohydrate storage in roots and crowns, thereby making individual plants more vulnerable to impacts from grazing or other disturbance.

N17-59 These are site-specific questions that are considered and addressed on an allotment-specific basis associated with drought. During the drought years of 1996 and 2000, these issues were addressed. Management actions associated with drought were then included in agreements and were implemented associated with grazing management changes due to drought.

of grasses and forbs. After chicks hatch, these grasses and forbs produce insects for chicks to eat and canopy cover to screen them from predators. Later, forbs are eaten by maturing chicks. Forbs are also important in providing adequate pre-laying nutrients to hens (WAFWA at 971; CA at 4-8 to 4-9);

- As upland vegetation desiccates, hens with broods seek out late brood rearing habitats comprised of areas with succulent green forb vegetation, such as wet meadows and riparian areas (WAFWA at 971; CA at 4-9 to 4-11);
- Winter habitats have relatively dense sagebrush canopy cover, with sagebrush exposed above the snow (WAFWA at 972; CA at 4-14).

105. Habitat protection management actions for sage grouse are summarized in the WAFWA Guidelines, and include:

- Manage breeding habitats to support 15-25% canopy cover of sagebrush, 18 cm. or greater perennial herbaceous cover height (grasses and forbs) (WAFWA at 977);
- In late summer brood rearing habitats, "avoid land use practices that reduce soil moisture effectiveness, increase erosion, cause invasion of exotic plants, and reduce abundance and diversity of forbs" (WAFWA at 980);
- "Avoid developing springs for livestock water." If this must occur, "design project to maintain free water and wet meadows at the spring," as "capturing water from springs using pipelines and troughs may adversely affect wet meadows used by grouse for foraging" (WAFWA at 980).

In addition, US Fish and Wildlife Service (69 Federal Register (77) at 21491) describes studies showing that losses of hens and nests are related to herbaceous cover surrounding nests. "Enhancing Sage Grouse Habitat, a Nevada Landowner's Guide" (Northwest Nevada Sage Grouse Working Group) also cites studies showing that sage grouse nests were least preyed upon when a residual cover of 7 inches or more of herbaceous vegetation was present.

N17-60 Thus, there is strong scientific support for application of grazing use standards that provide for 7-9 inches of residual stubble height left uneaten on native grasses. Unfortunately, the livestock utilization levels now being applied in the District allotments here do not adhere to these requirements, and **will not provide for necessary residual stubble heights and cover for sage grouse nesting**, even under normal circumstances – let alone under drought, or weakened or low vigor conditions.

That the measures will be inadequate to provide sufficient cover for sage grouse is illustrated in other BLM documents, such as a recent Environmental Assessment from the BLM's Jarbidge Field Office (BLM Jarbidge EA, Ch. IV, pg. 88-89). The public lands of the BLM's Jarbidge Field Office extend into northern Nevada, and are sagebrush-steppe communities, with species of native bunchgrasses that are the same as the allotments here.

N17-61 BLM has found that with 50% utilization levels, as may continue – there is NO information provided in the DRMP - bluebunch wheatgrass is grazed to 4.5 inches, Idaho fescue is grazed to 2.0 inches, Thurber's needlegrass is grazed to 2.8 inches, bottlebrush

N17-60 Stubble height is a site-specific requirement and is reviewed on a site-specific basis. Seven to 9 inches of residual stubble height may be appropriate in certain situations. Livestock grazing suitability and the evaluation of grazing use relative to the achievement of the standards for rangeland health are conducted during the term permit renewal process, during watershed analysis, and during grazing use monitoring. These are issues that would be considered associated with authorizing any grazing use.

N17-61 Utilization levels are site-specific criteria that are included in site-specific activity plans. These are established based on multiple uses, such as but not limited to, ecological condition, the standards for rangeland health objectives, and resources in the area such as wildlife, special status species, and wild horse habitat needs. Livestock grazing suitability and the evaluation of grazing use relative to the achievement of the standards for rangeland health are conducted during the term permit renewal process, during watershed analysis, and during grazing use monitoring.

N17-61 squirreltail is grazed to 1.5 inches, and the exotic crested wheatgrass is grazed to 3.5 inches. All of these residual stubble heights are thus far less than the 7-9 inch stubble heights called for under the best scientific information available, such as the WAFWA guidelines discussed above; and demonstrate that grazing under BLM's current management will result in far more utilization and seriously inadequate cover for sage grouse on the allotments in question. Plus, BLM's woefully inadequate upland utilization levels and hand full of riparian stubble heights are not required Terms and Conditions on grazing permits, so there is no assurance that compliance will occur.

In many areas across the allotments, livestock grazing has caused depletion of larger-sized native bunchgrasses capable of providing grass heights sufficient to mask sage grouse nests and to protect nests and chicks from predation. These larger "decreaser" grass species have been replaced with smaller "increaser" grasses like small *Poas* (bluegrasses) or unpalatable weeds.

Harmful Impacts of Livestock Facilities: Habitat Degradation and Fragmentation

A growing body of scientific evidence demonstrates the negative impacts of fences and other vertical objects, as well as the increased fragmentation of sagebrush-steppe and other wild land habitats that result from placing vertical objects in sage grouse habitats. (Connelly et al. 2004).

N17-62 BLM must conduct a full inventory and assessment of all existing livestock facilities and developments on the allotments, all water haul and salting sites, and all vegetation treatments that have been conducted on these lands. The full array of direct, indirect, cumulative and synergistic impacts of these projects and activities must be assessed.

A substantial body of scientific information demonstrates the harmful impacts of fences and other range developments on sage grouse. Sage grouse evolved in an open landscape without vertical structures, and they naturally avoid using areas near these structures - which include fences and fence posts. Sage grouse habitats are fragmented by fences and other facilities associated with grazing (USFWS 69 Federal Register (77) at 21490). Fences and other facilities (as associated with wells, pipelines, troughs and water developments in the three allotments) provide perching locations for raptors, and associated roading that grows up along fences or in association with other livestock facilities provides both travel corridors for predators and conduits for weeds (69 Federal Register (77): 21490). Mechanical treatments and seeding with exotics degrades sage grouse habitat by altering structure and composition of vegetative community (69 Federal Register (77): 21488). Development of springs and other water sources to support livestock in upland shrub-steppe habitats can artificially concentrate domestic and wild ungulates in sage grouse habitats, and worsen grazing impacts (69 Federal Register (77) at 21489). Direct mortality of sage grouse from collisions with fences is described in the WAFWA guidelines at 977, and USFWS in 69 Federal Register (77) at 21492.

N17-63 Sage grouse are a landscape-scale species, inhabiting large, interconnected expanses of sagebrush. A mosaic of fragmentation now exists across many parts of the landscape,

N17-62 An inventory and assessment of existing livestock facilities is an activity conducted on an allotment-specific basis. This is normally done during the term permit renewal process and watershed analysis. NEPA analysis will be conducted when new projects are proposed and would include a full array of impact discussions. A Supplemental RMP and EIS is not needed to address these issues.

N17-63 In response to your comment, the text in Section 2.4.7.7 of the Proposed RMP and Final EIS has been revised to clarify how the Ely Field Office will maintain intact sagebrush habitat, and how it will prioritize habitat restoration actions.

N17-63 including portions of these allotments, and BLM's Preferred RMP alternative would extend and worsen fragmentation effects across the landscape. Causes of habitat fragmentation include vegetation treatments and removal of sagebrush, wild and prescribed fire, livestock facilities and zones of livestock concentration. There is mounting evidence of long-term negative effects of fire on sage grouse populations (WAFWA Conservation Assessment at 4-16, 7-28), 80% of the land area in the Great Basin is susceptible to displacement by cheatgrass (WAFWA CA. at 7-17 and Fig. 7.10). Wyoming and basin big sagebrush and salt desert shrub cover types occupy > 40% of the Great Basin and are the cover types most susceptible to displacement by cheatgrass (these areas comprise large portions of the three allotments). The ecological effects of livestock grazing grazing may alter vegetation communities, water and nutrient availability and soils so that **lands cross thresholds from which the system can not recover** (WAFWA CA. at 7-29 to 32). Habitat treatments have consequences for the habitat dynamics and wildlife use of habitats – and "each potentially decreases the suitability of sagebrush for wildlife" that depend on large, unfragmented sagebrush habitats" (WAFWA CA at 7-32). Evaluation of sagebrush communities primarily based on their ability to produce livestock forage (as in the case of these lands), may result in extensive alterations that are unsuitable for sage grouse and other species dependent on sagebrush habitats (WAFWA CA at 1-3).
Fences influence livestock and predator movement, facilitate spread of exotic plants, provide travel and additional access for human disturbances, increase mortality due to direct collisions, and increase predation rates by providing perches for raptors (WAFWA CA at 7-34 to 35).

Fences used to control grazing further modify the landscape by creating an artificial mosaic (WAFWA CA at 7-35), and allow more intensive grazing and loss of necessary habitat components such as residual grass cover for nesting. Intensified or more uniform use inside fenced areas results in patterns of unusable habitat across the landscape. Water developments influence the composition and relative abundance of plants (WAFWA CA at 7-35). Thus, infrastructure to support grazing programs including fences and water developments have both direct and indirect effects on the landscape (WAFWA CA at 13-9). Grouse may not commonly use water developments, and "water developments tend to attract other animals, and may serve as a predator "sink" for sage grouse, i.e. grouse fall victim to the many predators attracted to water developments (WAFWA CA at 4-12).

The Conservation Assessment describes impacts of disturbance of sagebrush habitats by vegetation treatments (at 13-6); depletion of native vegetation facilitating cheatgrass invasion (at 13-7); problems associated with blocks of crested wheatgrass and exotic seedings (at 13-7 to 8); landscape-level concerns – including that areas with larger patches of sagebrush remaining receive lower precipitation and are the least resilient to disturbance (such lower precipitation areas characterize much of these lands, and this highlights why careful management of these lands is crucial) (at 13-8 to 9).

An unknown array of livestock facilities has already been constructed throughout the three allotments (on both BLM and private lands) to facilitate, extend and concentrate livestock grazing. These facilities include wells, windmills, spring developments and

Letter N17 Continued

water diversions, pipelines, troughs, stock ponds – at times dug into and destroying springs, fences and corrals. Some have fallen into abject disrepair – windmills lie crumpled on the ground, junk tanks and troughs are strewn across the landscape. Fences have improper spacing. Not only do these facilities concentrate large numbers of livestock with deleterious impacts to soils, vegetation and wildlife habitats in their vicinity and radiating outward over broad areas, unplanned roading is often directly related to construction or maintenance of these facilities. Plus, there are innumerable livestock salting or mineral supplement sites, too, which also result in zones of intensive livestock disturbance and incidental roading. All of these areas of livestock concentration, where heavy and severe livestock use has compacted soils and destroyed cover and food for wildlife, exhibit harmful impacts to vegetation and native wildlife habitats. These developments and zones of intensive disturbance fragment habitats, and cover and food, for native species including sage grouse (Braun 1998; Freilich 2003; Connelly et al. 2004). Such projects have been constructed throughout habitats critical for sage grouse and other shrub-steppe species. New pipeline spurs incrementally constructed would extend and shift livestock use to new and less grazed areas, as the vegetation has been depleted by livestock around existing artificial or natural water sources (Sada et al. 2001).

N17-64 BLM's RMP SEIS must assess a wide range of alternatives that do not expand pipeline systems, fences, facility networks,water hauling, etc. – activities that cause harmful impacts resulting from the increased livestock use associated with them - including depletion of native vegetation communities, loss of microbiotic crusts, and weed invasions. Instead, BLM must act to remove harmful projects in important special status species habitats, and lands of conservation concern.

N17-65 Lands that are not close to livestock water sources comprise the best remaining healthy native vegetation communities and are thus very important habitats for native sagebrush-steppe species – precisely because they have been far less altered by livestock impacts. Sadly, it is precisely such areas where BLM's Proposed Action does not limit massive networks of new livestock facilities, thus further degrading and fragmenting sage grouse and other wildlife habitats. On top of the existing network of facilities (and junk littering the land), BLM potentially could construct dozens of new projects, thus greatly expanding the zones of disturbance and intense livestock concentration.

Networks of roads associated with livestock facilities serve as conduits for exotic plant invasions (Gelbard and Belnap 2003), and travel corridors for predators (Braun 1998, Connelly et al. 2004). The development of a maze of roads fragmenting the landscape has resulted from the proliferation of livestock facilities across the landscape. Roads grow up as projects are constructed and maintained.

N17-66 Many of BLM's past spring development projects have completely dried up all surface flows at springs. Yet BLM's Preferred Alternative makes no commitment to restore these damaged areas, instead proposing to "develop" many more springs without consideration of the spring characteristics, water volumes and flows, and many other important features. Plus, since BLM spring projects have so degraded and destroyed springs, the

Responses to Letter N17

N17-64 The Ely RMP does not address specific livestock grazing improvements. However, the need for such improvements will be a consideration by the Ely Field Office when project-specific plans are prepared.

N17-65 Please refer to Response to Comment N17-64.

N17-66 Please refer to Response to Comment N17-5 for a discussion of spring development. Past spring developments have not "degraded and destroyed springs", and surface water remains available at developed springs.

Letter N17 Continued

N17-66 protection of remaining unaltered spring sources from trampling and grazing harms by applying protective standards of use is made more imperative.

N17-67 Instead of attempting to rest to enhance habitats or jump start recovery, or place strict use limits on degraded riparian areas, BLM relies overwhelmingly on the construction of a series of band-aid fenced exclosures, with accompanying development and de-watering of wetland areas through piping water to troughs. Large areas outside exclosures then become a wasteland. An increasing body of science demonstrates that fences are harmful to sage grouse and many other species of native wildlife, and that sage grouse may avoid use of areas near fences. Thus, BLM's small exclosure proposals may in fact further fragment habitats, rendering scarce springs and seeps (if surface waters are not killed by the development itself) unusable by grouse, while create extended wasteland areas in their surroundings, causing expanded environmental harm.

Risks to sage grouse associated with livestock facilities, including "man-made structures near lek areas, including fences, pit reservoir berms, corrals that serve as perches/rests for avian predatory species and vertical structures that could limit sage grouse vision or act as 'intimidating factors' ". See Nevada BLM, Elko Owyhee allotment evaluation. Unfortunately, BLM often proceeds to ignore such risks and authorize construction of vertical structures across the allotment, on top of the network that already exists.

N17-68 Instead of taking strong and decisive action to restore and enhance habitats and populations, BLM pursues an open-ended adaptive management path of new and extended habitat alteration and fragmentation across the allotments.

Degradation, fragmentation and loss of sagebrush across landscapes has imperiled the sagebrush-steppe avifauna. Besides the many effects described for sage grouse, these habitat changes and fragmentation have been shown to affect abundance of shrub-steppe birds Paige and Ritter 1999, Knick et al. 2003, Connelly et al. 2004 at 1-3.

The habitat for many native wildlife species across the three allotments is already fragmented. Fragmentation would continue and escalate with new livestock developments, livestock management practices that result in zones of livestock concentration, and other disturbances. Disturbance and depletion associated with livestock grazing and associated rangeland developments serve to break up and fragment the continuous cover of native sagebrush-steppe vegetation necessary for many sagebrush-dependent wildlife species survival (Knick and Rotenberry 1995; Knick et al. 2003; Freilich et al. 2003; 69 Federal Register (77), Connelly et al. 2004).

N17-69 This all demonstrates why BLM must abandon the "proposed Action" idea that it put out in its public meeting (but failed to even mention in its Scoping Notice), and instead develop a new management strategy to enhance and restore special status species habitats, as required by its Land Use plan, and as also required under its own policy for special status species and management of their habitats.

N17-70 BLM has never revealed the extent of degradation and widespread neglect and disrepair

Responses to Letter N17

N17-67 Resting habitats, controlling utilization, and construction of fence exclosures are all management options to address degraded riparian areas. These may all be appropriate in certain situations and will be considered in the management of any degraded riparian areas identified in the planning area.

N17-68 Please refer to Response to Comment N17-63.

N17-69 In response to your comment, the text in Section 2.4.7 of the Proposed RMP and Final EIS has been expanded to clarify how the Ely Field Office will manage special status species.

N17-70 Comment noted.

Letter N17 Continued

N17-70 of existing projects. BLM has never revealed the current number, condition, and environmental effects of livestock facilities across the RMP landscape.

Sincerely,

Katie Fite
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Western Watersheds Project
PO Box 2863
Boise, ID 83701
208-429-1679

Letter N18

CENTER FOR BIOLOGICAL DIVERSITY

VIA ELECTRONIC MAIL AND U.S. MAIL

January 12, 2006

JAN 27 2006

Gene Drais, Project Manager
U.S. Department of the Interior
Bureau of Land Management
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HC33 Box 33500
Ely, Nevada 89301
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RE: Draft of Resource Management Plan/Environmental Impact Statement for the Ely District

Dear Mr. Drais,

The following comments on the Ely District Draft Resource Management Plan ("RMP") and Environmental Impact Statement ("EIS"), are submitted on behalf of the Center for Biological Diversity (the "Center"). The Center is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 15,000 members throughout the western United States, including members who reside in Nevada and utilize public lands managed by the BLM Ely District.

The Center is encouraged by the Ely Field Office's assertion that its choice of a preferred alternative "represents a shift from a commodity or individual resource allocation approach to an ecological systems approach to management." RMP/EIS at S-xiii. However, as the Center's comments point out, the RMP/EIS is inadequate in several ways. Most importantly, there is a glaring need for additional data regarding the environmental resources within the planning area. As a result, the EIS fails to adequately identify and analyze many of the impacts of the proposed management plan and alternatives. Moreover, the proposed RMP fails to ensure both the survival and recovery of special status species within the Ely District and fails to prevent unnecessary and undue degradation of public lands within the district. N18-1

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Responses to Letter N18

N18-1 Thank you for expressing your concerns. The concerns raised in this comment are addressed in the more detailed comments that follow. Please refer to Responses to Comments N18-6 for a discussion of background data, N18-3 for a discussion of special status species, and N18-4 for a discussion of compliance with NEPA and FLPMA. As stated in Planning Criterion No. 1 in Section 1.5.1 of the Draft RMP and EIS and Proposed RMP and Final EIS, the Ely Field Office will comply with all applicable Federal laws.

Letter N18 Continued

As you know, the Center requested an extension of time to prepare comments after the November 28, 2005 deadline because we did not receive a copy of the draft RMP/EIS until November 23, 2005.[1] Your office refused our request for an extension of time to submit comments but assured us that: "Although we are not officially extending the comment period through publication of a federal register [sic], we are accepting and will consider relevant comments received after November 28, 2005." Email from Gene Drais dated November 28, 2005. The Center therefore expects that our comments will be carefully considered and incorporated into preparation of the final RMP/EIS.

N18-2

As a result of the size (11.4 million acres) and the number of special status and sensitive species (150) this RMP/EIS constitutes an enormous undertaking. However, the Ely District RMP/EIS as currently written fails to meet the requirements of the National Environmental Policy Act ("NEPA") 42 U.S.C. § 4321 et seq. In addition, the draft RMP/EIS fails to show that BLM will adequately protect and maintain the environmental quality in the Ely District or protect special status species and their habitats within the Ely District, as required by the Federal Land Policy and Management Act ("FLPMA"), 43 U.S.C. §1701 et seq., and the Endangered Species Act ("ESA"), 16 U.S.C. § 1531 et seq. Approval and implementation of the RMP as proposed would result in additional violation of the ESA.

N18-3

THE RMP/EIS IS LEGALLY INADEQUATE

The RMP/EIS is not legally adequate under NEPA or FLPMA, as it does not fulfill the procedural or substantive requirements under these statutes.

N18-4

1. **THE RMP/EIS VIOLATES NEPA**

NEPA requires federal agencies to prepare a detailed EIS for "all major actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C), "NEPA 'ensures that the agency . . . will have available and will carefully consider detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience." Idaho Sporting Congress v. Thomas, 137 F.3d 1146,1149 (9th Cir. 1998) (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989)). As set forth below, the RMP/EIS violates NEPA, and BLM must revise the RMP/EIS prior to making any final decision on adoption of the Ely district plan.

N18-5

A. THE BLM VIOLATED NEPA BY FAILING TO GATHER ADEQUATE BASELINE DATA

A major flaw in the RMP draft is that the BLM has not gathered or analyzed much of the baseline data needed to fully understand the direct and indirect effects of its decision, in violation of NEPA. NEPA requires BLM to "describe the environment of the areas to be affected or created by the alternatives under consideration." 49 C.F.R. ss 1502.15. In Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit

N18-6

[1] The Center requested that extension because although we had requested a copy of the draft RMP/EIS on September 29, 2005 via email and telephone and were assured that it would be sent, it was not. A copy was finally provided only after an additional request on November 17, 2005 and was not received until November 23, 2005.

Responses to Letter N18

N18-2 Your comments have been carefully considered and incorporated as appropriate in the Proposed RMP and Final EIS.

N18-3 The Proposed RMP and Final EIS fulfills all requirements under NEPA, FLPMA, and ESA. The Ely Field Office must continue to manage special status species under all existing laws, regulations, and policies. Further, any site-specific projects that would be implemented under the plan, must comply with NEPA, FLPMA, and ESA. Project-specific EAs and EISs would be prepared by the Ely Field Office, as appropriate. Conservation measures for listed species will be contained in the Biological Assessment prepared by BLM and the Biological Opinion prepared by the US Fish and Wildlife Service, in compliance with Section 7 of the Endangered Species Act.

N18-4 The Proposed RMP and Final EIS fulfills all requirements under NEPA and FLPMA.

N18-5 Based on comments received on the Draft RMP and EIS and other considerations, the Ely Field Office has incorporated revisions into the Proposed RMP and Final EIS.

N18-6 NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions, fully understand the direct and indirect effects, and make a reasoned choice among alternatives. This data is summarized in Chapter 3 of the Draft RMP and EIS and Proposed RMP and Final EIS. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information.

Letter N18 Continued

stated that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA."

N18-7 In several instances the BLM has failed to gather any necessary baseline data required to make informed decisions and in other instances the information provided is inadequate. The RMP/EIS acknowledges that it is based on incomplete information in regard to many issues including, but not limited to, information regarding many special status plant and animal species. See RMP/EIS Vol 2 at 4.1-7 to 14, 11 to 12.

N18-8 For example, in the discussion of watershed management the RMP/EIS states that it will take approximately ten years for half of the watershed analysis to be completed. (RMP/EIS, Vol. II at 4.19-1). As water is a crucial factor in species survival, the fact that a watershed analysis has not been completed, nor will it be any time in the near future, seriously hampers BLM's ability to identify and analyze impacts to the environment from the proposed policies in the RMP. Indeed, the lack of such critical information will also undermine BLM's ability to undertake site-specific in the future for projects anticipated in the RMP such as the water pipeline project, increased mining, and commodity production. For example, without first establishing the current condition of the watershed and habitat utilized by riparian species that are particularly sensitive to decreases in the water table, the BLM cannot seriously claim to be protecting these species while allowing other interests to deplete their access to water resources.

N18-9 In addition, as discussed below, BLM has failed to gather even the most basic data on many of the sensitive and listed species found in the RMP. For these reasons, and others the BLM has not gathered or analyzed enough baseline data to determine the direct or indirect impacts of this project on the environment, as required by NEPA.

A. BLM VIOLATED NEPA BY FAILING TO CONSIDER A FULL RANGE OF ALTERNATIVES

NEPA requires that an EIS contain a detailed statement of alternatives to the proposed action. NEPA requires that the preparing agency "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." 40 C.F.R. § 1502.14. Failure to include a full range of alternatives renders an EIS legally inadequate. See Resources Ltd., Inc. v. Robertson, 35 F.3d 1300, 1307 (9th Cir. 1993); Alaska Wilderness Recreation and Tourism Ass'n v. Morrison, 67 F.3d 723, 729 (9th Cir. 1995).

N18-10 None of the alternatives provide an environmental baseline, a description of the current existing environment in the planning area, against which to evaluate other alternatives. For example, the no action alternative assumes that current management practices would be ongoing including leaving grazing at current levels and off-highway vehicle (OHV) use largely unrestricted throughout the district. This would allow for ongoing loss of vegetation communities and adverse impacts to listed species, including the desert tortoise and its habitat, over time. In order to comply with NEPA, the EIS must properly identify the current environmental baseline.

Responses to Letter N18

N18-7 Please refer to Appendix E in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of special status species. Also see Response to Comment N18-6 for a discussion of data collection.

N18-8 Please refer to Response to Comment N18-6 for a discussion of data collection. At a minimum, all riparian/wetlands need to be properly functioning. This and other habitat needs have been and will continue to be evaluated to determine if they are meeting/achieving Resource Advisory Council standards. Implementation strategies will be developed to address situations where standards are not achieved. Adequate baseline information is presented in the Draft RMP and EIS and Proposed RMP and Final EIS to allow adequate impact analysis. Additional information will be collected for future projects to allow complete impact analysis. The NEPA documents prepared for the types of future projects you mention will not be dependent on the information contained in the Proposed RMP and Final EIS.

N18-9 Please refer to Responses to Comment N18-7 and N18-16 for discussions of data and impact analysis for special status species.

N18-10 Please refer to Chapter 3 (Affected Environment) in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the current environmental baseline. The trends that are discussed for each resource would continue under the No Action Alternative (Alternative A).

Letter N18 Continued

N18-11 The range of alternatives offered is also inadequate as it does not provide any true conservation alternative. While alternatives B and D are less invasive than the current plan, they fall short of a true conservation plan. Alternative B, which is intended to promote restoration of ecological systems and allows OHV use only on designated roads and trails, unfortunately offers no assurance of a plan for enforcing this use. Further, it proposes an emphasis of OHV use on 310,000 acres without any significant analysis of how this intensive use area will affect the surrounding area or the species dependant on these areas. It alleges that production of food, fiber, and minerals would be constrained more than in other alternatives, but does not detail how or to what extent this will actually occur.

N18-12 Alternative D, while cutting back on commodity production does so little to correct the currently existing environmental impacts that it falls far short of correcting the excesses of the past. Noxious weeds, fire hazards, and non-native fish species threaten the entire ecosystem with collapse. Past harms such as destructive fire management and poor grazing techniques has left the region particularly vulnerable to fire hazards and watershed problems. BLM should examine a conservation alternative that includes actions designed to correct these and other problems created by past actions.

N18-13 Alternative E, the preferred alternative, is even less protective of fish and wildlife habitat than Alternative B. It also fails to require full compliance with recovery plans for listed species or limit the development/disturbance in all conservation areas. This alternative also fails to commit BLM to gather adequate survey date for covered species and fails to ensure both in-kind and fiscally viable mitigation measures for any actions that impact listed species directly or indirectly.

N18-14 In sum, the alternatives in RMP/EIS do not fulfill the intent and letter of NEPA. The BLM must revise the RMP/EIS with an appropriate range of alternatives and include at least one conservation alternative that provides for recovery of listed species, preservation of sensitive and candidate species, and protection of the habitats on which they depend (including vital water resources).

B. BLM VIOLATED NEPA BY FAILING TO PROVIDE ADEQUATE ANALYSIS OF ENVIRONMENTAL CONSEQUENCES

NEPA requires that an EIS must contain a "full and fair discussion of significant impacts, whether direct, indirect, or cumulative." 40 C.F.R. § 1508.8. The document must analyze the environmental effects of the action and alternatives, in a comparative form, to "sharply define the issues and provide a clear basis for choice among options by the decision maker and the public." 40 C.F.R. § 1502.14.

i. Inadequate Alternatives

N18-15 The alternatives presented in the RMP/EIS are inadequate for several reasons. As noted above, the EIS does not explore a sufficient range of alternatives. Further, the alternatives presented are not backed by sufficient scientific data to gain a full understanding of the possible

Responses to Letter N18

N18-11 Please refer to Response to Comment N18-14 for a detailed discussion on the range of alternatives analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. The alternatives contained in the Draft RMP and EIS and Proposed RMP and Final EIS focus on ecological protection (conservation) to varying degrees. Alternative B has the greatest management emphasis in this area of concern. Please note that in response to this and similar comments, no off-highway vehicle emphasis areas would be designated by the Proposed RMP, and no special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP. Activity plans for the management of special recreation management areas would be prepared following the approval of the RMP. NEPA analysis would be conducted for these activity plans. Thus, an appropriate level of analysis for designating management areas but not implementing activity plans has been included in the Proposed RMP and Final EIS.

N18-12 Alternative D could be considered a conservation alternative. Alternative D would exclude all permitted discretionary uses of the public lands including livestock grazing, mineral sale or leasing, lands or realty actions, or permitted recreation use. No commodity production would be allowed. OHV use would be restricted to maintained roads. Wildfires would not be suppressed unless they threaten life or property.

N18-13 In response to your comment, the text in Section 2.4.7 of the Proposed RMP and Final EIS has been expanded to clarify how the Ely Field Office will manage special status species, including implementation of those actions and strategies identified in recovery plans that the Field Office has the authority to implement. Compliance with recovery plans for threatened or endangered species is required under existing laws and regulations, is currently being implemented by the Ely Field Office, and is not a subject of the Ely RMP. Such compliance includes surveys to confirm the presence or absence of listed species, as may be necessary, and development and enforcement of project-specific mitigation measures as applications are received by the Field Office.

N18-14 A reasonable range of alternatives has been presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. All alternatives protect special status species and their habitats to varying degrees. In Comment Letter F3, the U.S. Environmental Protection Agency gives the Preferred Alternative their highest rating of "Lack of Objections". Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes. The management actions that are presented in the Proposed RMP were developed through consideration of the planning criteria presented in Section 1.5 of the Draft RMP and EIS and Proposed RMP and Final EIS, public scoping comments presented in Section 1.6, BLM policy especially as presented in the Land Use Planning Handbook, the professional judgment of the staff in the Ely Field Office, and comments from a wide array of users of the Ely RMP planning area.

Letter N18 Continued

N18-15 environmental impacts of the proposed actions. In addition, the BLM does not adequately discuss all of the significant impacts of each alternative including direct, indirect, and cumulative, as required by 40 C.F.R. § 1508.8.

ii. Biological Resources

N18-16 Throughout the plan there appears to be little or no information regarding the environmental impact of the RMP on many special status and listed species. For example, the RMP/EIS provides little baseline information regarding the current status, population trends, or effects of current management for the threatened Ute Ladies'-tresses orchid or the Sunnyside green gentian (a federal species of concern). RMP/EIS Vol 1 at 3.7 -1 to 3. Indeed, it appears that the district has failed to undertake the population or habitat monitoring for the threatened Ute Ladies'-tresses orchid recommended in the recovery plan for the species. Inevitably, the analysis of impacts to these species in the RMP/EIS is also inadequate. While there is somewhat more baseline information provided for the seven listed fish species (RMP/EIS Vol 1 at 3.7 -4 to 9), the analysis of impacts to these species in the RMP/EIS is also quite limited. Examples of other shortcomings in the identification and analysis of impacts to special status species include, but not limited to, the following:

Desert tortoise

N18-17 As the RMP/EIS points out there are two designated critical habitat units for the desert tortoise in the district encompassing approximately 256,000 acres and, overall, approximately 726,000 acres of potentially suitable desert tortoise habitat in the district. RMP/EIS Vol. 1 at 3.7-11. Importantly, much of the designated critical habitat is outside of established ACECs. See RMP/EIS Map Vol., Map 3.7-2. Nonetheless, the RMP/EIS fails to adequately identify and analyze the impacts of the proposed management plan on the desert tortoise or its critical habitat. For example, the RMP/EIS provides no analysis, only conclusions, regarding the impacts of the preferred alternative on the desert tortoise and its critical habitat. RMP/EIS Vol. 2 at 4.7-44. Further, although the preferred alternative proposes to implement special use restrictions on livestock grazing on desert tortoise habitat, it does not discuss what the effects of the ongoing grazing would be, or what special use restrictions are proposed.

N18-18 Likewise, while the RMP/EIS discusses following the procedures developed in the 2000 Caliente Management Framework Plan that affect the desert tortoise, it fails to discuss what actions would be undertaken and how they will impact the species. The Lincoln County Land Act development would also have indirect effect on this threatened species, but the effects of this development are not discussed.

Western yellow-billed cuckoo, and meadow valley wash speckled dace and desert sucker

N18-19 Under the preferred alternative the RMP/EIS asserts that these species would be evaluated in conjunction with the south western willow flycatcher recovery plan, but describes no intent, actions, or proposed alternatives to protect these species. (RMP/EIS Vol. I 2.5-71). Further, the Plan asserts that the BLM will "outline the schedule for determining if livestock are

Responses to Letter N18

N18-15 Please refer to Response to Comment N18-14 for a discussion of the range of alternatives analyzed and Response to Comment N18-6 for a discussion of data collection. All important impacts have been discussed in the Proposed RMP and Final EIS, including direct, indirect, and cumulative impacts.

N18-16 Please refer to Response to Comment N18-7 for a discussion of data for special status species. Also refer to Sections 3.7 and 4.7 in the Draft RMP and EIS and Proposed RMP and Final EIS for discussions of the status of individual species and impacts to those species, respectively. Both of these sections address special status and listed species at an appropriate level of detail for the Proposed RMP and Final EIS. Considerably more detail on listed species is contained in the Biological Assessment prepared for the Proposed RMP and submitted to the U.S. Fish and Wildlife Service as part of Section 7 consultation.

N18-17 In response to recently altered environmental conditions within the desert tortoise habitat (fire in 2005) and the comments received on the Draft RMP and EIS, text sections related to desert tortoise in Chapters 2, 3, and 4 have been revised. Please refer to these assorted sections in the Proposed RMP and Final EIS for clarification regarding proposed management and impact analyses related to the species.

N18-18.1 Please refer to the revised text in Chapters 2.0, 3.0, and 4.0 of the Proposed RMP and Final EIS that has been expanded to reflect management of the desert tortoise. The management actions previously outlined in Appendix J (Record of Decision for the Caliente Management Framework Plan Amendment, September 2000) of the Draft RMP and EIS have been brought forward into the appropriate resource programs of the Proposed RMP that would implement the management actions (e.g. special status species, travel management, minerals, etc.). These desert tortoise management actions have been included in the impact analysis for all programs that would be affected.

N18-18.2 Lands identified for disposal under the Lincoln County Land Act have been sold and are now privately owned. Therefore, effects on the desert tortoise would be considered under Section 10 of the Endangered Species Act and not Section 7, which applies to the Proposed RMP. The text in Section 4.7 of the Proposed RMP and Final EIS has been modified to address your comment. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

N18-19 In response to your comment, the text in Section 2.4.7.3 and 4.7 of the Proposed RMP and Final EIS has been revised to clarify the discussion of management for the southwestern willow flycatcher.

Letter N18 Continued

N18-19 a causal factor for nonattainment of standards and guidelines," but fails to describe what actions will be taken to prevent any further damage caused by livestock or how long this assessment will take.

Arizona southwestern toad

N18-20 The RMP/EIS fails to provide any information on the effects of the preferred alternative or other alternatives on this species. It appears no research has been done, or no actions to protect the toad will be taken.

Banded gila monster

N18-21 Again, the RMP/EIS fails to provide any specific discussion of how it will affect the banded gila monster. There are no specific proposals to protect the species and no information on what the environmental impact of the RMP/EIS would have on the species.

Western burrowing owl

N18-22 The RMP/EIS asserts that "occupied and unoccupied habitat conditions would be assessed and documented... Corrective management actions to improve or maintain habitats would be immediately implemented." The RMP/EIS however fails to explain what the current conditions are and what effects the preferred alternative will have on this species.

N18-23 The lack of baseline data for certain species, as mentioned above, renders BLM's analysis of the environmental consequences of the action inadequate under NEPA. BLM's failure to adopt specific measures to conserve listed species also violates the ESA.

iii. Noise

N18-24 While the preferred plan proposes to create 1.36 million acres for four motorcycle events, and two truck events, it fails to discuss the impact of the noise from these events on protected species. (RMP/EIS Vol. 2 at 4.15-9). Further, the BLM does not provide for any sort of monitoring, study, or even an adaptive management to mitigate the damages caused by these events. Further, the RMP/EIS gives only a cursory glance as to the environmental impacts of these events. This failure to identify and analyze impacts is especially problematic considering that the RMP/EIS assumes that recreational vehicle use will increase over time.

N18-25 The BLM is required by the ESA to protect listed species from known threats, and is also required by FLPMA to protect and maintain the environmental quality of public lands, including sensitive species and their habitats. The RMP/EIS acknowledges that previous studies show that high noise volume negatively effect wildlife. Unfortunately, when faced with conflicting interests, the RMP/EIS does not err on the side of caution and protect public lands but rather allows uses that are known to degrade the environment to go forward unchecked and largely unexamined. BLM's failure to adequately identify and analyze these impacts in the EIS violates NEPA.

Responses to Letter N18

N18-20 Please refer to Section 2.4.7.3 of the Proposed RMP and Final EIS for a discussion of Special Status Species (Federally protected and BLM sensitive species). Also, the text in Section 4.7 has been revised to address your comment.

N18-21 Please refer to Response to Comment N18-20 for a discussion of Special Status Species (Federally protected and BLM sensitive species).

N18-22 Please refer to Response to Comment N18-20 for a discussion of Special Status Species (Federally protected and BLM sensitive species).

N18-23 Please refer to Responses to Comments N18-7 for a discussion of data for special status species and N18-3 for a discussion of the adequacy of impact analysis. Conservation measures for listed species will be contained in the Biological Assessment prepared by BLM and the Biological Opinion prepared by the US Fish and Wildlife Service, in compliance with Section 7 of the Endangered Species Act.

N18-24 In response to your comment, the text in Section 4.15 of the Proposed RMP and Final EIS discussing the Proposed RMP has been expanded to clarify the discussion of the impacts of Special Recreation Permits for OHV events.

N18-25 The Ely Field Office must continue to manage special status species under all existing laws, regulations, and policies, including the ESA and FLPMA. The Proposed RMP and Final EIS describes and analyzes management actions for the multiple uses of all the resources in the Ely RMP decision area. By its very nature, BLM's multiple use mandate results in conflicts among uses and users. The Ely RMP analysis has focused on the major conflicts and disclosed them to the public. More detailed analyses of individual projects and their impacts on special status species would occur at the implementation stage as these projects are evaluated in project-specific NEPA analyses. The Proposed RMP and Final EIS are fully compliant with the requirements of NEPA.

Letter N18 Continued

iv. Air quality

N18-26 The BLM is required to analyze whether the RMP/EIS alternatives will meet both federal and state air quality standards. 40 C.F.R. § 1508.27 (10) (requiring that the agency evaluate "[w]hether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment."). The BLM fails to sufficiently analyze whether its proposed alternative for the RMP/EIS will comply with federal and state laws related to air quality.

N18-27 The RMP/EIS lacks sufficient analysis of air quality impacts that will result from planning area development growth, specifically the proposed coal-fired power plant. As Nevada already has problems with mercury emissions, the failure to provide any significant analysis of how this plant could affect these levels is particularly disturbing. Further complications will arise from increased OHV, motorcycle, and truck use. Informational deficiencies such as these render the analysis invalid under NEPA.

N18-28 The RMP/EIS's cursory treatment of how increased recreational activities will affect air quality is also inadequate as it simply states that fugitive dust emissions will increase dramatically with increased speed. The RMP/EIS also fails to evaluate the effects of motorcycle and truck events in conjunction with increased fires, mining activity, and OHV use. In addition to failing to discuss the cumulative effects, the identified effects are not discussed with any certainty as to what will happen over time. NEPA tasks federal agencies with evaluating, "the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity." 42 U.S.C. § 4332.2 (C)(4). Such language requires adequate analysis of both current and future conditions.

v. Visual Resources

N18-29 The RMP/EIS will have significant impacts on the visual resources of the planning area. For example, under the preferred alternative special event areas, mineral use, and developments on private lands areas (RMP/EIS Vol. 1 2.5.120), will dramatically change the natural landscape of the district. The BLM claims it will minimize these impacts; however, it gives no significant analysis of the steps it will take, and what the resulting impacts would be. For example, the

N18-30 proposed coal mine could significantly impact the air quality over the Grand Canyon. Currently, the best visibility days in the Grand Canyon are the days when pristine air has drifted into the Canyon from the Ely district. Changing the current balance could threaten the visual resources of this nearby Class-1 viewing area. These disruptive changes in the landscape are significant to a large portion of the public, including hikers, backpackers, photographers and birdwatchers. In order for the BLM to comply with NEPA the RMP/EIS must analyze the effects of the proposed actions on visual resources.

vi. Land Retention Policy

The RMP/EIS identifies over 95,677 acres of land that would be available for disposal under preferred alternative—more than double the acreage available under the no action

Responses to Letter N18

N18-26 As discussed in Section 4.2 of the Draft RMP and EIS and Proposed RMP and Final EIS, there are no actions proposed under the Ely RMP that would have impacts on air quality in the region resulting in a violation of the NAAQS or PSD increment. Any future proposed projects, such as a coal-fired power plant, would require additional, separate NEPA analysis to determine whether they might have impacts that would threaten NAAQS or PSD regulatory requirements.

N18-27 Any future proposed projects, such as a coal-fired power plant, would require additional, separate NEPA analysis to determine whether they might have impacts that would threaten NAAQS or PSD regulatory requirements. Such projects are beyond the scope of the Ely RMP. It is true that recreation use of on and off-highway vehicles contribute air pollutants, mostly in the form of PM10. Section 4.2 in the Proposed RMP and Final EIS has been expanded to discuss the effects of dust from recreational vehicle use in the Ely RMP planning area, including competitive events held under special recreation permits.

N18-28 It is true that recreational use of on and off highway vehicles contributes air pollutants, mostly in the form of PM10. Section 4.2 in the Proposed RMP and Final EIS has been expanded to discuss the effects of dust from recreational vehicle use in the Ely RMP planning area, including off-highway vehicle race events. Please refer to Section 4.28.2 for a discussion of cumulative impacts to air quality and Section 4.32 for a discussion short-term uses and long-term productivity, both in the Proposed RMP and Final EIS.

N18-29 In response to your comment, the text in Section 4.11 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of impacts to visual resources. VRM management class objectives would be considered when evaluating BLM projects or private party proposals. Mitigation for potential visual resource impacts would be evaluated on a project-specific basis. VRM class objectives do not prohibit other multiple uses.

N18-30 There are no actions proposed under the Ely RMP that would have impacts on air quality in the Grand Canyon, as defined in the air quality regulations. Any future proposed projects, such as a coal-fired power plant, would require additional, separate NEPA analysis to determine whether they might have impacts to visibility in the Grand Canyon. The commenter seems to have confused air quality and Visual Resource Management issues. The Ely RMP would have no effect on and the BLM has no responsibility for management of visual resources in the Grand Canyon.

Letter N18 Continued

N18-31 alternative (Alternative A). RMP/EIS Vol I at 2.5- 117 and 120. While none of the alternatives allow for disposal of areas designated as critical habitat and lands within ACECs, the RMP/EIS fails to provide any meaningful analysis of the impact of land disposal on the environment in general and special status species in particular. Further, the RMP/EIS fails to provide detailed criteria that would ensure that land disposals do not adversely impact the environment. For example, such criteria could include, but are not limited to, allowing land disposals or exchanges only where they will not increase habitat fragmentation, will maintain connectivity between critical habitat units or ACECs to the maximum extent possible, will allow for consolidation of habitat for special status species, will ensure preservation of all water resources, and will reduce the likelihood of unauthorized incursions into and uses of critical habitat and ACECs.

vii. Water Resources

N18-32 The RMP/EIS fails to take into account the impact of reduced groundwater locally if the Southern Water Authority constructs the proposed pipeline. The RMP/EIS contains virtually no analysis of how decreased groundwater will affect the biological resources of the region. For example, in the cumulative effects analysis, the RMP/EIS seems to assume that as long as the proposed plan to increase vegetation is effective, the cumulative effects of the pipeline, increased residential use of water, the Toquop energy project, White Pine County coal-fired power plant, the Robinson mine, and other site specific projects listed will be negated without any scientific data to support these claims. (RMP/EIS Vol. 2 at 4.28-25). These indirect and cumulative impacts to water sources are significant as many of the special status species including the south western willow flycatcher and the yellow-billed cuckoo are particularly sensitive to changes in riparian areas.

viii. Cumulative Effects

The CEQ regulations implementing NEPA clearly direct federal agencies to consider the direct, indirect, and cumulative effects of their actions on environmental resources. 40 C.F.R. § 1508.8. The regulations define "cumulative effects" as:

> The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7

N18-33 The discussion of cumulative effects discussed in the RMP/EIS fails to meet this standard. The analysis is required to consider the incremental impacts of actions in conjunction with the impacts of past, present, and future actions. Thus the agency must look beyond the life of the proposed action. In addition, these actions must include the ramifications of all actions. This includes state, federal, and private actions. The analysis of cumulative impacts should also focus on each affected resource, ecosystem, and human community, addressing the sustainability of all factors.

Responses to Letter N18

N18-31 Please refer to Section 2.4.12.2 in the Proposed RMP and Final EIS for a discussion of land disposal criteria. The effects of land disposals are discussed as appropriate in Chapter 4 under each program that would be affected by these management actions. The type of issues relative to special status species raised in your comment will be considered by the Ely Field Office when specific disposals are proposed and evaluated. Coordination with federal, state, and local agencies during the NEPA process will ensure the protection of these species.

N18-32 It is not the intent of the text in Section 4.28.3 (or anywhere else) to imply that cumulative effects on water resources from other projects would be minimized or negated by vegetation management on BLM-administered lands. Additional text has been added to Section 4.28.3 to address this comment, while staying within the scope of the Ely RMP. As pointed out in text and other comments, the Nevada State Engineer administers water rights in the state, including the Ely RMP planning area. The RMP addresses resources to the degree that the Ely Field Office controls or may influence them. In addition, project-specific NEPA analyses, as well as state and federal permitting processes, would be required for other individual projects (including BLM projects). Additional public involvement and further assessment of cumulative effects would be conducted at that time.

N18-33 Please refer to Section 4.28 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of cumulative impacts. The analysis considers over 50 interrelated projects (past, present, future; federal, state, private) and their cumulative effects on all 26 resource programs addressed in the EIS.

Letter N18 Continued

N18-34 The limited discussion of cumulative impacts to special status species is an example of a discussion which assumes the best case scenario for current conditions, but fails to address the long-term impacts of groundwater depletion. The RMP/EIS claims that the depleted water flow would be balanced by increases in vegetation, but fails to convincingly conclude that this balance could be maintained over the long term.

N18-35 Further, the RMP/EIS fails to sufficiently discuss the effects of ongoing OHV use in conjunction with the new proposed special recreation areas, motorcycle events, and truck rallies. The RMP/EIS seems to assume that the impact from these events will not have any significant impact on protected species, but fails to cite any scientific basis for this assumption.

ix. Mitigation

N18-36 Mitigation measures comprise an important part of the scientific and analytical basis for the comparative analysis required under NEPA. 40 C.F.R. § 1502.16 (h). NEPA also requires this section to "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives" 40 C.F.R. § 1502.14. The RMP/EIS provides a chart of proposed mitigation measures that are simply general statements and offer few specific mitigation actions that BLM is committed to undertake. The RMP/EIS also relies other programs and as yet undeveloped restoration plans to achieve most of the mitigation goals. See RMP/EIS Vol 2, 4.29-1. This is insufficient even for a programmatic EIS. BLM has independent obligations under NEPA, as well as FLPMA and the ESA to ensure appropriate mitigation for identified impacts to the environment. Its failure to do so renders the RMP/EIS invalid.

2. THE ELY DISTRICT EIS/RMP PLAN VIOLATES THE FEDERAL LAND POLICY AND MANAGEMENT ACT

All BLM actions must be consistent with FLPMA (P.L. 94-579, 90 Stat.2743, 43 U.S.C. 1701 et seq.) In accordance with FLPMA, public lands are to be managed on the basis of multiple use and sustainable yield. 43 U.S.C. § 1701(a)(7). Furthermore, land managers are to take into account the long-term needs of future generations for renewable and non-renewable resources, including fish and wildlife. (See 43 U.S.C. ss1702(c); 43 U.S.C. § 1711(a)(8)).

A. THE PREFERRED ALTERNATIVE DOES NOT ADEQUATELY MANAGE PUBLIC LANDS FOR WILDLIFE AND NATURAL RESOURCES

N18-37 All alternatives proposed in the RMP/EIS, including the preferred alternative promote the continuation of motorized recreation and commercial uses in the district at the expense of the natural resources that the BLM is legally obligated to protect. The proposed management plan violates FLPMA by failing to manage the district so that it "will provide food and habitat for fish and wildlife and domestic animals." 43 U.S.C. § 1711(a)(8). This also violates FLPMA's mandate to mange public lands for multiple uses and the long-term sustained yield of renewable resources.

Responses to Letter N18

N18-34 Please refer to Response to Comment N18-32. No conclusion has been drawn in the Proposed RMP and Final EIS on the effects of groundwater development, and that topic will be addressed through separate NEPA analysis.

N18-35 In response to your comment, the text in Sections 4.7 and 4.15 in the Proposed RMP and Final EIS have been expanded to clarify the discussion of the impacts of Special Recreation Permits for OHV events.

N18-36 In response to your comment, Section 4.29 of the Proposed RMP and Final EIS, which discusses proposed mitigation measures, has been expanded. Appendix F, Section 1, in the Proposed RMP and Final EIS, has also been expanded, and applicable best management practices have been cross referenced at the beginning of resource program discussions in Chapter 4.

N18-37 The Ely Field Office must manage multiple uses under all existing laws, regulations, and policies, including FLPMA. The Proposed RMP and Final EIS describes and analyzes management actions for motorized recreation and commercial uses in the Ely RMP decision area, which are valid uses under FLPMA. By its very nature, BLM's multiple use mandate results in conflicts among uses and users. The Ely RMP analysis has focused on the major conflicts and disclosed them to the public. The Proposed RMP and Final EIS are fully compliant with the requirements of FLPMA.

Letter N18 Continued

B. FAILURE TO PREPARE A LEGALLY ADEQUATE EIS VIOLATES FLPMA'S PROHIBITION AGAINST "UNNECESSARY AND UNDUE DEGRADATION"

The FLPMA requires the BLM to, "by regulation or otherwise, take any action necessary to prevent unnecessary and undue degradation of the lands." 43 U.S.C. § 1732(b). The term "unnecessary or undue degradation" is defined in the BLM's regulations pertaining to hardrock mining as activities that "[f]ail to comply with ... federal and state laws related to environmental protection and protection of cultural resources..." 43 C.F.R. § 3809.5.

The IBLA has held that to prevent unnecessary or undue degradation, the BLM must consider the nature and extent of surface disturbances resulting from a proposed action as well as the environmental impacts on resources and lands outside the area of operations. When the BLM prepares an EIS that does not comply with NEPA, it is a *per se* violation of the FLPMA's prohibition against unnecessary or undue degradation. "To the extent the BLM failed to meet its obligations under NEPA, it also failed to protect public lands from unnecessary or undue degradation." (See Island Mountain Protectors, 144 IBLA 168, 202 (1998)). The BLM has failed to meets its obligations under NEPA for numerous reasons, as set forth above, and has thereby also committed a *per se* violation of FLPMA.

N18-38

C. THE BLM HAS FAILED TO PREPARE AND MAINTAIN AN INVENTORY OF THE UNIQUE RESOURCES OF THE PLANNING AREA

In accordance with the FLPMA, the BLM must "prepare and maintain on a continuing basis an inventory of all public lands and their resources and values," giving priority to areas of critical environmental concern. 43 U.S.C. § 1711 (a); see also State of Utah v. Babbitt, 137 F.3d 1193 (10th Cir. 1998). "This inventory shall be kept current so as to reflect changes in condition and to identify new and emerging resource and other values." 43 U.S.C. § 1711(a). As set forth above, the BLM has failed to maintain or provide the necessary data on current population numbers or trends for many of the sensitive, rare, threatened and endangered species in the district including, but not limited to, the southwestern willow flycatcher, the desert tortoise, and many unique endemic species of the district. BLM's failure to do so not only renders its NEPA analysis inadequate but also renders the proposed RMP/EIS unlawful as it violates FLPMA..

N18-39

3. THE RMP/EIS VIOLATES EXECUTIVE ORDERS 11644 AND 11989

Executive Orders 11644 and 11989 give direction to federal agencies for managing OHV on the lands for which they are responsible by requiring that the agencies minimize the impacts of OHVs on wildlife, vegetation, cultural resources, and other uses. The BLM has implemented the requirements of these executive orders in its regulations. Under 43 CFR § 8341.2(a), the BLM must close areas to OHVs where the officer determines that OHVs are causing or will cause negative impacts to threatened or endangered species. Because the proposed action fails to minimize the impacts of OHVs on wildlife and vegetation, the proposed RMP violates the aforementioned executive orders. For example, the proposed action will allow many ongoing adverse impacts to the desert tortoise and destruction or adverse modification of its critical habitat to continue. For this reason alone, the proposed RMP is unlawful.

N18-40

Responses to Letter N18

N18-38 The Proposed RMP and Final EIS fulfills all requirements under NEPA and FLPMA. Project-specific EAs and EISs would be prepared for projects that would be implemented under the plan, as appropriate.

N18-39 Please refer to Response to Comment N18-6. The Proposed RMP and Final EIS fulfills all requirements under NEPA and FLPMA.

N18-40 Please refer to Response to Comment N18-37 for a discussion of motorized recreation. Protection of the desert tortoise and its habitat will be in compliance with the Biological Opinion prepared by the US Fish and Wildlife Service; in compliance with Section 7 of the Endangered Species Act.

Letter N18 Continued

4. **THE PROPOSED PLAN VIOLATES THE FEDERAL ENDANGERED SPECIES ACT**

Pursuant to ESA Section 7(a)(1) federal agencies have an affirmative duty to conserve endangered and threatened species occurring within their jurisdiction. ESA Section 7 (a)(2) and its implementing regulations require federal agencies to insure that any action they take is not likely to jeopardize the continued existence of adversely modify the critical habitat of any listed species. The ESA further requires that any action that may affect listed species must be made in consultation with the U.S. Fish and Wildlife Service.

N18-41 The RMP has failed to comply with its legal duties to conserve the listed species that are under BLM's control. In addition, the RMP fails to acknowledge the impact of proposed actions that may jeopardize a species ability to survive or negatively affect the habitat of effected species.

N18-42 As discussed above, the RMP's discussion of the pipeline proposal, recreation permits, and mining plans show that these projects are likely to jeopardize the existence of listed species and adversely affect their habitat. As many of the covered species are only briefly discussed in the RMP/EIS, with little or no information on the populations of these animals or how they will be affected, it is impossible to determine how the proposed actions will affect these species. The BLM cannot demonstrate that the proposed management will fulfill the requirement that it protect endangered species based on an RMP/EIS that is incomplete, and that proposes several actions that would adversely affect the species.

5. **CONCLUSION**

N18-43 As detailed above, the Center believes that the proposed RMP and the draft EIS are inadequate and unlawful because the RMP/EIS fails to provide the information and analysis required by NEPA, fails to comply with the mandates of FLPMA, and fails to ensure compliance with the ESA. The Center looks forward to receiving a final RMP/EIS that adequately address the issues raised in this letter. Thank you for your consideration of these comments.

Thank you for your consideration of these comments. **Please send all future notices, documents, and correspondence regarding this matter to my attention at Center for Biological Diversity, 1095 Market Street, Suite 511, San Francisco, CA 94103.**

Sincerely,

/s/ Lisa T. Belenky

Lisa Belenky
Staff Attorney

Responses to Letter N18

N18-41 In response to your comment, the text in Section 4.7 of the Proposed RMP and Final EIS has been modified to more clearly present the impacts of the proposed management actions on listed species. The U.S. Fish and Wildlife Service will make the determinations of whether any listed species would be negatively affected or jeopardized, and these determinations will be documented in the Biological Opinion issued for the Proposed RMP.

N18-42 Please refer to Section 4.29 and Appendix F, Section 2, in the Proposed RMP and Final EIS for a discussion of mitigation and monitoring for special status species. The management actions contained in the Proposed RMP and future projects for which approval may be requested will be reviewed in cooperation with the USFWS through Section 7 consultation during NEPA analysis to ensure that no listed species are jeopardized.

N18-43 Please refer to Response to Comment N18-3 for a discussion of compliance with NEPA, FLPMA, and ESA.

Letter N19

JAN-23-2006 08:16 BUREAU OF LAND MANAGEMENT 775 289 1910 P.02

Mojave-Southern Great Basin
Resource Advisory Council
Steve Mellington, Chair

N19a

November 21, 2005

Bureau of Land Management (BLM) Ely Field Office
Gene Kolkman, Field Manager
Draft Resource Management Plan
702 N. Industrial Way
HC 33 Box 33500
Ely, Nevada 89301

Dear Mr. Kolkman:

The Mojave-Southern Great Basin Resource Advisory Council (RAC) appreciates the opportunity to comment on the proposed BLM Ely Field Office Draft Resource Management Plan. We are committed to providing the best possible advice and counsel to BLM in managing the natural resources throughout Southern Nevada.

As a group, we have thoroughly reviewed the RMP and are generally supportive of the proposed draft plan, which focuses on ecosystem health; however, we have specific concerns detailed in this letter as follows:

N19-1 Water Resources: We do understand that it would be difficult and maybe impossible to address every impact in this plan, but as written it does not clearly or adequately deal with groundwater issues. The RMP-EIS lists data from the Nevada State Water Engineer on perennial yield and granted water rights and states that there will be little drawdown of the water table from pumping the perennial yield. Abundant data from around the West suggest that prolonged pumping of the theoretical perennial yield will dry up most springs in the pumped basin. Since groundwater pumping may be one of the biggest issues facing the Ely BLM District in the next two decades the subject should either be dealt with in this document or the reader referred to future documents that will be forthcoming.

N19-2 Vehicle Management: The RAC supports the proposal to limit OHV travel to designated roads and trails but finds the document to be confusing and inconsistent with regard to this very important management issue. For example, on page 4.8-14 under Travel Management and OHV use, the document refers to four of six areas as open. This needs explanation, because the term "open" appears to be misused here. Also, the document does not clearly articulate the timing and process for how to implement the proposed Plan with regard to vehicle management. We suggest that BLM needs to provide criteria for

N19-3 how Off Highway Vehicle (OHV) (including motorcycle and truck race areas) use emphasis areas are designated by alternatives. Specifically, the Plan should discuss in more detail the rationale for designation of OHV emphasis areas in the preferred

Responses to Letter N19

N19-1 The text in Sections 3.3.1 and 3.3.2 has been modified to address this and other comments related to perennial yield and other water projects. The perennial yield (also known as "safe yield") is an estimate developed by the Nevada Department of Water Resources, Office of the State Engineer, largely for the purpose of ascertaining sustainable levels of groundwater development. Therefore, the meaning of the sentence referring to Table 3.3-1 is correct. The description of groundwater trends in Section 3.3.2 has been expanded to identify other major water development projects.

N19-2 In response to your comment, the text in Section 4.8 Wild Horses (Proposed RMP, Travel Management) of the Proposed RMP and Final EIS has been revised to clarify that these are off-highway vehicle emphasis areas, not open areas.

N19-3 In response to your comment, the text in section 2.4.15.2 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of off-highway vehicle emphasis areas.

Letter N19 Continued

N19-3 alternative and how the effects upon wildlife and other multiple uses will be mitigated. For example, the Egan Crest OHV use area has a particularly high concentration of springs, and is an important wildlife winter range and migratory pathway.

N19-4 Invasive Plants: This document does not espouse a proactive approach to dealing with invasive plant species as far as we can determine. It would seem to us that dealing with new invasive plants should be a priority since prevention is dramatically cheaper and better than trying to eradicate established populations. It might make good sense to include dealing with invasive plants as part of the section on vegetation rather than just a section on the affected environment.

N19-5 Management Direction of the Plan: We find that the overarching theme is appropriate but several sections of this part of the plan are not supportable. For example in section 2.5.5.7 (Parameter- Mojave Desert Vegetation) Alternatives A and E are the same and state that livestock grazing would be the tool used to achieve management objectives. Since most of the Mojave in the Ely District is either desert tortoise ACEC with no grazing, or has recently burned, it is difficult to see how grazing will lead to a healthy ecosystem. We find that it is simply a description of the current management practices that have led to the deteriorated condition that exists today. Additionally, the changes noted in the Errata sheet in the draft Plan do not always carry forward to other sections and tables. An example is section 2.5.5.3 (High Elevation Conifer Species). Additionally, the meaning of the term "geographically diverse", which appears in the second sentence of the first paragraph of the RMP Management Focus box (scattered throughout chapter 1 and 2) is not clear to us. Do ecosystems have to cover large geographic areas or a range of elevations to be healthy?

N19-6

N19-7

N19-8 Wild Horses: We support the preferred alternative.

N19-9 Cultural: Generally we are in favor of the Proposed Plan; however, we suggest that in section 4.10-1 "Promote" Public use of fossils should be changed to "allow," because "promoting" the use of a non renewable resource will lead to the elimination of the resource. For example, promoting the use of fossils means collecting. On page 2.5-86, the section on the criteria for establishing fee sites should clarify the number of fee sites actually being proposed or eliminate the section. Additionally, we noticed there are cultural resources laws and executive orders that are not mentioned in the Plan.

N19-10

N19-11

N19-12 Maps: The following bullets detail the RAC concerns about maps in the document.

- Many are not useful because of the scale— for example 2-4-25.
- Pick something that is consistent for user friendliness—for example, shading, scale, size (at least 11x17).
- All maps in this document should be readable. An example of a map which is not readable is Map 2.4-24 Potential Wind Development Areas. Black on gray does not provide good contrast to see narrow ridge tops.
- Check for readability when using black and white maps which originally may have had more colors.

Responses to Letter N19

N19-4 Please refer to the revised text for vegetation in Section 2.5.5 of the Proposed RMP and Final EIS for the desired range of conditions that are showing altered states with annual invasive or noxious weeds. Each vegetation community contains proposed management actions related to weeds.

N19-5 In response to recently altered environmental conditions within the Mojave Desert (fire in 2005) and the comments received on the Draft RMP and EIS, text sections related to the Mojave Desert vegetation and desert tortoise habitat in Chapters 2, 3, and 4 have been revised. Please refer to these assorted sections in the Proposed RMP and Final EIS for clarification regarding proposed management of the Mojave Desert ecosystem and impact analyses related to the desert tortoise.

N19-6 Modifications identified in the Errata Sheet have been tracked through the Proposed RMP and Final EIS.

N19-7 Ecological systems within the Ely RMP planning area may cover large or small geographical areas, such as pinyon-juniper woodlands and aspen woodlands respectively. The Ely RMP Management Focus indicates that a healthy ecological system would display vegetation diversity across its geographical range.

N19-8 Comment noted.

N19-9 In response to your comment, the text in Section 4.10 of the Proposed RMP and Final EIS has been revised to clarify the discussion of common invertebrate fossil collecting. Use of fossil sites will be limited if monitoring of a site shows a need to protect the resource.

N19-10 The number of fee sites that could be established during the life of the plan can not be determined at this time.

N19-11 It was not the Ely Field Office's intention to include references to all laws and regulations that apply to all resource programs in the Ely RMP.

N19-12 During preparation of the Draft RMP and EIS, the decision was made to use an 11"X17" page format for the largest maps and to use the black and white format. Given that the District is 11.5 million acres in size (about 230 miles by 115 miles), the scale of the maps at the selected page format is small. To keep the maps as legible as possible, extra background material such as topography and roads was included only when it would not obscure the primary information being presented. Maps have been revised where possible in the Proposed RMP and Final EIS to enhance legibility and user friendliness.

Letter N19 Continued

N19-12
- All maps should convey some information. For example, Map 3.1.1 Egan Basin Watershed soil units is not very useful.
- Map 3.3-1, Springs and Perennial Streams needs topographic features.
- All the maps should be the same size.
- Blow ups should be used consistently to identify specific areas. Map 2.4-15 is mostly blank white paper.

N19-13 In conclusion, we are very concerned with the lack cohesiveness of the proposed Plan, because of the inconsistencies and frequent lack of clarity. Not surprisingly, it appears to have been written by different people or groups. While reading the document, it became clear to the group that it is difficult to read—mostly because of the flow. Overall, the document needs consistent editing and cross referencing. Also, there are inconsistencies

N19-14 in the presentation and description of the impacts between the different resources, and there are numerous discrepancies between the alternatives and sections so that the document is not internally consistent.

N19-15 We suggest that the document should contain names for the alternatives rather than letter designations as it would be helpful to understand what they mean. It is difficult for the casual reader to understand the "big blocks" for each alternative. Most people will first

N19-16 read the summary; therefore, it is very likely that if it is clearly and concisely written the BLM will gain more support for the proposed Plan. For example, the preferred alternative should be presented first; although, we are aware that the BLM has been criticized in the past for presenting the preferred alternative first in other cases.

N19-17 The plan should be clear about what "criteria" the BLM uses to judge the items in the Plan, because the word is used throughout, but it is not explained. There is little

N19-18 discussion of how various actions will be implemented. Additionally, the Plan as written does not clearly address how the success of the Plan will be measured. For example, there are no criteria for measuring the success or failure of actions taken. Finally, the

N19-19 monitoring sections of the Plan seem to be more proforma rather than addressing the parameters that will be measured and what actions will be taken based on monitoring data. Monitoring is just one part of adaptive management; it is not an end in itself.

Thank you for the opportunity to comment on the draft RMP. The RAC is available and willing to assist the Ely Field Office and the BLM in working to make this RMP a success. We applaud BLM's efforts to provide for the collaborative management of our valuable natural resources. If you have any questions regarding the comments of the RAC, please contact Steve Mellington, RAC Chairperson at 702-295-2123. RAC members may provide additional comments on an individual basis.

Sincerely,

Steve Mellington
Mojave-Southern RAC Chairperson

Responses to Letter N19

N19-13 The format for the Draft RMP and EIS was developed to meet CEQ requirements for EISs, BLM Land Use Planning Handbook guidelines for RMPs, and the Ely Field Office's need to have the RMP organized by resource program. Consistency concerns were raised by a number of commenters. Chapters 2 and 4 in the Proposed RMP and Final EIS, in particular, have been revised to correct inconsistencies among resource programs.

N19-14 Please refer to Response to Comment N19-13.

N19-15 In preparing the Draft RMP and EIS, BLM discussed naming the alternatives, but decided against this format. The themes of each alternative are described in the summary paragraphs found at the beginning of each section describing the alternative of the Proposed RMP and Final EIS.

N19-16 In response to your comment, the Summary in the Proposed RMP and Final EIS has been revised to more closely follow Council on Environmental Quality regulations for content. This change resulted in a reduced length for the Summary, which should improve its effectiveness. In the Proposed RMP and Final EIS, the Proposed RMP is presented first, followed by Alternatives A, B, C, and D.

N19-17 The management actions that are presented in the Proposed RMP were developed through consideration of the planning criteria presented in Section 1.5 of the Draft RMP and EIS and Proposed RMP and Final EIS, public scoping comments presented in Section 1.6, BLM policy especially as presented in the Land Use Planning Handbook, the professional judgment of the staff in the Ely Field Office, and comments from a wide array of users of the Ely RMP planning area. Chapter 2 in the Proposed RMP and Final EIS has been revised to more clearly present the management actions that would apply to each resource program.

N19-18 Please refer to Section 2.3.3.5 and Section 2.4.23 in the Proposed RMP and Final EIS for a discussion of monitoring, which will be used to assess the success of management actions implemented in the future.

N19-19 In response to your comment, the text in Section 2.3.3.5 and Section 2.4.23 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of monitoring at the level of detail required in the RMP. The monitoring section of the RMP is intended as an overview, and is not intended to provide the level of detail that will be included in subsequent monitoring plans.

Letter N20

October 18, 2005

Gene Drais
Ely RMP Manager
702 N. Industrial Way
HC33 Box 33500
Ely, NV 89301-9408

Dear Mr. Drais,

N20-1 I am very concerned about the failure of the Ely BLM to provide adequate detail and corrections to the public that would provide meaningful understanding of proposed actions, alternatives, and analyses in the Draft RMP. During our phone conversation today, you said that despite our previous request, you would not reprint the DRMP pages containing the hundreds of RMP errata.

N20-2 Additionally, I had asked about more detailed maps in a phone message. You said no more detailed maps were available on either the BLM or your contractor's website, as both could not be accessed --- due to BLM's continued troubles over Indian Trust funds. I had suggested that perhaps posting maps with more detailed information overlaid - such as basic drainage or other features - would greatly enhance reader understanding and comprehension of the DRMP. This is especially feasible and can be readily accomplished in the days of GIS map overlays.

N20-3 You stated that more detail was not possible, as the RMP area covered nearly 12 million acres. Our response is that this is precisely why better maps and utmost clarity on proposed actions are necessary. The Decisions that will flow from the RMP will affect vast acreages of important public lands for decades. Very complicated and complex resource extraction or habitat alteration proposals are involved in the RMP and other actions currently underway on these and neighboring public lands, and clear public understanding of constraints, allocations, etc. is essential.

We have additional concerns that will be sent to you later.

Please incorporate this letter as part of WWP comments on this DRMP.

Thank you,

Katie Fite
Western Watersheds Project
PO Box 2863
Boise, ID 83701
kfite@juno.com

Responses to Letter N20

N20-1 Copies of the errata for the Draft RMP/EIS are available to the public at libraries and BLM offices within the planning area, and have been distributed to parties receiving the Draft document. The Ely Field Office did not deem it necessary to reprint the Draft RMP/EIS. The electronic version of the document contained on the compact disc provided to you did not contain the printing errors on the printed version that are addressed on the errata sheet.

N20-2 More detailed printed or electronic maps are not available. Mapping was done for most resources at a planning area-wide scale and can not be transferred accurately to a more detailed base map, such as a USGS 7.5-minute topographic map. Using an alternative web site would have violated the court order in effect at the time of your request.

N20-3 The Draft and Proposed RMPs are programmatic documents to guide the future management actions of the Ely Field Office. Mapping at the level of detail suggested in this comment is not consistent with the stated goals of the RMP, and would suggest analysis at a greater level of detail than occurs at the programmatic level. The mapping scale is appropriate for the resource allocations being made in the Proposed RMP. Maps have been revised where possible in the Proposed RMP and Final EIS to enhance legibility and user friendliness. Detail mapping will be prepared for the planning, analysis, and review of site-specific projects.

Letter N21

October 18, 2005

Gene Drais
Ely RMP Manager
702 N. Industrial Way
HC33 Box 33500
Ely, NV 89301-9408

Dear Mr. Drais,

I am very concerned about the failure of Ely BLM to provide adequate detail and corrections to the public that would provide meaningful understanding of proposed actions, alternatives, and analyses in the Draft RMP.

N21-1 During our phone conversation today, you said that despite our previous request, you would not reprint the DRMP pages containing the hundreds of RMP errata.

N21-2 Additionally, I had asked about more detailed maps in a phone message. You said no more detailed maps were available for public review, and that no maps or any information were available on either the BLM or your contractor's Website, as both could not be accessed --- due to BLM's continued troubles over Indian Trust funds. I had suggested that perhaps posting maps with more detailed information overlaid – such as basic drainage or other features – would greatly enhance reader understanding and comprehension of the DRMP. This is especially feasible and can be readily accomplished in the days of GIS map overlays.

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We have additional concerns that will be sent to you later.

Please incorporate this letter as part of WWP comments on this DRMP.

Thank you,

Katie Fite
Western Watersheds Project
PO Box 2863
Boise, ID 83701
kfite@juno.com

gen_drai

Responses to Letter N21

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N21-2 The Draft and Proposed RMPs are programmatic documents to guide the future management actions of the Ely Field Office. Mapping at the level of detail suggested in this comment is not consistent with the stated goals of the RMP, and would suggest analysis at a greater level of detail than occurs at the programmatic level. The mapping scale is appropriate for the resource allocations being made in the Proposed RMP. Maps have been revised where possible in the Proposed RMPand Final EIS to enhance legibility and user friendliness. Detail mapping will be prepared for the planning, analysis, and review of site-specific projects.

Public Meeting Transcript PM1

1 PUBLIC MEETING ON THE ELY DRAFT RMP/EIS
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REPORTER'S TRANSCRIPT OF PROCEEDINGS
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11 OCTOBER 18, 2005
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CALIENTE, NEVADA
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24 Reported by: CINDY R. BOWDEN, NV CCR #815
CA CSR #12962
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Transcript PM1 Continued

1 MEETING OF THE ELY DRAFT RMP/EIS,
2 taken at 288 Lincoln Street, Caliente, Nevada, on
3 Tuesday, October 18, 2005, at 6:28 p.m., before Cindy R.
4 Bowden, Certified Court Reporter, in and for the State
5 of Nevada.
6
7 APPEARANCES:
8
9 For the BLM:
10 GENE DRAIS
JAKE RAJALA
11
For the ENSR:
12
RUSS MOORE
13 DEBBY SEHI
MIKE BAUGHMAN, MODERATOR
14
15 Also Present:
16 BOB WILSON
RORY LAMP
17 JACK CLIFTON
GEORGE T. (TOMMY) ROWE
18 RONDA HORNBECK
19
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CALIENTE, NEVADA, TUESDAY, OCTOBER 18, 2005;
6:28 P.M.
-oOo-

MR. DRAIS: Good evening, Jack and Tommy. I'm glad you're here. I'm Gene Drais, the acting associate field manager for the Union District BLM. We're here tonight for one purpose and one purpose only and that is to hear from the public with the comments concerning the draft resource plan that is out for public review until November 28th.

I'd just like to have you -- I'm going to introduce you to the people here. You probably know them all anyway. I'll start with Rick Org (phonetic), field presentation manager of BLM. Jake Rajala, planning environmental coordinator. Chris Hanefeld, our public affairs officer. This is Bruce Flynn, the project manager for the resource management plan. We have our consultants from ENSR, Russ Moore, Debby Sehi. The moderator for tonight is Mike Baughman and Cindy. I don't know Cindy's last name. And we also have Rory Lamp from the Department of Wildlife.

With that, Mike, go ahead.

MR. BAUGHMAN: Thank you, Gene. Well, we are going to be pretty informal tonight because, obviously, we don't have a lot of folks here this

Transcript PM1 Continued

evening to provide comments to us. This is a chance for members of the public, elected officials, members of the public and others to provide formal comments -- to get those comments on the written record as input to the RMP/EIS process.

And this -- it really isn't an intended to be an opportunity to ask questions of the staff. It's really an opportunity to provide comments, to get those on the record so that they might make -- so I guess what I would just recommend -- we have the final RMP and the final EIS. We have one person signed up, it is the Chairman of the Lincoln County Commission, Tommy Rowe. And I guess that, Tommy, we would just encourage you -- I guess you did intend to make some formal comments for the record and I would just ask you to go ahead and do that.

You could do it sitting if you'd like. You can come up front, wherever you feel comfortable. It is important, though, for Cindy's perspective because we don't have any microphones -- that -- you know, you probably speak slower than I do which I tend to speak too fast. And just so she can hear you.

Other than that, Tommy, you've got the floor and we really look forward to hearing from you.

MR. ROWE: Okay. I don't have any written

Transcript PM1 Continued

1 comments or anything planned. I just wanted to make a
2 couple of statements in regards to my feelings and some
3 of the feelings of a lot of the citizens of Lincoln
4 County.
5 Years ago when they closed off all of our
6 lands, most all of it to wilderness, study areas that
7 kept us out of a lot of areas. Now, these areas -- most
8 of them have been turned into wilderness and so we are
9 out for good for those places. The stress that they're
10 putting on the riparian areas -- we can't go into these
11 areas with -- I believe we're talking about
12 four-wheelers and off-road vehicles, this type of stuff.
13 We've got a lot of territory that's areas of
14 critical habitat for the desert tortoise. They don't
PM1-1 15 want us busting through that stuff on four-wheelers.
16 And from what I understand, we're going to be restricted
17 to the rest of the areas for trails and roads. We won't
18 be able to go cross-country to pick up a deer, to go
19 cross-country looking for a deer or anything else in the
20 small areas that we do have left and I just like to
21 encourage the BLM to give us some leeway there so that
22 the citizens of Lincoln County won't feel that big
23 brother has got a lock on us on everything we do.
24 That's the point that I wanted to get to everybody
25 today.

Responses to Comments

PM1-1 The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. Areas are designated as "open" for cross country vehicle use where there are no compelling resource protection needs, user conflicts, or public safety issues. No areas managed by the Ely Field Office were determined to meet those criteria. The Ely Field Office is designating a majority of the planning area as "limited" in the Proposed RMP. The "limited" designation would still provide for off-highway vehicle opportunities, including potential new off-highway vehicle trails, while managing for public safety and resource protection needs. The only areas designated as "closed" to off-highway vehicle travel correspond to currently designated wilderness and wilderness study areas. In response to this and similar comments, the management action in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to allow the retrieval of big game.

Transcript PM1 Continued

1 MR. BAUGHMAN: Thank you, Mr. Commissioner.
2 Does the staff have any questions for Commissioner Rowe
3 to make sure we understand his comments? We really
4 appreciate those. Any questions by staff of the
5 Commissioner?
6 MR. DRAIS: I think I do have a clarifying
7 question. You mentioned riparian areas, did you mean by
8 that -- are you concerned with the riparian areas being
9 used by OHV users?
10 MR. ROWE: No. I'm just concerned about the
11 city which has been fenced off which is good.
12 MR. DRAIS: Okay.
13 MR. ROWE: We don't want to tear them up.
14 If fencing them is the only way you can preserve them,
PM1-2 15 then that's probably going to be what's necessary, but
16 I'm just talking about more land that we're restricted
17 for.
18 MR. DRAIS: I see. You mean, always be
19 users?
20 MR. ROWE: Right.
21 MR. DRAIS: Okay.
22 MR. BAUGHMAN: Okay. Any other questions by
23 BLM staff? Okay. That will conclude our comments from
24 Commissioner Rowe. Thank you, Tommy.
25 MR. DRAIS: And I want to make it clear to

Responses to Comments

PM1-2 Comment noted.

Transcript PM1 Continued

you, you can still send in written comments.

MR. ROWE: Sure. Right.

MR. DRAIS: And we encourage you to do that.

MR. BAUGHMAN: Right.

MR. ROWE: If you were going to advertise that you were going to have refreshments, then you would have had a bigger crowd.

MR. BAUGHMAN: Jack, let me just check to be sure, would you like to make any comments, offer any comments on the RMP for the record or would you just prefer to do those in writing when you get a chance?

MR. CLIFTON: I got to do those in writing. I think that I was on some of the committees to look at the wilderness study areas and it's proved to be quiet or something. It seems to me like we have an awful lot of wilderness areas in this county now. And we had to study areas before and it almost seems like it was overwhelming with the population and the people who would want to use this. This is boat, hunting, RVs and everything which I do understand too about the desert tortoise and how important that is to -- specially to the southern part of the state.

PM1-3

And so we're coming to a conclusion now that the wilderness areas are pretty well established now and so I do encourage the management areas to be judiciously

Responses to Comments

PM1-3 Comment noted.

Transcript PM1 Continued

PM1-3

done in such a way that everybody be a benefit to it.

MR. BAUGHMAN: Okay. Great. Thank you. Any questions by staff of Jack and his comments? Okay.

Well, we don't have any other members of the public or elected officials here that I recognize. And so I guess at this point, Gene, I would recommend that we kind of close at least for the time being, the formal part of the hearing so if Commissioner Rowe needs to take off or Jack.

We'll probably stick around for a little while in case some other members of the public show up.

MR. ROWE: I would like to make one more comment.

MR. BAUGHMAN: Okay.

PM1-4

MR. ROWE: At the last couple of commissioner meetings, we have had an item on the agenda for -- and this is the wind generators for Mt. Wilson and Table Mountain and the County Commission. It's completely against these wind generators there. These two mountaintops were spared from being wilderness. We fought to get a lot of this stuff out of the wilderness and they just gave up and said we're taking these out of there. And we had no reason why they did this and now they're wanting to put up wind generators up there.

We are certainly for alternate means of

Responses to Comments

PM1-4 Applications received for wind energy development would be subject to NEPA analysis in coordination with local, state, and other federal agencies. Impacts to visual resources and recreation would be analyzed. Please also refer to Appendix F, Section 2, in the Proposed RMP and Final EIS for the BLM Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS.

Transcript PM1 Continued

PM1-4

electrical power, but Table Mountain and Mt. Wilson are not the mountains for that in our area. These are mountains that are with these wind generators. We can clear out all the vegetation on it and we'll put up heavy truckloads, heavy truck routes into the areas and it would be if you would mess up an area that it's critical to the areas that we want for hunting and for our solitude up there without being in the wilderness area.

MR. BAUGHMAN: Okay. Thank you. Well, we will table for the time being, the formal part of the meeting. And we'll go off the record if that would be okay and then we'll certainly go around to chat and visit. And we'll see if other members of the public show up here for a little while.

So thank you both very much for your comments.

(Whereupon, the proceedings concluded at 6:37 p.m.)

Transcript PM1 Continued

CERTIFICATE OF REPORTER

STATE OF NEVADA)
) ss:
COUNTY OF CLARK)

I, Cindy R. Bowden, a duly commissioned Notary Public, Clark County, State of Nevada, do hereby certify that I took down in shorthand (Stenotype) all of the proceedings had in the before-entitled matter at the time and place indicated; and that thereafter said shorthand notes were transcribed into typewriting at and under my direction and supervision and the foregoing transcript constitutes a full, true and accurate record of the proceedings had.

IN WITNESS WHEREOF, I have set my hand in my office in the County of Clark, State of Nevada, this 2nd day of November, 2005.

CR Bowden CRB

CINDY R. BOWDEN, CCR #815

Public Meeting Transcript PM2

PUBLIC MEETING ON THE ELY DRAFT RMP/EIS

COPY

REPORTER'S TRANSCRIPT OF PROCEEDINGS

OCTOBER 19, 2005

MESQUITE, NEVADA

Reported by: CINDY R. BOWDEN, NV CCR #815
CA CSR #12962

Transcript PM2 Continued

MEETING OF THE ELY DRAFT RMP/EIS, taken at 150 North Yucca, Mesquite, Nevada, on Wednesday, October 19, 2005, at 6:16 p.m., before Cindy R. Bowden, Certified Court Reporter, in and for the State of Nevada.

APPEARANCES:

For the BLM:

GENE DRAIS
JAKE RAJALA

For the ENSR:

RUSS MOORE
DEBBY SEHI
MIKE BAUGHMAN, MODERATOR

Also Present:

DON CLAY
SHANE LEAVITT
SHIRLEY TAYLOR
JIM OWENS
NANCY HALL
FRED JOHNSON
JAN JOHNSON
ELISE MCALLISTER

Transcript PM2 Continued

MESQUITE, NEVADA, WEDNESDAY, OCTOBER 19, 2005;
6:16 P.M.
-oOo-

MR. DRAIS: Good evening. My name is Gene Drais. I'm the acting association field manager for the Bureau of Land Management of Indian Affairs, Nevada. We're glad you came tonight. We have one purpose and one purpose in mind and the only purpose we have tonight is to receive public comment on the draft resource management plan for the Ely District for the BLM.

The document has been out for review since about July 29th and review goes through November 28th. And tonight Mike Baughman will be facilitating the meeting. I'd like to introduce the rest of the personnel that is here. The other bureau employee is Jake Rajala in the back. He is the planning and environmental coordinator for the Bureau -- of BLM District. The project manager is Bruce Flynn. The consultant that is working with the Bureau on this project of the folks from ENSR Inc. out of Fort Collins, Colorado. We have Russ Moore and Debby Sehi. And a subcontractor for ENSR is Mike Baughman, he is going to facilitate the meeting tonight, and Cindy is the court recorder.

So with that -- with that introduction, I'll

Transcript PM2 Continued

turn the time over to Mike.

MR. BAUGHMAN: Thanks, Gene. Tonight just to make clear for everybody that there is no formal presentation other than what we're doing right now in terms of that kind of going over the process. This is really your opportunity to share with us on the record any comments you have at this point concerning the draft Ely RMP and the EIS.

We recognize that you may have not seen it yet, and you may just picked it up tonight. You may have to go home and study it some. And that's hopefully why you have until November 28th, gives you an opportunity if you elect to submit written comments. You certainly may feel free to do that.

Alternatively, if you want to provide us written comments tonight and you prefer not to speak in public or to go on the record, but you would like to provide us with some written comments, there is a comment form in the back there. You can certainly take this home and fill it out, mail it into the Bureau. It's got the address on it. It's all set to go. You can add additional sheets if you like. You can type up a letter and throw this away and keep the address. It's your call. And you can certainly leave those with us tonight if you like or to mail them in.

Transcript PM2 Continued

If you do elect at some point after maybe hearing another person speak or you have already decided that you would like to speak, we would ask you to just fill this card out so that we know -- and particularly for our court reporter who offered the comments and we can make sure that in the administrative record that you're included there. And it also allows for, subsequently, for you to be made aware of documents and things of that nature, because you took the time and expressed an interest in this project to actually share some comments with us on this draft document.

As there are some ground rules -- although for a group this small, the ground rules probably -- they still apply. But we're not going to belabor them. But, obviously, again, this is a chance for you to provide comments to us. We're not really engaging in any dialogue on the plan at this point. We are not really here to answer any questions. There are some staff here. But during this part while we're on the formal record, it's simply for you to tell us if you have any specific comments or recommendations with regards to this plan, and those will be captured in the public records.

I would ask that if you have a cell phone that we turn that off. If we do have a person speaking

Transcript PM2 Continued

that we -- you know, respect that person while they are speaking and not interrupt or, you know, throw stuff over at them or clap or that sort of thing. And that's not been a problem at any place we have been.

But you know, we would just encourage to respect them. We ask you to speak slowly and clearly because we do have a court reporter and she's very good, by the way. It's remarkable what this lady captures. But nonetheless, we do have to speak fairly slow and clearly. We do not have a PA system, so I encourage you to do that. You can speak from where you are. She is here and I think that works pretty well, Cindy, if they just speak that way.

So I think without further ado, we will open the public comment part of this meeting tonight for the record and I will have to indicate to you that at this point, I have one person who has actually signed up to make an -- offer any formal comments for the record. So, again, if any of the others would like to do that, please fill out this card and make sure that I get that and then we'll have you go next.

Without further ado, I would ask that Jim Owens who is with -- he is the owner of Owen Survey Outfit. And, Jim, you're the person who signed up so far. So if you would like to address the group and

Transcript PM2 Continued

basically make sure the court reporter captures your comments with regards to the ERMP, we sure would love to hear what you have to say.

MR. OWENS: Sure. I've had the opportunity to go through each of these and I've been in the wilderness areas and the rural areas surveying for Rancher's Mining Company since 1958 throughout the Eastern United States. And during the process, I saw a lot of terrain that was -- how do you put it -- desecrated by mining industry and by overgrazing. But that was based off of World War II. That was to obtain the minerals to defend ourselves. And I've seen a few of the streams in Colorado that had to be, oh, purified so to speak by taking the mineral dumps away from the area making parks out of them which is true around the Climax, Colorado area.

And I see in our -- getting back to our immediate area here, there's not a part of this area that I haven't driven or walked or surveyed, and a lot of it's pristine, simply because nobody goes in there. There's really no reason for a lot of people to go there because it's hard to get to. When you get there, you're nowhere anywhere. There is nothing to see in most of the places. There's not a lot of wildlife.

By wildlife, I mean large wildlife, large

Transcript PM2 Continued

game, lot of birds, though, lot of birds, lot of rabbits. And there's a lot of natural cover except when the wildfires hit and we've seen the devastation of the wildfires and what they have done to the area. I've been out and driven over most of the wildfire areas and have seen what few animals repopulate those areas because there's no cover for them.

PM2-1 And I'd like to address in particular the ACEC areas because of the inherent restrictions they put upon an industry that's so viable for the freedom of this country, and that's the mining industry. I'd like to see the ACEC revisited and all the biominerals for growth in the county in this area and also for our nation be revisited and re-evaluated that are within the ACECs and that are also anticipated within the other 18 to 20 other ACECs, because you never know when a lot of these commodities are going to be necessary to defend ourselves. What being used to know with we have tremendous resources that are within this area that are virtually untapped.

The reason they're untapped is because years ago they weren't high grade enough to make it economically feasible. Whereas in today's market that's not so. And also the -- you're grazing land -- see that there is a lot of areas that's affected in the grazing

Responses to Comments

PM2-1 The Nevada BLM designates ACECs to highlight areas where special management attention is needed to protect and prevent irreparable damage to: important historic, cultural, and scenic values; fish or wildlife resources; or other natural systems or processes; or to protect human life and safety from natural hazards. The Proposed RMP proposes the designation of 17 new and 3 existing ACECs for a variety of resources. Approximately 317,800 acres are encompassed with proposed ACECs, about 2.8 percent of the decision area. Please refer to Tables 2.4.27 and 2.4.28 in Section 2.4.22.1 in the Proposed RMP and Final EIS for identification of those ACECs that are closed or proposed for closure to solid leasable, locatable, and mineral materials development. The boundaries of all ACECs proposed in the Proposed RMP were closely reviewed and adjusted to ensure sufficient special management requirements can be met for the relevant and important resources of those areas, while considering other uses of public lands including mineral extraction. Where possible, township and range lines were utilized to more effectively describe legal boundaries.

Transcript PM2 Continued

to where the cows are no longer on the area but was amazing how many turtles were in the area and how healthy the turtles were because the cows were there, because the turtles eat the cows' droppings. And I see turtles all over the place in the lower areas, but in the upper reaches, at certain elevations, there are no turtles.

And there are no turtles where there's been burned and there's no reason for the turtles -- and if there were, there's no reason for the turtles to go back in because they have no vegetation. There's nothing to eat. And actually the -- what I have witnessed, I witnessed many times crows eating turtles. That's your biggest killer of turtles right there. In the entire wild area, there's nothing that kills turtles more than crows and some coyotes too, they get pretty wild, they like turtle meat.

But by in large, if you were to -- I know that the staff is small and your staff is small and I know that you have certain guidelines that you're trying to adhere to protect the health, safety, and the welfare of the people that live in the area, but you need to consider your impact for the future, not in my life, but in my grandchildren's life of what they can and can't do.

PM2-2

Responses to Comments

PM2-2 In response to your comment, the text in Section 2.4.7.5 of the Proposed RMP and Final EIS has been expanded to clarify how the Ely Field Office will manage desert tortoise habitat, including a program to control desert tortoise predators, in coordination with the U.S. Fish and Wildlife Service, Nevada Department of Wildlife, and the U.S. Department of Agriculture-Wildlife Services.

Transcript PM2 Continued

PM2-3

There's people that need to go out with an ATV to go out and see a pristine area that they can't get to any other way. You can't close off all these areas because there is people that are paraplegics. There are people that can't walk. There are many people that are past 60 years old that would love to go back into these areas. If you close them, they can't go. And all you're going to do is just leave it for people that are robust and can hike. And I think that's just for a few people.

And not only that, it's going to be very few and at particular times of the year when it's cool, taking in our drought considerations that we have had in the past that last for years, you can see where these environmental and sensitive grasses and native plants shrivel up and die. And then fall prey to fire. And it's been all over the county. You know all the areas as well as I do as to where there's hundreds and thousands of acres that have burned, and that's been in the last five years. We get nice periods of rain and the grasses get up to three and four feet to where everybody -- gee, isn't this nice and pristine, but everybody gets -- we also have a dry period of a lot of lightning and that triggers the fires and we let them burn.

PM2-4

Responses to Comments

PM2-3 Please refer to Section 2.4.14.1 of the Proposed RMP and Final EIS for clarification of how comprehensive travel management planning will occur in the Ely RMP planning area. In addition, use of wheelchairs would be permitted within designated wilderness in compliance with federal regulations.

PM2-4 Thank you for your comment concerning the wildfire burn cycle. There seems to be a natural cycle involving wildfires in relationship to moisture. Following years with abundant precipitation, there are generally more fires due to the increase in vegetative production. This cycle becomes unnatural when invasive grasses (e.g. cheatgrass, red brome) are involved. Such grasses result in wildfires occurring over and over again in the same location, which does not allow for the native vegetation species to recover. The watershed analysis process will be one of the ways used to determine which areas have this potential and identify ways to help break the unnatural burn cycle and return affected areas to a more natural fire cycle.

Transcript PM2 Continued

PM2-5

1 However, I did notice during this last burn,
2 I noticed there was a whole array of BLM firefighters
3 and contract firefighters out setting backfires out on
4 our roads to protect the other areas which worked. The
5 backfire setting does work and you protect a lot of
6 grasses and that actually in some of the partial areas
7 to where birds are still alive. I mean, where their
8 habitats are still there and there are springs that are
9 still running.
10 And I have to comment, you did a good job in
11 doing that. But I'd ask for you to do an equally good

PM2-6

12 job for the future to consider our mineral resources for
13 the safety of our nation, for the growth of our
14 community, for the recreational resources for everyone,
15 not just a few that are healthy and viable that can walk
16 the trails, because I can't do at 68 what I could do at
17 38. And I would hate to not be able to go stake a
18 mining claim and have to walk five miles just to get to
19 it when I can drive my ATV to it and not leave a mark,
20 and you wouldn't even know that I was there a month from
21 now. There would be no trail.
22 And I think most of us that are brought up
23 in the rural area and have lived in the rural area most
24 of our lives are really cognizant of the need of the
25 wildlife and the planted area and we're

Responses to Comments

PM2-5 Thank you for your comment.

PM2-6 Please refer to Response to Comment PM2-3. Mineral resources were an important consideration in developing the Proposed RMP.

Transcript PM2 Continued

conservationalists by heart. If anyone in my crew throws a gum wrapper out or cigarette butt out, I fire them. It's just that simple. I just don't allow it. We never leave any trash. I don't know of a rancher or a rural person that does. And I know that you get the city people that come up from the metropolitan areas that desecrate the area because they don't know any difference.

And I know you're trying to protect us from them, because there just not schooled how to behave. They can't behave in their city, much less the rural area. And so I just ask you to -- before you make your final decision and make your pen to it, will your staff just take into consideration the next hundred years?

MR. BAUGHMAN: Thank you, Jim. Let me ask if the BLM staff and anybody else who speaks, we'll ask the same thing.

Does the BLM staff have any questions of Jim to clarify his comments or anything of that nature?

MR. DRAIS: Yes, I have one. I just want to make sure I understood your comment relative to re-evaluation of the ACEC, were you referring to the three existing ACECs as well as the other 18 proposed?

MR. OWENS: Yes.

MR. DRAIS: That's what I thought I heard.

Transcript PM2 Continued

I just wanted to clarify that.

MR. BAUGHMAN: Any other staff have any questions of Jim?

MR. OWENS: Can I make one more comment about the ACECs.

MR. BAUGHMAN: Yes, you may.

PM2-7 MR. OWENS: Just quickly, I believe in your study ACECs in -- they were -- as I have seen them drawn on the graphic maps. They were by section and by ease of drafting them on there to get them to fit in a generalized area instead of a spec area.

MR. BAUGHMAN: Okay. Good. Well, thank you.

If you came in late and hopefully, I think perhaps Debby and Russ we're able to kind of explain to you where we are. But we are at this point, for the record, taking public comments to the Ely draft Resource Management Plan and Environmental Impact Statement. If you -- and during this formal part of the presentation, we're not answering any questions and we're not encouraging you to ask any questions. We're just simply taking your comments for the record. But in order for the -- to get it on the record, we would ask if you would fill this card out -- we know who it was that offered the comments and so we've got that on our

Responses to Comments

PM2-7 Please refer to Response to Comment PM2-1.

Transcript PM2 Continued

1 administrative record.
2 So I would ask at this point, is there
3 anyone else at this point wishing to make a comment to
4 get on the record? And we'll go to the -- we want to
5 take care of those and while the record is opened. And
6 then we'll probably close the record and we'll be here
7 for a little while and see who else shows up.
8 It looks like we have one more person at
9 this point. The comment period on this document is open
10 through November 28th. So you still have plenty of time
11 to provide written comments. There is on the back
12 table, a comment form that you could use for your
13 convenience and leave it in the box in the back if you'd
14 like or you can add more pages or whatever. And there's
15 a self-addressed -- address on the back that you can
16 send this back to.
17 But, again, those comments are -- the
18 comment period is open until November 28th. This is not
19 your last chance. You've got plenty of time to wade
20 through the volumes and read the document and offer some
21 more comments. Russ?
22 MR. MOORE: Mike, you might also mention
23 that they can feel free to comment on this comment form
24 and that doesn't preclude them from commenting further
25 with a separate letter.

Transcript PM2 Continued

MR. BAUGHMAN: Okay. Thanks, Russ, that's true. Okay. Thank you very much. Well, at this point, I would ask and let me just note as well for the persons who might go on the record. I would ask you to speak clearly and speak relatively slowly that our court reporter can catch them. We don't have a PA system so obviously, speak loudly as well and we'll capture it all.

I have two additional persons now that would like to make a statement. One is -- the first one we'll go -- we'll take these in order is Don Clay.

MR. CLAY: Yeah, that's me.

MR. BAUGHMAN: Okay. Don, why don't you go ahead?

MR. CLAY: I haven't read any of this. I just found out tonight because my wife was next door. Go on down and check it out. And I mean, I suppose this is important. I mean, I know nothing about it and I wish there was a promotion, you know, to the community that was better than what was given. Obviously, there is seven of us here and that's pathetic. I mean, there's more you here than us.

PM2-8

And there needs to be something done in the future to make this more available to people so they can come and get involved. Because there's really no public

Responses to Comments

PM2-8 Copies of the Draft RMP and EIS were sent to those persons, organizations, and agencies that indicated they would like to receive one; and copies were also placed in local and regional libraries. The availability of the Draft RMP and EIS was noticed in the Federal Register, and the Newsletter distributed to approximately 3,000 interested parties on the Ely RMP mailing list. Additionally, press releases were sent to local media outlets and advertisements were placed in local newspapers to inform the public of all the public meetings on the Draft RMP and EIS.

Transcript PM2 Continued

PM2-8

input. You know, I don't know what the other meetings were like. I was talking to a gal back there and the fellow back there and they were saying, Yeah, this is normal. I mean, that's ridiculous. I mean, we're spending our tax dollars to have you here and we're wasting it. Just that alone having you here and you wasting your evening here to be a very large degree, not to put down what you said, sir.

But it's like there's no input from the public. You know, there are 16,000 people that live here, and I mean, that's ridiculous. And that's just my main thing. It's like if we are going to spend tax dollars doing this and it's an important thing, well, then, we should do it right. If it's not important, we shouldn't do it. You know, I mean, you know, we talk about fires and it burns things up. Well, that's been happening ever since the planet has been here. I mean, why should we stop them? You know, I mean, if we're really going natural, why should we do anything?

And I'm not saying that's really my viewpoint. But if we are really trying to do something and make it better for people, let's get people involved. And that's all I really have to say on that.

MR. BAUGHMAN: Thank you, John [sic].

MR. CLAY: Very good. The next person I

Transcript PM2 Continued

have signed up to speak is Fred Johnson. Good evening, Fred.

MR. JOHNSON: Hear, hear, John [sic]. I have an outreach that's just not good enough, and it never has been. I've been going to these meetings for 25 years. Okay. Actually, yeah, about 25, maybe a little bit more than that. I am a licensed professional geologist. I work Utah, Nevada, part of California, Arizona and a lot around of the Las Vegas-Mesquite area. I've done this for many, many years. I'm in the industrial minerals business. And all I got to say -- I've got a few things to say.

PM2-9 But in your areas of critical environmental concern, okay. Your ACECs, that's well and good, but one of the problems with these that I have seen is the migration and the change of your focus in your attitude toward an ACEC over the years. And the government's change in focus has been a change in focus to where the ACECs is treated more and more every time you write a new management plan more and more like a wilderness area, more and more like a way to constrict or try and do anything with resources that are needed for society.

I work with resources that our needed for society all the time. These resources are building materials. They are things that everybody uses every

Responses to Comments

PM2-9 The BLM may only designate ACECs during a land use planning process. In addition, as part of the ACEC regulations, the Ely Field Office may not use an ACEC designation as a substitute for wilderness suitability recommendation. Please refer to Section 2.4.22.1 of the Proposed RMP and Final EIS for clarification of management prescriptions for each ACEC.

Transcript PM2 Continued

1 day. You brush your teeth. You eat them. You do all
2 kinds of things with them. And if you tie people's
3 hands like you've done in the Las Vegas resource
4 management plan like you left the fish and wildlife
5 service step on that plan so bad that by the time you
6 got the Clark County Bill, the Clark County Bill removed
7 all of the 750,000, almost a million acres, of ACECs
8 from any mineral entry until -- and we were very, very
9 lucky that when Senator Reid put the bill in that we
10 were able to get -- we were able to get a mineral
11 inventory on those.
12 They've just started the mineral inventory.
13 They had four years to do it in. One year for the
14 Secretary of Interior to come back and let us know
15 whether or not those ACECs, the minerals in those ACECs
16 are there or not. All of this was done by legislation.
17 However, the RMP that was put into place was put into
18 place essentially by regulation, by the regulatory
19 system of the Las Vegas District. You're doing the same
20 thing. Now, what this shows -- is this shows that you
21 can do something and then all of a sudden our
22 legislatures can come in and impact that and take what
23 you have done and put into something that we couldn't in
24 a political process that takes it out of your hands.
25 So I suggest you be very, very, very careful

Transcript PM2 Continued

with implanting new ACECs and new regs and things like that on areas of critical environmental concern. It has in the past that an area of critical environmental concern has been utilized essentially in the aspect on a case-by-case basis -- when you -- something that is into an area of critical environmental concern, there's a need. That need is evaluated on a case-by-case basis by an EA or by whatever is necessary to look at that situation and see whether it can be done or not -- can't be done or whether there is mitigating circumstances.

PM2-10 I agree with John [sic] on one thing, we tend to waste one heck of a lot of tax payer dollars, okay. And the EA system needs to be streamlined, I hope -- there's one place where I hope Congress will jump in and essentially streamline this situation a little bit because there's a lot of redundancy. You've got the State asking for the same thing as the BLM. And then the BLM will ask for it two or three times down the road in different management teams' philosophies.

So my suggestion is try and streamline this thing a little bit. You can still protect the resources

PM2-11 on a case-by-case basis, you know, and the ACECs, they need a little bit more study than just the study of tortoises or just the study of the one thing that's there. You need to look at the ACECs from the

Responses to Comments

PM2-10 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP and does not require further agency response.

PM2-11 The Nevada BLM designates ACECs to highlight areas where special management attention is needed to protect and prevent irreparable damage to: important historic, cultural, and scenic values; fish or wildlife resources; or other natural systems or processes; or to protect human life and safety from natural hazards. The Proposed RMP proposes the designation of 17 new and 3 existing ACECs for a variety of resources. The boundaries of all ACECs proposed in the Proposed RMP were closely reviewed and adjusted to ensure sufficient special management requirements can be met for the relevant and important resources of those areas, while considering other uses of public lands including mineral extraction. Where possible, township and range lines were utilized to more effectively describe legal boundaries.

Transcript PM2 Continued

PM2-11

PM2-12

standpoint of what is the whole entire unit and what can be done and what can't be done in that area.

And as far as I'm concerned, mineral resources are a very, very important aspect of the thing and that should be allowed within ACEC as long as there is mitigating situations so that, you know, the crime thing that ACEC is protected, whether it would be a tortoise or whatever. So be careful with the ACECs because Senator Reid slipped one in in Clark County where he withdrew all those ACECs from mineral entry right in a Senate Conference Committee and nobody knew it happened.

And we were able to get at least a mineral inventory out of it and we caught it right at the lab. But please be careful with that. I would suggest mineral inventories in any areas that you are going to essentially restrict the ability of people to get or utilize resources that are there. I highly recommend inventorying those areas for the resources that are there, not just the environmental resources, but the resources that people have to use to keep on the face of the planet. Thanks.

MR. BAUGHMAN: Well, thank you, Fred. Let me ask staff if there are any questions of Fred. Very good. Thank you.

Responses to Comments

PM2-12 Minerals inventories have been completed for all existing wilderness study areas so that Congress can make an informed decision on designations. NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft and Final RMP/EIS for a discussion of Incomplete and Unavailable Information.

Transcript PM2 Continued

And, actually, I guess I failed to ask if any staff had any questions of Don as well when Don gave his comments earlier. I apologize, Don.

MR. CLAY: That's okay.

MR. BAUGHMAN: Great. Actually, the next person that we have to speak, then, is Shirley Taylor.

MS. TAYLOR: This is just in your side's defense. There was a big ad, big whatever in the Desert Valley Times a couple of editions ago saying this meeting was going to be here. So it was definitely there. But one of the -- I'm on their mailing list. A long time ago when I first moved here, I got very interested in the environment a very long time ago. So I've been aware of this meeting for some time. But perhaps one of the distracting things was that it's in Ely. Mesquite is in Clark County for heaven's sake. It's not Ely, blah-blah, blah-blah, blah-blah. So perhaps that also is a detractor, your point about streamlining sort of transcends to all kinds of boundaries. It's not just whatever you're doing in Ely, and strong implications of what's happening in Clark, et cetera, et cetera. But in -- just to come to your defense, there was a big ad in the newspaper.

MR. BAUGHMAN: Thank you, Shirley. Any staff have any questions for Shirley to clarify? I

Transcript PM2 Continued

1 appreciate that.
2 MR. OWENS: Mike, can I add just one thing?
3 MR. BAUGHMAN: Let me just ask, is there
4 anyone else that has filled out one of these cards or is
5 in the process of filling out one of these cards or
6 anything?
7 This just lets us know who is going to speak
8 on the record and so we can get our court reporter to
9 capture this. Okay. Well, if you are in the process or
10 on the cusp of filling out a card, feel free.
11 Why don't you go ahead, Jim. This is Jim
12 Owens again to embellish his comments.
13 MR. OWENS: Just one quick comment is that
14 we don't yet know our total resources at the time that
15 might come to bear in the future such as water, oil,
16 gas. We don't know that. And as we continue to search
17 for these things in particular, how important they are
18 right now as you can see for the country. It would be a
19 shame to lock up these resources where they couldn't be
20 used.
21 MR. BAUGHMAN: Thank you, Jim. Anyone else
22 at this point? Let me just note that if there is not
23 anyone else at this point that wants to make a comment
24 on the document or the plan. For the record, we will
25 close the record for the time being. And we're going to

PM2-13

Responses to Comments

PM2-13 Section 2.4.18 describes the closures of lands to mineral entry. Discretionary closures (those not mandated by law as are designated wilderness) total less that one percent the public lands within the Ely RMP decision area. Discretionary closures in southern Lincoln County mainly occur within the three ACECs designated in the 1999 Amendment to the Caliente MFP for the protection of the desert tortoise. These vary by mineral category: leasable, locatable, and mineral materials. Other closures throughout the Ely decision area are designed to protect specific resources for which other protection measures would not be adequate.

be here at least another probably 45 minutes or so because other people may show up or those among you may decide to offer comment or something. So we will definitely be here.

So just let me -- just -- before you go, so just be aware that we're going to be here for a little while and so if you have a change of heart or if you want to do something like that, that would be fine. Again, if you didn't know or you missed out, the comment period does close November 28th. So you got plenty of time to prepare written comments and mail those in. This is not your last chance and certainly feel free to do that. So let's see, we'll return to Fred Johnson to offer a few more comments.

MR. JOHNSON: I have a comment. It's sort of like not a question, but a comment to John [sic].

MR. CLAY: To Don.

MR. JOHNSON: I like Don's comment, and from the standpoint that, you know, we only have eight some-odd people, you know, and one of the things I want to mention to him is like he said he hasn't read it yet. I haven't read the whole thing yet. I did a quick perusal of your preferred alternative. And I want to say, Don, that like, you know, you said you don't even know how important it is or even if it's important or

whatever it is. Like I said, I've been to a lot of these. It is important. It accepts the tone for what people can essentially -- how they can do this and how efficient, okay, things can be done, you know, with resources, okay, that actually depends upon the land.

And that's what it sets a tone for. It sets a tone for protection of resources in the land, all those protections. And one of the things that I want to say is that the people in Las Vegas don't realize, but the 750,000 acres that's been removed for mineral entry remain totally and completely removed from mineral. Okay. Then all of their supplies for everything that goes on there, for growing cities or for growing whatever are going to have to come from further and further out.

What you're talking about in this aspect is you're talking about fueling, essentially helping to fuel the energy crisis even further by essentially making everything come from further out. And who's the person that pays for it? Is it the BLM? Is it the whatever? No. The people that pay for it are the end users. And the end users -- and the country itself pays for it. Because what we'll have to do is continually have to come back to these massive documents like this to constantly be readjusting ourselves. Because the

economics will not support it -- wrong decisions. So that's how important this is. The decisions are very, very important because economics will eventually come back and bite the decisions that are wrong.

Of course, these guys will keep getting a job every time they're on. But you know, the thing is that, you know, that's how important it is.

MR. CLAY: Sure.

MR. JOHNSON: So we got to just remember that. So my suggestion is to go back and tell your friends to get involved in this process and read this thing. It's a pain to go through them. They're very complicated. But if you go through it and determine what's there that is important to you so that you can comment on it.

MR. BAUGHMAN: Thank you, Fred. Anybody else care to provide us with a card and go on the record before we close the record for the time being? Actually, we're not doing questions. We're just getting comments on the document into the record. And so like I said, we'll be around for another half hour or 45 minutes at least. Well, then, I would recommend at this point, we're going to close the record. So our court reporter will close the record. And we can always reopen a little later if appropriate.

Transcript PM2 Continued

So with that, we'll kind of close this formal part of the meeting and we are going to be here for another half hour or 45 minutes.

(Whereupon, the proceedings concluded at 6:51 p.m.)

Transcript PM2 Continued

CERTIFICATE OF REPORTER

STATE OF NEVADA)
) ss:
COUNTY OF CLARK)

I, Cindy R. Bowden, a duly commissioned Notary Public, Clark County, State of Nevada, do hereby certify that I took down in shorthand (Stenotype) all of the proceedings had in the before-entitled matter at the time and place indicated; and that thereafter said shorthand notes were transcribed into typewriting at and under my direction and supervision and the foregoing transcript constitutes a full, true and accurate record of the proceedings had.

IN WITNESS WHEREOF, I have set my hand in my office in the County of Clark, State of Nevada, this 2nd day of November, 2005.

C. Bowden by (NS)

CINDY R. BOWDEN, CCR #815

Public Meeting Transcript PM3

PUBLIC MEETING ON THE ELY DRAFT RMP/EIS

REPORTER'S TRANSCRIPT OF PROCEEDINGS

OCTOBER 20, 2005

LAS VEGAS, NEVADA

COPY

Reported by: CINDY R. BOWDEN, NV CCR #815
CA CSR #12962

Transcript PM3 Continued

MEETING OF THE ELY DRAFT RMP/EIS, taken at 4701 North Torrey Pines Drive, Las Vegas, Nevada, on Thursday, October 20, 2005, at 6:10 p.m., before Cindy R. Bowden, Certified Court Reporter, in and for the State of Nevada.

APPEARANCES:

For the BLM:

GENE DRAIS
JAKE RAJALA

For the ENSR:

RUSS MOORE
DEBBY SEHI
MIKE BAUGHMAN, MODERATOR

Also Present:

KEN FREEMAN
BILL VASCONI
MIKE MOORE
JERROLD JONES
ANTHONY LIVRERI
JOSHUA HAYDEN
JOHN HUTCHINGS
SAMANTHA WELCH
DAVID DUNN
TERRY KOZLOWSKI
KIM LEAVER
SUSAN ROBERTS
M. WILLS
KARYN SCHIERBERL
B. SCHIERBERL
ROGER SCHUFELD
JARED GUNNERSON
BOB MAIDD
MICHAEL ALBRECHT

LAS VEGAS, NEVADA, THURSDAY, OCTOBER 20, 2005;
6:10 P.M.
-oOo-.

MR. DRAIS: My name is Gene Drais. I'm the acting association field manager for the Bureau of Land Management in Ely. It is my pleasure to welcome you here to our public meeting tonight. I'd like to introduce the persons that our involved to hear your public comments tonight. There is -- our doorman out back there is Jake Rajala, he is the planning and environmental coordinator for the Ely field office.

The -- our cooperating agencies are represented tonight is the two guys from Nellis Air Force Base. Roger Schufeld, Jim Campe, nice to have you here. The contractor who is preparing this document for us are represented by Russ Moore and his partner Debby Sehi and a subcontractor for them who is going to facilitate the meeting tonight is Mike Baughman. And our court recorder is Cindy, and we're glad to have her with us.

The purpose of tonight's meeting is very simple and it is really one purpose and one purpose only and that is to hear from you, the public, regarding the draft resource management plan for the Ely District.

And so with that short introduction, I will turn the time over to Mike Baughman.

MR. BAUGHMAN: Thanks, Gene. We are -- again, really the purpose of tonight and we can't really stress that enough is that we are on the record. This is going to be taking basically verbatim in terms of your comments to the RMP. And so for many of you, you haven't had a chance to look at it. You just looked at the summary, and you perhaps perused the alternatives.

Hopefully, for those of you -- for those of you -- we'd have a handful of folks that have not. For those of you that have had a chance to maybe get some ideas. If you haven't, feel free to continue to look at it. If you do decide to make a statement, we'll put that on the record. But what we'll do is when we get going here, we will basically ask for those folks -- we'll take them in the order that they filled out their card. We will ask them to -- just where you are to offer some comments, your comments on the RMP and the EIS.

We will ask you to speak, you know, fairly slowly and fairly loudly so that the court reporter will get that. And we'll get that on the record so that the BLM will have a very explicit understanding of what your comment was or comments. The BLM will then consider

those when they are working on the final RMP and the final EIS.

This is not your last opportunity to provide input on this document. This is an opportunity to provide input in a public setting with the court reporter here, spares you perhaps if you don't elect to provide written comments, spares you the need to do that. But you do have the opportunity to provide us with written comments as well. Many of you picked up this comment form. You can certainly fill this out tonight if you'd like. There is a box there on the table. You can drop it in the box.

Alternatively, you can fill it out, four or five pages, 100 pages, whatever works for you. And you can mail it in to the BLM or you could just disregard and just put together a set of written comments. Those written comments are due on November 28th. So you've got about five weeks or so left -- four or five weeks to actually prepare written comments. And so you may elect, you know, based upon what you are learning tonight and what you are reading into -- to forego going on the record tonight and simply prepare some comments.

We are really not here to answer questions during this time when we're on the record. We are certainly not here to debate the plan on the record. We

want to hear from you. We want to capture what you say on this record. So that is our specific purpose tonight. Some of the items here around the room that you might take a look at as you get a chance.

We have a list over here of the cooperating agencies. I think they're also highlighted in the document you have in front of you. And we have had -- this is the fourth meeting we've held. We were in Ely on Monday night. We were in Caliente on Tuesday. We were in Mesquite last night. Tonight we're here. We're going to be in Reno on Monday night. And then Tonopah on Tuesday night. So if you have -- you know acquaintances interested in that nature in the northern part of the state, folks that you know that use the resource area and they're in Reno, and you think that they ought to be at the meeting, certainly let them know that there is a meeting on Monday night or Tonopah on Tuesday.

We have had cooperating agencies participating at these different meetings and Don has been participating in the Nevada Division of Wildlife at the previous meetings and there's Gene and Tom. We have got Nellis here tonight. There are maps of the resource area. Again, those maps are in your handout. If you're not familiar with the Ely District, it extends from the

upper county line to the Elko County line, all of White Pine County all the way down to the Southern Lincoln County line up to Elko County line, a little bit of Nye County on the westside, but basically, all of White Pine and Lincoln Counties. And so it's a large area with a very, very large area with a very diverse set of resources and a very diverse set of land -- land uses.

This little handout right here -- this gives you an idea of what the process is. You might want to take a look at that when you get a chance. But basically, we are at this point right here where we are taking input that the draft is out. There are copies over here for you to take home, CDs. We're looking for input. The BLM will then consider all of the input they receive both in terms of the comments that go on the record, any written comments that we get that people turn in or any letters that you provide us of comments by the November 28th deadline.

All of those comments will be taken into consideration and then BLM will then revise the document accordingly and as appropriate. And they will issue a proposed revised document. And that document will then be out and there will be a 30-day protest period in a field period, another opportunity to provide input on the document that there will not be public meetings at

Transcript PM3 Continued

that point. But there certainly will be an opportunity to provide additional input of guidance to the BLM on the document.

After all that process, then they issue what's called a record of decision. And there could be as a result of this process over time many records of decisions issued trying to implement this 20-year-long range plan. But certainly that record of decisions of to what is typically done to implement the various elements of the plan. And to select the proposed alternatives and things of that nature. And then they just go into implementation and monitor and evaluate and maintain. Those of you that are users of the public lands, understand the process that once BLM has something in place, then they manage their lands.

And if you got out there for different recreational purposes or mining or your interest in wildlife, you've dealt with them. You know that they are implementing over time. This plan will set them up for the next 20 years or so.

I would ask as we go on the record and we are on the record as we actually take your comments. First of all, I would ask folks that if you got a cell phone, I'd have to ask you to put it on vibrate or turn the thing off. It's just -- you know, a little hard for

Transcript PM3 Continued

her to try to keep track of a cell phone ringing and a comment at the same time.

Also, you know, there's very much the possibility that someone's comments may offend you. You may wholeheartedly disagree with what somebody says. We would ask you to reserve yourself as best you can. Hang on to that chair and not interrupt or say anything. Again, so the court reporter can understand what they're saying.

We have been trying to -- we have suggested that we would limit the time that people speak up to three to five minutes. I can tell you at this point, we have -- I only have three cards. And if you do intend to speak, again, I would ask you to just put your name and information on this card, so that we've got it for the record. And particularly for the court reporter, so we can match follow-up comments with who you are.

Also, make sure that as this goes forward, make sure that you are in the loop to make sure that you get notified that you get follow-up documents and the Bureau wants to make sure that you do get that information because you took the time to participate. But if you do want to make comments on the record, please fill one of these out so that we know who that person is.

Transcript PM3 Continued

I can tell you right now we have three of them. So I do not intend to limit you to three to five minutes. We are going to let you make your comments. You know, if it gets to be a considerable time later and I get the sense that folks are getting a little bit impatient, I may ask you to kind of wrap it up and maybe submit the rest in writing.

But here we're pretty flexible in that regard. So you use your judgment as well. Again, we're not really going to answer questions here. This could go fairly quickly. This is not a formal presentation on the document itself. You've got some information there. When we conclude this public comment part of this thing and we go off the record, we're going to be here for a while and we have done this in the other meetings as well, because members of the public may come in a little later and we kind of cycle them through the process.

If you'd like to make comments, we reopen the record, and let you give us your comments. We will be here. We'd love to chat with you and find out who you are. We've engaged the public and chatting like that in the past couple of nights. And we have also found that members of the audience ending up engaging in each other's conversation which is quite useful as well.

So we will be here for probably, I guess, an

Transcript PM3 Continued

hour after this thing concludes off the record. I guess with that, I would recommend that we go ahead and start.

Yes, Gene?

MR. DRAIS: I just wanted to make it real clear that people can make comments publicly tonight and turn in comments later if they choose to. They don't have to do both. I just wanted to make sure that you do have that option. You can do both if you choose to.

MR. BAUGHMAN: Absolutely. Yeah, that's a good point. This isn't your only opportunity. Okay.

Well, without further ado, I would recommend that we go forward. She is more than ready. We -- the first person that I have that signed up is a gentleman by the name of John Hutchings. And I would just encourage you if you'd like -- if you want to come up front, that's fine but you're welcome to do it right from where you sit. Again, I would just ask you to be clear and fairly loud so that the court reporter can hear. And, John, you've got the floor.

MR. HUTCHINGS: Thank you. Am I supposed to identify myself? A couple of comments probably mostly about the process in which the determination of how the Federal agency is going to conduct their operations and how they're going to manage their resources is somewhat disturbing to me. And probably because I am a native

Transcript PM3 Continued

1 Nevadan, and I was born in Lincoln County, and I
2 professionally worked in White Pine County, and through
3 the process over the past 35 years, what basically I'm a
4 little offended by is that even though I recognize that
5 the Federal Agency, your task is to manage the resources
6 for all of the people. Essentially, what we are talking
7 about is the majority of the people that utilize the
8 resources literally live in Nevada.
9 But yet those people are probably the least
10 people that are considered in what happens to the
11 resources on the public plan. To be quite honest with
12 you, the five families that run livestock in the
13 wilderness and resource allotment have more of an impact
14 on 95 percent of the management area of 23 in its
15 allocation for elk resources than any of the people that
16 literally occupy this building. And yet probably five
17 to six months of the year, we would have anywhere
18 between 100 to 150 people publicly using that resource
19 area.
20 And what I don't understand is why, first of
21 all, you don't ask for public comment about what kind of
22 activities the public would like to see on the
23 resources, the resource area and then ask yourself the
24 question: Do you have the management capability of
25 being able to manage the resources on what the people

PM3-1

Responses to Comments

PM3-1 Please refer to Section 1.6 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the issues and concerns that were raised by the public during scoping for the Ely RMP.

Transcript PM3 Continued

PM3-1

PM3-2

PM3-3

wish to see? For example, we do a real good job of managing livestock industry in the management resource area, but we don't do an awful lot as far as providing recreational opportunities and facilities that wish to go camping or recreating in the BLM. An example of that is the closure of several camping areas in Eagle Valley Canyon just north of Ursine where I personally can attest that for the past 60 years, you could go and camp there, but all of sudden this summer, the Bureau of Land Management decided to block those camping areas.

Why? Why did they do that? I don't understand that. I don't understand why with the limited number of areas that there are areas for people to recreate and the recreational area was closed down.

Why is it necessary for us to consider the number of livestock animals being grazed in the Wilton Allotment area as it impacts the elk allotment plan in Lincoln County? Why can't we just let the -- do whatever they are going to do and manage numbers on the basis of whether it literally impacts the resources.

Why do we sit there and say, We need to keep them here because we have a livestock operator out there that has 40,000 AUMs? Why isn't it possible to ask the question, is it possible that 40,000 AUMs of elk may be important to the people than whether we have 40,000 AUMs

Responses to Comments

PM3-2 The Ely Field Office closed the casual use areas mentioned in your comment to camping to reduce overall use, minimize overcrowding during heavy use periods, and create a more safe and sanitary condition.

PM3-3 Livestock and wildlife are multiple uses of the public lands. Rangeland health will continue to be monitored, assessed, and evaluated to determine impacts to habitat and forage and to determine if the standards for rangeland health are being achieved. Adjustments to livestock management or stocking levels, and improvement of wildlife habitat, are actions that may be appropriate in certain situations. Evaluation of grazing use relative to the achievement of the standards for rangeland health are conducted during the term permit renewal process, during watershed analysis, and during grazing use monitoring.

Transcript PM3 Continued

PM3-3L

of livestock grazing. But that is the sideboards that we are placed on the Elk Management Plan without public comment. So the way I see the way we are doing the resource inventory here is we are doing it in an about-face manner? And I'm just wondering why we do it that way?

MR. BAUGHMAN: Very good. Thank you, John. Let me just also note that -- and I forgot to mention this before we started. But after each person offers their comments, we will ask staff, the BLM staff if they have any questions on the comments or just in case you know they didn't understand exactly what a point was or something. So while we're not asking you to ask us questions, we might ask you questions, John. So I'll ask each person.

So does any of the staff have any questions for John just to clarify or make sure you understand his comments?

MR. DRAIS: I don't.

MR. BAUGHMAN: Everything seemed pretty clear? Okay. Very good. Thank you, John. The next person that I have is -- I am going to take these in the order that I received them. So the next one is Michael Wills.

MR. WILLS: I'm still not ready. I'm not

Transcript PM3 Continued

done reading. I'm sorry.

MR. BAUGHMAN: That's okay, Michael. But you do have to take a copy -- can we get the booby prize for Michael. Let's go to Ken, Ken Foreman if Ken is available. Did I pronounce that right?

MR. FREEMAN: Freeman.

MR. BAUGHMAN: Freeman, I'm sorry, Ken, Ken Freeman.

MR. WILLS: Who gets the booby prize back now?

PM3-4 MR. FREEMAN: I can say that I'm extremely disappointed with what I have read with this man. It doesn't seem to take in most of the users of the District in the southern part which is actually OHV users which is probably your majority end users in that area. It seems like that each plan has something that OHV users are not going to stall because it could effect anything that they're going to do in that area.

PM3-5 Our group SNORE does have a competitive event in the Caliente area which is their largest event.

Most of these towns are very, very distressed in their income and their economic stability. Our event brings in close to $100,000 for a three-day weekend to that town. And it's basically their biggest event that they have all year long. I know that MRAN is

Responses to Comments

PM3-4 Please refer to Section 2.4.15.1 in the Proposed RMP and Final EIS for a discussion of recreation management, including opportunities for motorized recreation on public land managed by the Ely Field Office. The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives.

PM3-5 Thank you for expressing your concerns. As described in Section 2.4.15.2 of the Proposed RMP and Final EIS, competitive OHV events would continue to be allowed.

Transcript PM3 Continued

PM3-5

1 here represented tonight. They do bring in a lot of
2 money to these towns and it just seems to me like if
3 we're going limit these events or even disallow these
4 events, it's going to be an economic hardship to these
5 communities.

PM3-6

6 It's -- also with the Las Vegas District
7 basically trying to run OHV out of this district with
8 their imposing fees that are astronomical that the club
9 can't basically afford to put on an event now and
10 basically has been told by the Las Vegas District that
11 we should be looking to go to the Ely District.
12 And then we get hit with this. We basically
13 have nowhere to go. I was very disappointed to see that

PM3-7

14 there wasn't a division in here to try to expand the
15 Silver State Trail that leads to nowhere. That has no
16 -- it's actually benefiting nobody in the state now
17 because it has not stopped in the towns that need the
18 help. I cannot -- I cannot imagine them not with this
19 plan not expanding on that trail trying to bring more of
20 an economic impact to these towns in Ely.

PM3-8

21 I can't see -- another thing that totally
22 amazes me is there isn't an OHV park in this plan. You
23 know that -- in this -- little by little the government
24 land is being sold off, and if it's not designated for
25 something, we're got going to get it. I would like to

Responses to Comments

PM3-6 Please refer to Response to Comment PM3-4.

PM3-7 The location of the Silver State Trail was designated in the Lincoln County Conservation, Recreation, and Development Act of 2004. The Ely Field Office is currently developing an implementation management plan for that trail. The Proposed RMP also identifies the Chief Mountain special recreation management area at the southern end of the Silver State Trail that could provide motorized recreation opportunities. During site-specific transportation planning, the Ely Field Office will hold public scoping meetings to address completeness of the route inventory and public issues, concerns, and access needs.

PM3-8 Please refer to Section 2.4.14 in the Proposed RMP and Final EIS for a discussion of transportation planning and off-highway vehicle use, which includes areas where the recreational use of off-highway vehicles would be allowed. No OHV parks have been included in the Proposed RMP

Transcript PM3 Continued

1 see that in there. There is a lot of economic or a lot
2 of things that need to be into this. It didn't seem
3 like that our -- that the OHV and recreational group was
4 not looked at in the facet that we were looking at --
5 that the groups we're looking at, it seemed like we were
6 the stepchild that will give them a little of this, and
7 this one, this plan, or a little of this and this plan.
8 But as a whole I'm very disappointed with
9 the way this turns out. It seems like they missed --
10 the major users were missed and that I think you will
11 find out that if you talk to the towns that are affected
12 by this plan, the small towns, that they're going to
13 tell you that the recreational user is the OHV user and
14 that's where the majority is going to use this and they
15 basically have been forgotten in this plan. And that's
16 all I have.
17 MR. BAUGHMAN: Okay. Thank you, Ken.
18 Again, I'll ask the staff, the BLM staff, does any of
19 the staff have a question for Ken?
20 MR. DRAIS: Yes. I just have a clarifying
21 question. You said you were disappointed in the
22 different plans. You mean the different alternatives?
23 MR. FREEMAN: Correct.
24 MR. DRAIS: I just wanted to clarify that.
25 Thank you very much for your time.

PM3-9

Responses to Comments

PM3-9 Please refer to Section 2.4.15.1 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of areas that would be available for OHV recreation. Also as discussed in Section 5.1.5, all three counties that fall within the Ely RMP planning area were represented as formal cooperating agencies on the Ely RMP.

Transcript PM3 Continued

1 MR. BAUGHMAN: Okay. We will next go to
2 Bill Vasconi is the next person that I have.
3 MR. VASCONI: Bill Vasconi, I am president
4 of the Fraternity of the Desert Bighorn. We work a lot
5 with the International Park and we work a lot with the
6 NDOW National Systems. And we are partners with NDOW
7 and U.S. Fish and Wildlife. In a lot of cases, we're
8 now looking to BLM to give us a hand with management of
9 these -- our resources, whether it be wildlife, whether
10 it be restoration of the forests. You know we've got so
11 many wilderness areas coming into effect across the
12 state.
13 Boy, I can sympathize with Lincoln and White
14 Pine. Again, Lincoln County, you've got a population of
15 4,800 people. And the only area in there that was left
16 out of the wilderness was Table Top. And by God they
17 want to put wind generators on top of it. That the
18 restriction on the land use is becoming a really heavy
19 topic and there is a lot of the folks, not only live in
20 those areas, but our land users such as myself. And
21 economically he wants us to come through this area. He
22 wants us to buy our gas. He wants us to fix our tires.
23 He wants us to eat there. He wants us to stay there.
PM3-10 24 But you can't take the land away from us.
25 You can't leave us with no access to the lands. And a

Responses to Comments

PM3-10 The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. Areas are designated as "open" for cross country vehicle use where there are no compelling resource protection needs, user conflicts, or public safety issues. No areas managed by the Ely Field Office were determined to meet those criteria. The Ely Field Office is designating a majority of the planning area as "limited" in the Proposed RMP. The "limited" designation would still provide for off-highway vehicle opportunities, including potential new off-highway vehicle trails, while managing for public safety and resource protection needs. The only areas designated as "closed" to off-highway vehicle travel correspond to currently designated wilderness and wilderness study areas.

Transcript PM3 Continued

PM3-10

1 lot of your alternatives tells how much of that land is
2 going to be available for public use? Or how much of it
3 is going to be available for off-road vehicles such as
4 ATVs, et cetera. We realize that there ought to be
5 regulations and restrictions on ATVs, but don't take
6 that land away from us as far as being accessible to us.
7 Now, I do appreciate that the fact that
8 you're going in and you are using restoration means like
9 in Sample A that I just read. There's some 10,000 acres
10 a year that's going to be restored which I assume you're
11 going to go in there and try to do something with
12 everything from salt feeders, constant weeds, et cetera.
13 A lot of them you're not going to be able to defeat.

PM3-11

14 Cheap grass is going to be around from now
15 on for those of you who only buy cheap grass because
16 it's in your boots when you walk through the mud. It's
17 on your tires of your vehicle and the critters from one
18 area to another. And it don't have any elevation or
19 limitations.

PM3-12

20 Cheap grass is here to stay, but there's
21 other things like salt feeders, et cetera, that can be
22 controlled and they are around Eagle Valley right now.
23 There's only about a dozen trees but they put out a
24 million seeds a year. So you ought to do something with
25 those damn 12 trees. I thought about it.

Responses to Comments

PM3-11 Cheatgrass invasion has been identified as an altered state that needs to be reduced or eliminated. The Ely Field Office is currently inventorying and treating for noxious weeds and will use this data as part of the watershed analysis process. Watershed analysis has and will continue to consider cheatgrass as part of the evaluation process. As part of watershed analysis, implementation strategies will be developed to deal with weeds and vectors of weed infestation.

PM3-12 Thank you for your comment. The noxious and invasive species that you have mentioned in your comment are being actively treated on public lands. However, the trees you mention are not on BLM-administered land. Private landowners can organize themselves into Coordinated Weed Management Areas (CWMA) that are eligible for grants to treat noxious weeds. The Eastern Nevada Landscape Coalition has assisted many landowners in developing CWMAs around the State and helping them apply for grants.

Transcript PM3 Continued

PM3-13

But the bottom line on all of it is, those of us that work with wildlife, irregardless of what consideration you are giving in your plans, a lot of us folks work with elk. We work with antelopes. In particular, I work with desert bighorn sheep. And there are landing areas, camping areas. There are seasonable green up areas. There are areas that are recreational useful habitats. See, some kind of limitation during those seasons that these critters need access to that land.

PM3-14

But the bottom line on all of it, you know, BLM is awful important to us right now. And you're important to us because we can still talk to you. When you get a wilderness area signed, it's tough, guys. We have got 115 water projects for desert bighorn sheep and other wildlife right here in Southern Nevada, and a lot of them are in wilderness areas. And the restrictions on maintaining those projects are simply unreal. And even though I'm talking about desert bighorn sheep, we started with 1,200 sheep in Southern Nevada. We've got over 5,000, right around 5,500 and it's through the efforts of people here in these rooms that we have done that.

We're doing the same thing with elk and antelope. I would ask that BLM to really register a

Responses to Comments

PM3-13 Please refer to Section 2.4.6 and Appendix F in the Proposed RMP and Final EIS for timing restrictions on uses and activities within wildlife habitat.

PM3-14 Thank you for expressing your concerns. Management within designated wilderness is directed by existing BLM regulations.

listening ear to some of these folks who live out in these rural areas, because economically and recreational wise and land use wise, it's hurting those of us who live in Clark County. And with a population of 1.8 million people, 50 percent of them have been here less than ten years. They want to go some place away from the crime, the traffic, whatever, and the closest place to go is Lincoln, White Pine County. So I would lend an ear to those folks from those areas. That's all I have got unless you got a question. I do have an announcement if I can make one. May I make an announcement?

MR. BAUGHMAN: Absolutely.

MR. VASCONI: I don't know if you noticed it in the papers for those of you that live down here, we're moving sheep from the River Mountains which sits right between Henderson and Boulder City. And some of those sheep coming out of a place called Hemingway Park which you might be familiar with. If somebody comes to town, you come out there and take pictures of them. Monday night we drove those sheep to approximately -- 50 of them up into the hills in River Mountain and there was a quite a lightning storm so most of them stayed away.

Well, yesterday four come down. Today 16

Transcript PM3 Continued

come down. So tomorrow night at 5:00 o'clock, if you got a flashlight and a jug of water, we'd like to drive those sheep back up on the side of that hill and get them out over the river rock, because Saturday we're capturing 25 to 30 sheep. And then Sunday we are going to transport those sheep to the Virgin Mountains up by Mesquite and release them out of a water development project we have up there. This is also in conjunction with Nevada Department of Wildlife. Anybody interested see me before the evening's end. And you're more than welcome to come to the capture. And you're more than welcome to the release. If you have never ridden in a helicopter, this is a good chance to get one.

MR. BAUGHMAN: Thank you, Bill.

MR. VASCONI: Thank you for the time.

MR. BAUGHMAN: Any questions by the BLM staff of Bill for his comments, on his comments?

MR. WILSON: I have a question of the BLM staff.

MR. BAUGHMAN: Actually, we can't take those while we're on this record. I ask you not to -- so I apologize for that, but we just -- we kind of need to stay on the record with these comments. We're going to go next to Anthony Livreri. Anthony, are you ready?

MR. LIVRERI: Yeah.

Transcript PM3 Continued

MR. BAUGHMAN: Okay. Great.

MR. LIVRERI: I'll wing it.

MR. BAUGHMAN: Okay. Thank you.

MR. LIVRERI: Anthony Livreri. I was born and raised in Lincoln County. I live in Clark County now. But anyways, first I'd like to say that all existing roads, trails, race courses, and washes need to remain open for OHV use in the 11.4 million acres that this RMP will manage. These roads and trails are a necessity for quality OHV recreation. Closing these trails would severely impact the OHV community in a negative way. One -- I forgot his name. If we can't have races, that costs the county and those towns money. So that's something for the BLM to think about. This also creates fewer opportunities to recreate and explore new areas, but forces people into one concentrated area -- the way they used to make their plans and that creates an unsafe situation because you got too many people on OHVs going in all different directions.

And I feel when they do that they're responsibile for injuries personally for forcing people to be in that situation. Given the fact that no new roads or trails are being established for use in these areas, the implementation of the Silver State Trail systems, evading existing race courses. Like I said,

Responses to Comments

PM3-15 Thank you for your suggestion. The BLM designates areas as "closed" if a closure to all vehicular use is necessary to protect resources, ensure visitor safety, or reduce use conflicts. The BLM designates areas as "limited" where it must restrict off-highway vehicle use in order to meet specific resource management objectives. These limitations may include: restricting the number or types of vehicles; limiting the time or season of use; permitted or licensed use only; limiting use to existing roads and trails; and limiting use to designated roads and trails. The BLM may place other limitations, as necessary, to protect resources, particularly in areas that motorized off-highway vehicle use enthusiasts use intensely or where they participate in competitive events. The limited designation across 90% of the Ely RMP decision area is consistent with BLM policy.

PM3-16 The Proposed RMP includes four geographic areas where motorcycle special recreation permit events have historically been held. These areas would allow for continuing opportunities for motorized special recreation permit events and race course rest and rotation to occur.

PM3-17 Please refer to Section 2.4.15.1 in the Proposed RMP and Final EIS for a discussion of how recreation resources would be managed by the Ely Field Office. A majority of the decision area would be managed as an Extensive Recreation Management Area for primitive undeveloped recreational opportunities. The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. However, no single-focus OHV emphasis areas have been identified as a recreation designation.

Transcript PM3 Continued

PM3-18

1 its detrimental to the off-road racing community to lose
2 any more trails. You can't tie your race courses
3 together or anything with the plan. That's not --
4 that's not right or fair in my opinion and with the
5 creation of 14 wilderness areas in Lincoln County --
6 well, a lot of roads and things. Me and my family when
7 I was a kid used to go in when I was a kid, you can't go
8 into like North Power Rock. I used to run a trapline
9 with my dad. You can't do nothing there no more thanks
10 to their wilderness area that was not needed in my
11 opinion.
12 So -- and they put them on every mountain
13 range like this guy said except Table Top. So all we
14 get left is a plat there. I'd like to thank you for
15 that. Third, there needs to be a system in place to
16 replace the existing trails, roads, and race courses to
17 get closed. For example, every mile a trail road or a
18 race course that's closed, there needs to be a new mile
19 or race course reestablished. That's the only way this
20 process could be fair. You can't take roads away and
21 not replace them. That's not right.
22 And I like to just say, the BLM works for
23 the public. They answer to me and every tax payer in
24 this country. And they ought to consider the way we all
25 feel and what each one of us want to use and I don't

PM3-19

Responses to Comments

PM3-18 Please refer to Response to Comment PM3-16.

PM3-19 The Ely Field Office is required to establish a process for completing a defined travel management network. Please refer to Section 2.4.14.1 of the Proposed RMP and Final EIS for clarification of how comprehensive travel management planning will occur in the Ely RMP planning area.

Transcript PM3 Continued

PM3-20

1 think they do most of the time. And then when I read
2 through the plan, right now all 11.4 million acres are
3 open.
4 And then the new plan, no acres are open
5 anymore for use. You're stuck with designated trails.
6 How they can take away 11.4 million acres? It used to
7 be completely open for us. And now they say none of it.
8 They should at least designate -- I'm saying three or
9 four million acres for OHV use, recreational areas.
10 They made more than that in wilderness areas. So it
11 would be fair. We need an OHV park. They never think
12 of that. And the only other thing I'd like to say --
13 let me find it.

PM3-21

14 I honestly can say that none of these new
15 wilderness areas were ever damaged by an OHV. I've
16 ridden in all areas of that county and everything was
17 fine. The only damage I remember seeing was caused by
18 fires or springs trampled by wild horses or the wild
19 horses eat all the grass and nothing else happens.
20 That's the damage I remember seeing. I don't ever
21 remember seeing any other damage up there. It's not a
22 lot of people that recreate up there and I go to the
23 meetings and I hear about all of these thousands of
24 people -- I go out in the mountains, and I never seen
25 anyone. Where are these thousands of people that you

Responses to Comments

PM3-20 Please refer to Response to Comment PM3-15.

PM3-21 Comment noted. All existing roads and trails will remain open until site-specific travel management plans have been completed with public input.

Transcript PM3 Continued

keep talking about? It's ridiculous. I don't see them. And I'm up there all the time. I go up there probably 24 weekends a year or more, and I never see anything out there but me.

PM3-22 I just question how they come up with these plans, their EIS studies. I don't know. And my last

PM3-23 comment -- in closing I want to say, I can only hope that the BLM will respect the rights of the people and the tax payers' directory and not create policies based on incomplete scientific discovery or cater to environmental groups, just like OHV users, meaning or whatever else is used. And that's it. That's all.

MR. BAUGHMAN: Thank you, Anthony. Staff have any questions for Anthony? No, on staff. Okay. Great. Thanks again, Anthony. The next person that I have that has filled out a card and wishing to put comments into the public record is Mike Wilson.

MR. WILSON: Everything that I have heard so far tonight is all kind of ringing true with me. I'm one of the few people of my age that was born and raised right here in Vegas, living in Clark County ever since I

PM3-24 was a young boy. I've done nothing but hunt, off-road use, and camp with my family. And I have taken those uses and continue with my current family. And here in Clark County, we're systematically getting chopped away

Responses to Comments

PM3-22 The management actions that are presented in the Proposed RMP were developed through consideration of the planning criteria presented in Section 1.5 of the Draft RMP and EIS and Proposed RMP and Final EIS, public scoping comments presented in Section 1.6, BLM policy especially as presented in the Land Use Planning Handbook, and the professional judgment of the staff in the Ely Field Office.

PM3-23 Please refer to Section 1.5.1 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the general planning criteria used in developing the Proposed RMP. The BLM disagrees that the proposed management actions cater to special interests.

PM3-24 Please refer to Section 2.4.15.1 in the Proposed RMP and Final EIS for a discussion of how recreation resources would be managed by the Ely Field Office. A majority of the decision area would be managed as an Extensive Recreation Management Area for primitive undeveloped recreational opportunities. The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. However, no single-focus OHV emphasis areas have been identified as a recreation designation.

Transcript PM3 Continued

PM3-24

1 from areas we can use. Now, we have all the dust
2 containment area in the valley. We can't use that. We
3 can't use the area outside of Boulder City.
4 We can't -- now there's propositions out
5 there to shut areas off -- out at Sloan. So now we're
6 forced into the northern counties, and now these
7 northern counties are systematically starting to get
8 shut down. And I haven't had got a chance to go through
9 everything in here, but that's Alternative B -- well,
10 just the beginning of it. Like Zack said, I don't see
11 any emphasis for the people that actually use the land.
12 And if you shut off land, well, there's no use to
13 anybody except for the people driving by it on the
14 highway.
15 I still want places to take my family
16 camping, the area next to Eagle Valley. I too used to
17 stay there, the areas which I hunt. This would directly
18 impact resources or abilities to get into those areas.
19 Me and my family, we also desert race. We go out and
20 enjoy these race courses. The areas in which we race in
21 are very, very low impact. Ninety percent of our
22 courses are in sand washes. The next rank, you don't
23 even realize that there was a race there outside of
24 maybe where they set up for the pits. And that's always
25 been a special use area anyway that has been used over

PM3-25

Responses to Comments

PM3-25 The Proposed RMP includes four geographic areas where motorcycle special recreation permit events have historically been held. These areas would allow for continuing opportunities for motorized special recreation permit events and race course rest and rotation to occur.

Transcript PM3 Continued

PM3-25

PM3-26

over and over again, not only by off-road racers but people that go out there and like to camp in the outside settings.

You know, I got 500 directions going all at once inside my head after reading this. And I know this isn't a time for questions but I have to keep asking, it's like where is this coming from? Who made it up? Why did they make it up? And what information did they get to come up with all this? And why the need for the change? That wasn't needed 20 years ago or five years ago. Why all of a sudden make this so necessary without -- you know -- doing small pieces at a time? They are attacking a very large section of land. You know, 11.4 million acres is huge.

I would just like, you know, for you to know for people such as myself -- I use this land for many different uses, through different times of the year, not only -- just like me and my family, but with other friends and family. And I just hate to see it all disappear. I've already seen this valley go away. And thank God I'm in a job -- here in about eight years, I might not have to stay here anymore.

MR. BAUGHMAN: Thank you, Mike. Again, BLM staff, do you have any questions for Michael on his comments for the record? Okay.

Responses to Comments

PM3-26 The management actions that are presented in the Proposed RMP were developed through consideration of the planning criteria presented in Section 1.5 of the Draft RMP and EIS and Proposed RMP and Final EIS, public scoping comments presented in Section 1.6, BLM policy especially as presented in the Land Use Planning Handbook, and the professional judgment of the staff in the Ely Field Office.

Transcript PM3 Continued

Are there any folks who have come tonight who would like to provide comments for the record while we've got the record open? Anybody else? If you do decide or if you would -- after having heard other folks speak, if you would like to, we would just ask you to fill out this card so that we know who you are and make sure that we get that right in the record itself.

And that also helps to assure that you, again, that you do receive materials and having signed it, and it helps in that regard as well. So please be sure and do all that. Okay. The next person then is David Dunn.

MR. DUNN: I'm originally from Colorado, but part of the reason I moved to Las Vegas was in Colorado, we used to do all the things that Mr. Wills has talked about. We used to camp. We used to ride, have all kinds of fun using the land. And it's slowly just got taken away from us, because there was big money that came in. And now there's a wilderness area that I can safely say, I haven't been in 20 years because I -- frankly, I don't think anybody that the seriously rich has been in that area, because it's all closed off.

I don't like to see that. I might disagree with some of you that something, yes, needs to be done. I think the order is the nature of the universe. But I

Transcript PM3 Continued

PM3-27

1 think it has to be taken in point, and it also has to be
2 taken in who benefits the most. The economic impact to
3 me is huge with these outlying counties and these towns.
4 We had a race earlier in Pioche, and it was a huge
5 turnout. The town loved it. It brought a lot of impact
6 into town. The club I belong to actually had a race up
7 in Caliente as well, and it had a huge economic impact
8 in that town. I also hunt. I also fish.
9 I think -- I haven't really kept track. But
10 if I had to keep track this summer, I would say I was up
11 in White Pine and Lincoln County probably half the
12 weekends this summer. And I have a son, and I have a
13 daughter, and I have a wife and we enjoy it, each time
14 that we spend together. We also do things that I teach
15 my kids to police the camp and do other things, that
16 we're trying to do our part.
17 I think, yes, there is alternatives that we
18 need to use. But in all these alternatives that I read
19 in the book, I don't see one that would benefit the
20 best. I don't claim to be a scholar. I don't claim to
21 be a genius. But I think that if we all put our heads
22 together, we can definitely come up with a plan that
23 benefitted -- I think we can take care of the wildlife.
24 Also, I think we can take care of the OHV areas. And
25 one continues -- if you cut that economic impact off of

Responses to Comments

PM3-27 Thank your for comment. The text in Section 3.23 of the Proposed RMP and Final EIS has been revised to expand the list of recreation and tourism activities that occur in the Ely RMP planning area. The economic contributions of all such activities is recognized collectively in both Sections 3.23 and 4.23. However, individual assessments are beyond the scope of the analysis. The revisions do not affect the basic impact conclusions presented in the Draft RMP and EIS.

Transcript PM3 Continued

PM3-28

PM3-29

1 those towns, it's going to be a severe impact on them.
2 Two, it's also going to be a severe impact
3 on our deserts because one of the other clubs that I
4 belong to, The Dunes and Trails of ATV, we just had a
5 huge project up in Lincoln County. And they're in the
6 process now of making grades and cattle grades and
7 donating to the BLM. They're trying to make an impact
8 here. They're trying to make their presence known, and
9 they're trying to stay in the right side, I guess, of
10 the BLM to do what it does to make it happen.
11 But I think the BLM needs to understand that
12 we are getting OHV oriented and that we are outdoors
13 oriented, and we're getting organized. We are organized
14 now. We are trying to find that medium that will help
15 us to accomplish this, but I don't see it in these
16 plans. I'm just a little -- without going into too many
17 particulars that have already been mentioned, the racing
18 structure really isn't going to work unless we really
19 put some more thought into it. It's a huge part of our
20 life here in Southern Nevada.
21 I mean, there is many, many people that use
22 that as a family time. They use that as a personal
23 time, and it's, you know, I have been involved since
24 I've been here. I'm very impressed. I'm very impressed
25 of the people involved in it, and they're trying their

Responses to Comments

PM3-28 Thank you for expressing your concern. The Ely Field Office appreciates the hard work and commitment of organizations like the Dunes and Trails ATV club and will continue to work with them on cooperative projects to enhance motorized recreational opportunities as has been the case on the Silver State Trail and the Chief Mountain and Egan Crest special recreation management areas.

PM3-29 Please refer to Section 2.4.15.1 in the Proposed RMP and Final EIS for a discussion of how recreation resources would be managed by the Ely Field Office. A majority of the decision area would be managed as an Extensive Recreation Management Area for primitive undeveloped recreational opportunities. The Ely Field Office recognizes that off-highway vehicle use is an acceptable use of public land wherever it is compatible with resource management objectives. However, no single-focus OHV emphasis areas have been identified as a recreation designation.

Transcript PM3 Continued

1 best to make an impact and to keep the environment clean
2 and to do the best that we can. But I think if we
3 overlook that, I think that it's going to be a serious
4 mistake for the future and our families' future also.
5 That's all I have to say.
6 MR. BAUGHMAN: Okay. Thank you, David. Any
7 questions of BLM staff of David, of his comments for the
8 record? Well, great. Thanks again, David. All right.
9 Well, I do not have anyone else who is signed up to make
10 formal comments on the record while we have the hearing
11 record open.
12 Let me just ask again if at this time
13 there's anybody who doesn't want to make a comment
14 tonight for the record. Because if not, what I'm going
15 to propose is that what we are going to do is we are
16 actually going to close the record. We will be here --
17 we will probably be here for another hour or so. If
18 folks come in, you know, in and decide they want to go
19 on the record, we will reopen the record. If you are
20 still here and decide that you want to -- and in
21 hindsight go on the record, we will go back on the
22 record. Or if you want to embellish your comments, we
23 will also capture that. So that's where we are going to
24 go here in just a couple of minutes, so give that some
25 thought. I believe Mr. Vasconi perhaps would like to

Transcript PM3 Continued

embellish his comments.

MR. VASCONI: Bill, is close enough.

MR. BAUGHMAN: Okay, Bill.

MR. VASCONI: I usually answer to both of them. Something that was said and I'd like to maybe emphasize a little bit. You know, when we did the wilderness study tonight, anticipated in some of your studies or whatever you want to call them up in Lincoln County. But when you got into the meetings, folks that were there were well represented and they had all of our tax figures together irregardless of what environmental group they come out of.

And it was mentioned here earlier about our washes. You know, we tried awful hard in those wilderness meetings to establish the fact that whether you follow the way -- a charity stem, a trailhead, et cetera. Those washes as you well know in Lincoln County stage pressures in the Metal Valley Wash in the washes that come down. Those washes change every couple of years. You can't tell if it is soil going through them anyway. Mother nature takes care of that.

PM3-30 That is a viable access into the areas that we could still go and they shouldn't be ignored by BLM. That those are areas that you can traverse and mother nature takes care of the changing. And the other one

Responses to Comments

PM3-30 Not all dry washes would be suitable for OHV use; however, some may be designated as trails when transportation plans are prepared for a watershed or group of watersheds. The public will be invited to participate in the transportation planning process.

Transcript PM3 Continued

PM3-31

I'd like to mention on the record because I see it here in the BLM paperwork, and some of the folks in White Pine County and especially your recent Nevada landscaping group. A lot of us see -- let me read it because I might not remember what I -- The use of controlled burn fires as a restoration tool is a viable solution to habitat improvement.

And, again, I will go to Lincoln County and White Pine, you know, along White Rock. You can walk along White Rock for miles, and there is not a blade of grass. There is not a shrub or a browse for any critter to eat. It's all juniper pinion. And a fire is a habitat improvement. It's not a bad subject. It may be with the environmentalists. You don't want to see a tree burn down. But as far as range improvement for wildlife and for grazing fire, a fire is a viable solution. I'd like that on the record.

MR. BAUGHMAN: Thank you, Bill. Any clarifying questions from staff?

MR. DRAIS: Yes, I have one question about fire. You have talked about prescribed fire, would you feel the same about natural fire?

MR. VASCONI: First of all, on natural fires, the first -- the first thing people want to do, there's no property involved, blah, blah, blah. Mostly

Responses to Comments

PM3-31 Thank you for expressing your concerns. Prescribed and managed fires are included in Appendix H of the Proposed RMP and Final EIS as tools that could be used by the Ely Field Office.

Transcript PM3 Continued

Responses to Comments

1 critters are going to get the hell out of the way. But
2 people will say, let's get up there and put that fire
3 out, right? Especially, in juniper pinion areas.
4 And, you know, the Indian nations didn't
5 have 9-1-1 to call and turn in a fire. They naturally
6 let it burn out. And that's one reason a lot of the
7 areas around Ely -- if you look at pictures that are
8 100 years old, those were Savannahs. Those were
9 grasslands. When that juniper pinion comes down the
10 side of that mountain, they destroy all of the natural
11 habitat. I don't care if it's stage pressure or
12 anything else that you need by wild critters or to
13 domestic stock. That's gone. The water from that soil
14 is gone. Eventually, those native plants are gone.
15 The answer to your question if there was --
16 if there was a fire that was not detrimental, I would
17 say, yes, there's no reason not to let that fire
18 continue. Yes, I know you have got to go back in and
19 consider reseeding, but the juniper pinion are gone and
20 at least you have something to reseed, because you can't
21 reseed a juniper pinion.
22 MR. DRAIS: So what I'm hearing you say is
23 that you would agree that both prescribed fires and
24 managed natural fires would be appropriate tools.
25 MR. VASCONI: Yes, I do, most definitely.

PM3-32

PM3-32 Please refer to Response to Comment PM3-31.

Transcript PM3 Continued

MR. BAUGHMAN: Thank you. Okay. Anybody else care to make a statement for the record at this time? Okay. We are going to be here. I'd say for probably another hour, 45 minutes to an hour at least. And if everybody is gone, quite honestly, then we're gone. But we're going to stick around for a while. We've done that at the other meetings.

And so if you change your mind and you want us to go back on the record, we'll certainly do that. I encourage you to meet some of your fellows -- commentors are here if you haven't talked to them before and find out what they had on their mind. We will be here and so we look forward to meeting, visiting you and getting to know you a little better as well. With that, we are going to close the record for the time being, and we'll reopen as necessary. Thank you very much.

(A short recess took place off the record.)

MR. BAUGHMAN: Okay. We're going to go back on the record if we could. We have Michael Albrecht.

MR. ALBRECHT: Yes.

MR. BAUGHMAN: Michael Albrecht, and he's with The Dunes and Trails ATV Club and would like to offer some comments for the public record. Go ahead, Michael.

MR. ALBRECHT: Okay. Thank you very much.

Transcript PM3 Continued

PM3-33

I am concerned as a recreationalist, that motorized access to public lands remains available. The Alternative C would seem to provide for the maximal opportunities for recreation.

PM3-34

My primary concern would be the inventory of roads and trails and allowing for a new or modified trail opportunities in the future. Reduction of areas designated as open -- possibly removed opportunities to revise little used or previously abandoned trails.

PM3-35

Alternative C would also positively impact, would positively impact local economic conditions much the same way the Piute Trail helped the Southern Central, South Central Utah.

MR. BAUGHMAN: Thank you, Michael.

MR. ALBRECHT: Thank you.

Does any of the staff have any questions of Michael regarding his comments?

MR. DRAIS: No. Just thank you.

MR. BAUGHMAN: Great. Okay. With that, we'll close the record. Thanks, Michael.

MR. ALBRECHT: Thank you.

(Whereupon, the proceedings concluded at 6:49 p.m.)

Responses to Comments

PM3-33 Thank you for expressing your concerns. Opportunities for motorized recreation will remain under the Proposed RMP.

PM3-34 Please refer to Response to Comment PM3-30 for a discussion of the transportation planning process and opportunities for public participation.

PM3-35 Comment noted.

Transcript PM3 Continued

1 CERTIFICATE OF REPORTER
2 STATE OF NEVADA)
) ss:
3 COUNTY OF CLARK)
4
5 I, Cindy R. Bowden, a duly commissioned
6 Notary Public, Clark County, State of Nevada, do hereby
7 certify that I took down in shorthand (Stenotype) all of
8 the proceedings had in the before-entitled matter at the
9 time and place indicated; and that thereafter said
10 shorthand notes were transcribed into typewriting at and
11 under my direction and supervision and the foregoing
12 transcript constitutes a full, true and accurate record
13 of the proceedings had.
14 IN WITNESS WHEREOF, I have set my hand in my
15 office in the County of Clark, State of Nevada, this 4th
16 day of November, 2005.
17
18
19
20 CR Bowden
21 By E.M.
CINDY R. BOWDEN, CCR #815
22
23
24
25

Public Meeting Transcript PM4

PUBLIC MEETING ON THE ELY DRAFT RMP/EIS

COPY

REPORTER'S TRANSCRIPT OF PROCEEDINGS

OCTOBER 24, 2005

RENO, NEVADA

Reported by: CINDY R. BOWDEN, NV CCR #815
CA CSR #12962

Transcript PM4 Continued

MEETING OF THE ELY DRAFT RMP/EIS, taken at 1981 Terminal Way, Reno, Nevada, on Monday, October 24, 2005, at 6:17 p.m., before Cindy R. Bowden, Certified Court Reporter, in and for the State of Nevada.

APPEARANCES:

For the BLM:

GENE DRAIS
JAKE RAJALA

For the ENSR:

RUSS MOORE
DEBBY SEHI
MIKE BAUGHMAN, MODERATOR

Also Present:

TINA NAPPE
ALANAH WOODY
PETER C. FRENCH
MARY SILL
SUSAN LISAGOR
STEVE KRAMER

Transcript PM4 Continued

RENO, NEVADA, MONDAY, OCTOBER 24, 2005;
6:17 P.M.
-oOo-

MR. DRAIS: I'd like to welcome you to the public meeting that we have tonight. My name is Gene Drais. I'm the acting associate field for the union field office, BLM. We are glad you're here. We certainly expected more folks tonight. Tell your friends, compadres that you -- that the public comment period is open until November 28th. It is a big document. I wouldn't wait too long to start perusing it.

It does take a little while. And as Mike Baughman will tell you later we are accepting comments tonight verbally, tonight in writing. You can send your comments via e-mail. All of those options are available up through November 28th. I'd like to introduce the persons that are here representing the first Development of Bureau of Land Management: Jake Rajala, the planning environmental coordinator. Chris Hanefeld, our public information officer for the district. The project manager for this project now is Bruce Flynn.

We have representatives from our contractor, Intertech International out of Fort Collins, Colorado. Russ Moore in the back and Debby Sehi, and our court

Transcript PM4 Continued

recorder is Cindy, and the person who will be facilitating tonight's meeting is also subcontractor of ENSR and that is Mike Baughman. And I'll turn the time over to Mike.

Oh, I'm sorry, we have a cooperating agency. I'm sorry. I apologize. One cooperating agency here represented with Rory Lamp. He's with The Department of Wildlife. And Roy's been great -- he's been by far and way the most participative of all the cooperating agencies. He is with The Department of Wildlife. So Mike, go ahead.

MR. BAUGHMAN: Thank you, Gene. And, again, my name is Mike Baughman. I'm with Intertech Services Corporation in Carson City, and our firm is a subcontractor to ENSR. It is a very limited role primarily dealing with public involvement and scoping meetings and those meetings on the draft and things of that nature.

We are here tonight to get anyone's comments that they care to offer verbally on the public record. We have a court reporter, and she is taking down your comments verbatim. They will be part of the administrative records that BLM will consider those comments when they work on the final resource management plan and environmental impact statement. And so we

would encourage if you are interested tonight in providing comments verbally for the record, we'll give you that opportunity.

You were told when you came in and I'll just remind you. If you do care to offer those verbal comments tonight, we would ask you to just fill out one of these brief cards so that we have got it for the record. And it also lets me know who to -- invite to make those comments. We will take the person's comments in the order that they are provided. As Gene indicated, in addition, you can obviously provide your comments in writing. The comment period ends November 28th.

There is a green form back there on the table that's got the address of BLM on the back. You can certainly use this form to write down your comments tonight. If you care not to go on the record, you can drop them in a box there. You can mail them in. Alternatively, you can take this -- get the address off of this if you'd like and write or type out -- and if there are a number of pages and any comments that you like, and just send those into the BLM.

There are some resource materials around the room. You can certainly take advantage of those after the meeting. Perhaps after this formal part of this hearing closes, there is a map of the field or the Ely

Transcript PM4 Continued

District over here which you can look at. There is also the RMP process which is laid out in this particular diagram right here.

We are right here holding public meetings on the draft RMP and EIS. It's a 120-day review period and that BLM will take that input to revise the document and then we will issue a proposed resource management plan and final EIS. And sometime in the summer of 2006, there will be a 30-day comment period associated with that, and you can also issue -- you can also lodge a protest with the BLM regarding that proposed plan.

There are some bulletins that go out from time to time updating folks on the progress. If you're not on the mailing list to get those bulletins and would like to get on the mailing list, again, let the staff know in the back and fill out one of the cards and so we got that information.

We currently have one person scheduled to provide oral comments. There is a whole laundry list of proposed rules over there. You can take a look at those at your leisure. Those really come into play if we had a room full of folks and we're trying to get through a room full of folks.

For tonight's meeting, generally disregard those rules with the exception of a couple. One is, is

we're here to hear from you and get your comments. We're not here to answer questions while we're on the record. So if there are questions, we would ask you to reserve those. When we're on the record, just simply tell us what you think about the RMP. Give us your comments, whatever.

We would ask that you not interrupt if somebody else is speaking and my pet peeve is if you did bring a cell phone tonight, this is not Las Vegas. I would ask you to turn it off. If you been to a meeting in Las Vegas, they answer them. They talk during the meetings, all that kind of stuff. As far as I'm concerned, totally unacceptable. In Northern Nevada, we just don't do it that way.

So if you got a cell phone, I'd ask you to turn it off or turn it on -- you know -- vibrate or whatever. I guess beyond that, the formal part of this may go fairly quickly unless we get anybody else wanting to sign up. The staff -- we will be here for probably, I guess another hour at least and we'll just hang around. We have found from time to time folks have kind of straggled in, and we will reopen the record if they decide they want to offer comments at that time.

Or if any of you decide after having been here for a little while, maybe talked around with your

staff or something that you want to go on the record, we will reopen the record. Cindy will capture your comments, and then we'll close the record after that.

So without any further ado, I would propose that we start. And are you ready, Cindy?

THE COURT REPORTER: Hmm-hmm.

MR. BAUGHMAN: She is good. She is always ready. So here we go. The first person that signed up is Marjorie Sill. And Marjorie, I would simply ask that you can -- you can comment from wherever you're comfortable.

MS. SILL: Well, no, I can stand.

MR. BAUGHMAN: Okay. It's just most important that you talk loudly which I can tell you do.

MS. SILL: I have a very loud voice.

MR. BAUGHMAN: Good.

MS. SILL: So lots of training in drama and speech, and I taught high school for 30 years, so anybody who taught high school for 30 years knows how to talk loud. Thank you all for being here.

I feel embarrassed making oral comments because I must admit that due to circumstances I have not read that document which is huge. I have seen some of the preliminary drafts of the document and I have talked to people who have read the document.

Transcript PM4 Continued

Now, I care a lot about the Ely District. I mean, this is a marvelous BLM District, probably the most important one in the state. Well, maybe, the Winnemucca District is important to -- but that's -- the Ely District is the largest district and the things that I care about the most are, first of all, the watershed, and I think that that is an extremely important thing to address is the care of the watershed. I know that they have a lot of fires down in the southern part of the district, and they are going to be -- have to be -- there's going to have to be some work done, so that you do not have invasive species moving in and really ruining what we have. PM4-1

I also think the very, very important thing, of course, is the water and I don't think this EIS addresses the water question as I understand. PM4-2 I think another very important thing is the wildlife and magnificent wildlife in the Ely District, magnificent PM4-3 cultural values and I would like to speak particularly to some things that I think needs to be much better controlled, and that is OHV use and ORV of -- well, if you go in to the Ely Districts, you noticed random of -- well, I wouldn't even call them trails, intrusions into the watershed going up to cultural resources. PM4-4

And I hear from my archaeologist friend,

Responses to Comments

PM4-1 The Ely Field Office is currently assessing watersheds and monitoring emergency rehabilitation treatment in the Meadow Valley Wash. These analyses will also address invasive species composition in the major ecological sites of the watershed. Invasive species that dominate communities are considered altered states of state and transition models. Watershed analysis has and will continue to consider invasive species as part of the evaluation and implementation processes.

PM4-2 Please refer to Sections 2.4.3, 3.3, and 4.3 in the Proposed RMP and Final EIS for a discussion of water resources.

PM4-3 Please refer to Sections 2.4.6, 3.6, and 4.6 in the Proposed RMP and Final EIS for a discussion of wildlife resources.

PM4-4 In response to your comment, text has been added to Section 2.4.14 of the Proposed RMP and Final EIS to address OHV use near cultural resources.

Transcript PM4 Continued

PM4-4

1 although, I fear for my archaeologist friends that the
2 worse effect on cultural resources particularly on
3 petroglyphs, things like that is caused people coming up
4 very close to them in ORVs and destroying them and
5 taking them away, whatever.

PM4-5

6 And that is something that really concerns
7 me because that is our Nevada heritage and that is
8 extremely important. So what I would like to see is the
9 control of ORV use. That doesn't mean that you have to
10 stop it. I mean that all ORVs should be confined to
11 designated routes or roads and that everything be looked
12 at very, very carefully to see if there are intrusions
13 into areas that shouldn't happen at all.

PM4-6

14 And I think that this is -- the probably --
15 the ORV use is the most destructive or being an issue as
16 I should say because I drive an ORV vehicle. I mean, I
17 drive a 4Runner, so I'm not talking about legitimate use
18 of ORVs. I'm talking about the use of -- by people who
19 I guess are ignorant of what they can do or what they
20 can't do, or in some cases, I don't think they care.
21 And if they don't care we have to care and that includes
22 -- certainly, the BLM has to care about how the vehicles
23 are used.
24 So I think you need to put much more
25 emphasis on the control of vehicle use of -- I think

Responses to Comments

PM4-5 In response to this and similar comments, the text in Section 2.4.14.1 of the Proposed RMP and Final EIS has been revised to clarify how comprehensive travel management planning will occur in the Ely RMP planning area.

PM4-6 Please refer to Response to Comment PM4-5.

Transcript PM4 Continued

PM4-6

PM4-7

that you will have to work with the local law enforcement agencies because that -- they are probably responsible for citations and things like that.

I don't know how many rangers the BLM has in the Ely District, but if it's like the districts I know here, you have a very inadequate number to cover the problems that you have. So I would like to see much more emphasis on the control of illegitimate off-road vehicle use. And that will help wildlife. That will help cultural resources. That will certainly help the problems of erosion on the watersheds. And I think if you would address that problem, you're going to address many of the problems that you have in that district.

Thank you. And I plan to submit much more detailed written comments. And I'm sorry I'm so ill-prepared but I didn't want to let our charming court reporter have something to take down.

MR. BAUGHMAN: Thank you very much, Marjorie. Let me ask -- and I forgot to mention when we started, after each person gives their formal comments for the record, I will ask that the BLM staff, if they have any questions of the speakers just to make sure that they don't go away -- a misunderstanding or something like that.

So I'll ask the staff if they have any

Responses to Comments

PM4-7 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP. The hiring of staff in the Ely Field Office is based on funding authorized by Congress. However, the Ely Field Office agrees with the need for adequate enforcement of regulations.

Transcript PM4 Continued

1 questions of Marjorie with regard to her specific
2 comments.
3 MR. DRAIS: I guess I do have a clarifying
4 question.
5 MS. SILL: Yes, Gene.
6 MR. DRAIS: Are you mainly concerned about
7 the OHV use -- are you concerned about the OHV use both
8 on trails and off trails?
9 MS. SILL: I'm concerned about them on
10 trails. If there are too many trails going from one
11 location to another location --
12 MR. DRAIS: Right.
13 MS. SILL: -- or if the trails go too close
14 to satisfy petroglyphs, otherwise I'm concerned about
15 them off the trail. I'm concerned about them being on a
16 legitimate trail like the trail in Lincoln County and
17 then going off that trail. And that is -- I think we
18 need a much better education effort with people. There
19 are some people, unfortunately, who did get to serve
20 right to do anything. And, of course, we all know it
21 isn't we can't do anything we want to. And I just feel
22 that if we need to emphasize what I see as the big
23 problem in this district and other districts of the BLM
24 of Nevada.
25 MR. DRAIS: Thank you for your concerns

PM4-8

Responses to Comments

PM4-8 Please refer to Response to Comment PM4-5.

Transcript PM4 Continued

about Boulder City. That's what I thought you said.

MS. SILL: Right.

MR. BAUGHMAN: Thank you, Marjorie. Okay. The next person that we have signed up to speak is Tina Nappe.

MS. NAPPE: Thank you. I, too, unfortunately may have had that box full of documents sitting in my house gathering dust for a while. But I would like to address today is something you probably -- maybe not even be important for the record. But about two years ago, I was part of the Efferson Workshop Group that met for about a year and a half. And we did a number of tours, and I am kind of interested to see whether any of that information or that process as absorbed by the BLM staff and others who had participated in -- had an impact on the development of the EIS.

PM4-9 There were a number of issues that came up out of that and one of them was protection of aspen groves. Some concerned potentially -- eventually about elk or deer, a livestock excursion of pines, I think in the aspen groves. That basically the protection of aspens. There was some concern about protection of White Stage or having it become healthier. Again, the off-highway vehicle use was a certain amount of concern

Responses to Comments

PM4-9 In response to your comment, the text of Section 2.4.5.3 of the Proposed RMP and Final EIS has been revised. Grazing will not be used as a tool for aspen management. The Efroymson process was useful for identification of current land management issues. In addition, participants in the process identified types of management actions and approaches to address the issues.

Transcript PM4 Continued

PM4-9

1 as it would affect the population.
2 But primarily at this point, and the person
3 who spent some time in this process, I'm kind of
4 interested to see whether it was -- after looking at
5 this, whether it was a process that was useful in any
6 way and developing an ecological approach, particularly
7 to the issues that the Bureau of Land Management is
8 addressing. Thank you.
9 MR. BAUGHMAN: Any questions of the staff of
10 Tina? Great. Thank you, Tina. Any questions of the
11 staff of Tina? No comments. Very good. Thanks again.
12 Okay.
13 Is there anyone else who would like to make
14 comments for the public record while we have the record
15 open? As I mentioned earlier if you would, we would ask
16 you to fill out this card.
17 If not, what I'm going to suggest is we will
18 close the record, the staff will be around here I'd say
19 for probably -- probably an hour. And if any of you
20 change your mind or if other people come in, just let
21 one of us know that you would like to offer comments on
22 the record. We will reopen the record and Cindy will
23 capture your comments and then they will be available
24 for consideration.
25 Again, I would remind you that if you'd

rather just simply provide written comments, there are forms in the back. You can fill it out, leave it here tonight or mail it in or send us a letter. Those comments, again, are due November 28th.

One more time, is there anybody at this point that would like to make comments for the record?

If not, I think we'll go ahead and close the record now and we'll be around -- maybe chat with some of you and certainly you can chat amongst yourselves and thank you for coming tonight. Thank you.

(Whereupon, the proceedings concluded at 6:36 p.m.)

Transcript PM4 Continued

CERTIFICATE OF REPORTER

STATE OF NEVADA)
) ss:
COUNTY OF CLARK)

I, Cindy R. Bowden, a duly commissioned Notary Public, Clark County, State of Nevada, do hereby certify that I took down in shorthand (Stenotype) all of the proceedings had in the before-entitled matter at the time and place indicated; and that thereafter said shorthand notes were transcribed into typewriting at and under my direction and supervision and the foregoing transcript constitutes a full, true and accurate record of the proceedings had.

IN WITNESS WHEREOF, I have set my hand in my office in the County of Clark, State of Nevada, this 4th day of November, 2005.

CR Bowden b/RB

CINDY R. BOWDEN, CCR #815

Letter S1

ALLEN BIAGGI
Director
Department of Conservation
and Natural Resources

PAMELA B. WILCOX
Administrator

KENNY C. GUINN
Governor

State Land Office
State Land Use Planning Agency

Address Reply to

Division of State Lands
901 S. Stewart St. Suite 5003
Carson City, Nevada 89701-5246
Phone (775) 684-2720
Fax (775) 684-2721
Web www.lands.nv.gov

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Division of State Lands

NOV 2005
RECEIVED

November 18, 2005

Kimberly Perondi
Nevada State Clearinghouse
209 East Musser Street, Room 200
Carson City, NV 89701

RE: E2006-038: BLM Ely District Draft RMP/EIS

Dear Kim:

The Nevada State Land Use Planning Agency has extensively reviewed the BLM Ely District's Draft RMP/EIS (Draft). This agency enjoys a very positive working relationship with BLM and provides these comments as constructive criticisms. The update to the Ely RMP is long overdue and welcome. The BLM Ely Field Office staff is to be commended for all of the time, effort and commitment that has obviously gone into this Draft. Recognizing that this update is a monumental endeavor, wherever possible, suggested improvements to the text and solutions are included to make the comments as effective as possible.

S1-1 It is apparent that the overall management focus of the Draft is ecosystem health through adaptive management, and this concept is strongly supported. However, how this overall concept relates to components of the Draft is in question due to internal inconsistencies and discrepancies. The inconsistencies and discrepancies make it very difficult for the reader to comprehend and support the preferred alternative, or any alternative for that matter, and understand the differences between the other alternatives. It is in BLM's best interest to provide a Draft in a format that reduces questions and confusion and allows for educated comprehension, consensus and certainty. These comments are provided to help reach that end.

Responses to Letter S1

S1-1 The format for the Draft RMP and EIS was developed to meet CEQ requirements for EISs, BLM Land Use Planning Handbook guidelines for RMPs, and the Ely Field Office's need to have the RMP organized by resource program. Consistency concerns were raised by a number of commenters. Chapters 2 and 4 in the Proposed RMP and Final EIS, in particular, have been revised to correct inconsistencies among resource programs.

Letter S1 Continued

General Comments - Readability

It is paramount that the reader be able to understand and agree/disagree with the content of the material and the process utilized to determine the preferred alternative.

S1-2
- It is very evident that numerous writers were involved in the completion of the Draft, and this is understandable. However, it is also evident that more care is needed from the "central point of contact editor" to pull together the different written sources and ensure that there is compatibility and a big picture accuracy. Many sections were written in a semi vacuum as evidenced when their content is compared to other sections.

S1-3
- A strong concern of this agency is the lack of information provided to enable the reader to make an educated decision. The Draft has over one thousand pages of information. However, useable information is defined by this reviewer as user-friendly, concise, accurate, supported by back-up documentation and most importantly, strategically placed. Contrary to this reviewer, most readers cannot or will not read the entire document due to the lack of suitable information as defined herein. Therefore, a very well written summary is crucial to get stakeholder buy in.

S1-4
- A consistent theme throughout the Draft is a statement being made without back-up information provided for the reader to utilize to comprehend the statement and make an informed decision on support of the alternative. BLM would avoid many questions if statements were not made without supporting rationale.

S1-5
  - Example, page 2.5-138: Loneliest Highway Special Recreation Management Area statement. There is absolutely no supporting documentation or rationale to explain why this statement was made. Without back-up information, the reader cannot determine support or opposition to the alternative.

S1-6
- Section One, *Summary*, should be written in a manner that enables the majority of readers to understand the alternatives and more importantly, the differences between the alternatives.

S1-7
  - **Solution:** The Preferred Alternative should be located on page S-i, that is, at the very beginning of the summary discussion, and before the other alternatives. Throughout Section 2 and Section 4, the Preferred Alternative should always be located first.

Responses to Letter S1

S1-2 Comment noted. The Proposed RMP and Final EIS has been edited for clarity.

S1-3 The format for the Draft RMP and EIS was developed to meet CEQ requirements for EISs, BLM Land Use Planning Handbook guidelines for RMPs, and the Ely Field Office's need to have the RMP organized by resource program. This has made the document difficult to understand for certain reviewers, based on the comments the Ely Field Office has received. Changes to improve clarity have been incorporated into the Proposed RMP and Final EIS; however, the major modifications requested in certain comments would not meet the requirements of regulations or the intent for the Proposed RMP and have not been incorporated. The Summary has been extensively modified to improve its effectiveness.

S1-4 Thank you for expressing your concerns. Supporting rationale has been added throughout the document and in responses to comments to help improve understandability.

S1-5 In response to your comment, the management actions in Section 2.4.15.1 of the Proposed RMP and Final EIS have been revised to include the Loneliest Highway special recreation management area. Please refer to this section for a description of the proposed areas and clarification of recreation management prescriptions.

S1-6 In response to your comment, the Summary in the Proposed RMP and Final EIS has been revised to more closely follow Council on Environmental Quality regulations for content. This change resulted in a reduced length for the Summary, which should improve its effectiveness.

S1-7 In the Proposed RMP and Final EIS, the Proposed RMP is presented first, followed by Alternatives A, B, C, and D.

Letter S1 Continued

S1-8 ❖ **Solution:** Each alternative should have a one line title that distinguishes it from the others. For example, "Accelerated Commodity Production", "Passive Management", "De-emphasis on Commodity Production", "Multiple Use Proactive Planning", etc.

S1-9 ❖ **Solution:** The alternatives should NOT be written in large block paragraph format. The description of each alternative should include bulleted statements that clearly and concisely detail the unique characteristics of the subject alternative as well as an accurate listing of the differences between it and the other alternatives.

S1-10 ▪ Section Two, *Alternatives*, should NOT be formatted in its current manner that includes the repetitive and confusing "same as Alternative B, or other" statements. A very good example of the confusing format of the alternatives discussions is contained in Section 4.13, *Renewable Energy*.

S1-11 ➢ Section 4.13 is a good example of how not to describe the different alternatives. It is almost impossible for this reader to follow and understand what unique characteristics apply to each alternative as well as what the differences are. Each alternative's discussion should include succinct bullets that describe the attributes in manner that the reader can comprehend what is presented AND make a determination on support or opposition to the preferred alternative.

S1-12 ➢ Every alternative should have its complete discussion attached, without the need for the reviewer to flip pages to another alternative to see the description because both are similar. The current format is extremely confusing, especially in the case where one is referred to another alternative and once there, is referred on to yet another.

S1-13 ➢ Section 1.5, *Planning Criteria*, is very well written and should be a good resource for the reader to get a feel for how decisions are being made. However, this section details criteria for proposed management direction. It is difficult to understand how BLM came up with the Preferred Alternative by utilizing the criteria.

S1-14 ❖ **Solution:** In Section 1.5, *Planning Criteria*, provide a discussion after each criterion (bulleted format, just the highlights) that includes the merits (lack thereof) of each Alternative. This exercise will give the reviewer a comfort level as to why the Preferred Alternative was chosen. This

Responses to Letter S1

S1-8 In preparing the Draft RMP and EIS, BLM discussed naming the alternatives, but decided against this format. The themes of each alternative are described in the summary paragraphs found at the beginning of each Alternative discussion (2.4, 2.5, etc) of the Proposed RMP and Final EIS.

S1-9 The presentation of alternatives is consistent with the BLM's Land Use Planning Handbook. Please refer to Table 2.9-1 in the Proposed RMP and Final EIS where management actions for each alternative can be easily compared.

S1-10 Cross references between alternatives were used to save space in the document. Although the Ely Field Office has changed the Proposed RMP to stand alone, single cross references between other alternatives remain.

S1-11 In response to your comment, the text in Section 4.13 of the Proposed RMP and Final EIS has been revised to clarify the discussion of renewable energy impacts. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S1-12 Please refer to Response to Comment S1-10.

S1-13 The Proposed RMP is a compilation of those individual management actions from the other four alternatives, plus unique management actions, that the BLM has determined would best meet its obligations for multiple use management of the resources found within the Ely RMP planning area, given the overall objective of landscape restoration and applicable laws, regulations, and policies. The Proposed RMP was not formulated directly from the Planning Criteria.

S1-14 The management actions that are presented in the Proposed RMP were developed through consideration of the planning criteria presented in Section 1.5 of the Draft RMP and EIS and Proposed RMP and Final EIS, public scoping comments presented in Section 1.6, BLM policy especially as presented in the Land Use Planning Handbook, and the professional judgment of the staff in the Ely Field Office. The Proposed RMP is a compilation of those individual management actions from the other four alternatives, plus unique management actions, that the BLM has determined would best meet its obligations for multiple use management of the resources found within the Ely RMP planning area, given the overall objective of landscape restoration and applicable laws, regulations, and policies.

Letter S1 Continued

S1-14 exercise trends towards the successful "Choosing by Advantages" (CBA) decision-making process employed by the National Park Service. Without this exercise, it is very difficult for the reviewer to support any alternative with confidence.

S1-15 ❖ **Solution:** Each subsection should include a brief cross reference discussion to Section 1.5, *Planning Criteria* to help the reader comprehend how the decision on the Preferred Alternative was made. It will help the reader comprehend how BLM reached the decisions contained in this section by providing measurable and consistent criteria utilized to make the decisions.

S1-16 ▪ Section Four, *Environmental Consequences*, contains inconsistencies regarding how impacts are described and cross-referenced between different resources. The section is internally inconsistent between the alternatives.

S1-17 ➢ For example, Section 4.18, *Wild Horses*, page 4.8-14, first paragraph, includes the following. *"Four of the six areas still open to off-highway vehicles in this alternative..."*. There are no areas "open" to off-highway vehicles in the preferred alternative. All areas are either restricted or closed.

S1-18 ➢ Another example, impacts between Alternative A and Alternative E in Section 4.14, *Travel Management and Off-Highway Vehicle Use*, are confusing and inconsistent. Alternative A proposes the status quo with no limitations on where vehicles are allowed. Alternative E proposes the prohibition of cross country travel and limitations to travel on designated roads and trails. However, page 4.14-5, Alternative E, second paragraph, lists impacts to other programs as "similar to Alternative A". The impacts to other programs are drastically different due to the prohibition of OHV use cross country.

General Comments - Process

S1-19 • The summary section should include a better discussion on process. The reader is not assured of the merits of any alternative unless the process utilized to determine the alternatives is understood. For example, the "Choosing by Advantages" (CBA) process that the National Park Service employs to determine the preferred alternative is strongly supported by this agency as a valuable and defendable tool in sound decision making. The Draft does not adequately

Responses to Letter S1

S1-15 The Planning Criteria provided general guidance for the Ely Field Office in developing the RMP; however, they were not used to evaluate each alternative in the process of developing the Proposed RMP. Alternative E in the Draft RMP and EIS was a compilation of those management directions that the Ely Field Office determined best met the multiple use objectives for the Ely RMP planning area. Alternative E as presented in the Draft RMP and EIS has been modified for the Proposed RMP and Final EIS to incorporate comments from a wide array of users of the planning area.

S1-16 In response to your comment, Chapter 4 in the Proposed RMP and Final EIS has been revised to remove inconsistencies.

S1-17 In response to your comment, the text in appropriate paragraphs of the Proposed RMP and Alternatives B and C in Section 4.8 of the Proposed RMP and Final EIS has been revised to clarify that the discussion refers to use of off-highway vehicle emphasis areas rather than open areas. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S1-18 Please refer to the text in Section 4.14 of the Proposed RMP and Final EIS and note that the discussion you refer to in your comment is not regarding the impacts of travel management and off-highway vehicle use on other programs as you suggest, but rather the impacts of those other programs on travel management and off-highway vehicle use. The text is correct as written and the basic impact conclusions presented in the Draft RMP and EIS have not changed.

S1-19 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes. See Section 2.2 for the considerations for development of the alternatives.

Letter S1 Continued

S1-19 explain nor justify ***why the preferred alternative is preferred?*** This is a fundamental stumbling block for the reader of this DEIS/RMP. This lack of reader confidence could be addressed, in part, if the aforementioned formatting changes and clarifications were implemented.

S1-20
- All sections need a clear explanation and cross-referencing of what criteria were utilized to arrive at statements and actions.

S1-21
- All monitoring sections need a concise discussion on what parameters will be utilized to measure the results and success of any action. Without this, it is unclear how adaptive management practices will work.

S1-22
- There is a lack of clear discussion on timing of implementation of actions and the ownership of the implementation of the actions.

General Comments - Maps

S1-23 Another way to make the Draft more reader-friendly, which makes for better informed reviewers and potentially less confusion and questions directed at BLM, is to provide all maps in a consistent format and size. The maps contained in the Draft are of different page sizes, different GIS background layers (or lacking completely), and have colors and hatching that were not chosen thoughtfully.

S1-24
- ❖ **Solution**: All maps should have the following consistent format:

- Size should be 11x17.
- Every map should include a very detailed legend that explains accurately what the map topics represent. Many legends need expanding.
- Wherever possible for readability, all backgrounds should include GIS grey-shade topo or other consistent backgrounds (i.e. water bodies, roads, rail lines, peaks, etc.) to enable the reviewer to effectively locate listed impacts and points of discussion.
- Every community in the district should be included on all maps. Many are consistently omitted.
- Names for valleys and mountain ranges should be included on every map where practical.
- US Forest Service Lands, Native American reservations, and Great Basin National Park, should be identified on all maps where practical.
- Many maps need blow ups of certain key areas that are much too small to see on an 11x17 district-wide scale.
- Care should be practiced in choosing the most readable hatching and color combinations.
- The preferred alternative map should be placed first amongst all of the other alternatives, consistently, for each topic.

Responses to Letter S1

S1-20 Please refer to Response to Comment S1-19 for a discussion of development of the management actions in the Proposed RMP.

S1-21 In response to your comment and similar comments, the discussion of adaptive management and monitoring has been revised and expanded in the Proposed RMP and Final EIS (see Section 1.7 and Section 2.4.23).

S1-22 Where appropriate, at this broad-scale level for an RMP, the timing of the implementation of actions is identified, such as the priority for watershed analysis. An implementation plan for all approved management actions will be completed after the Record of Decision. The subsequent watershed analysis will define the specific actions needed and the timing of those actions at a more site-specific level. If by "ownership" you mean identification of the responsible party, this will also be done at the more appropriate site-specific level.

S1-23 The scale (size), background, and shading on the maps were selected to show the information being presented as clearly as possible. Due to the size of the Ely RMP planning area, it is not appropriate to have all maps formatted the same.

S1-24 Please refer to Response to Comment S1-23 for a discussion of the mapping approach. Many of your suggestions were discussed and dismissed as the maps for the Draft RMP and EIS were prepared and reviewed by the Ely Field Office. Other comments that you have presented have been incorporated into the maps contained in the Proposed RMP and Final EIS.

Letter S1 Continued

S1-25

- Most importantly, numerous instances exist where cross referencing of maps results in inconsistencies and discrepancies (see below for specific comments). Each map may make sense on face value, but when compared to other maps, the rationale may fall apart. This is a concern, especially when one tries to comprehend cumulative impacts and incremental effects.

Specific Comments - Maps

S1-26

"General Comments" listed above apply to all maps contained in the Map Volume. The most notable additional specific comments follow and are not all inclusive. It is strongly recommended that adequate and careful editing of these maps occur to ensure quality control and accuracy in a big picture, cross-referenced context.

Map 2.4-5, *Visual Resources*

S1-27

- What is BLM's policy on Visual Resources management? Is Map 2.4-5 a snapshot in time that only portrays existing conditions, subject to change at any time? Or does the plan represent strong preservation policies that are intended to provide assurances to the public about protection of valuable visual resources? This discussion is completely absent from the Draft and has far reaching implications on the integrity of the overall Draft. Many other potential uses can and will have direct impacts to visual resources. The Draft, as written with a lack of rationale and policy, trivializes visual resources and projects the appearance that visual resources are low priority and expendable upon application of a high priority project.

S1-28

- In fact, when asked of BLM's project manager for this Draft what the process would be for a power line through a VRM Class I/II area, the response was, *"amend the plan and downgrade the VRM Class"*. This is cause for serious concern, especially since this statement is in direct conflict with Section 1.3.2.1, "Nevada BLM Vision for the Future" on page 1.3-2. The first sentence states, ***"We envision a Nevada where there are large open spaces, providing the characteristic landscape for which the state is famous."*** BLM has the opportunity to preserve Nevada's "characteristic landscape" through strong policy statements and management directions that protect the integrity of Visual Resource Management Classes. Currently the Draft lacks any certainty or clarity on this all-encompassing, big picture topic by **avoiding a**

Responses to Letter S1

S1-25 Thank you for expressing your concerns. Where inconsistencies among maps have been discovered, they have been corrected in the Proposed RMP and Final EIS.

S1-26 Thank you for expressing your concerns. All maps have been reviewed and modified where appropriate.

S1-27 Please refer to section 2.4.11 in the Draft RMP/ EIS and Proposed RMP / Final EIS for a discussion of visual resource management policy. The VRM classifications shown on Map 2.4.11-1 have been incorporated into the Proposed RMP and will be used during the life of the plan to manage visual resources. Impacts to visual resources are discussed in Section 4.11.

S1-28 Please refer to Response to Comment S1-27 for a discussion of visual resource management policy.

Letter S1 Continued

S1-28 **defendable discussion on cumulative and incremental impacts.**

S1-29
- Multiple uses identified on other maps have a direct conflict with the visual resource management classed portrayed on this map. Two of many examples include:
  - Potential for wind development north of Hiko (west of Highway 318), west of Hiko (north of Highway 375) and south of Beaver Dam State Park on the Utah Border occur directly within a VRM Class I zone.

S1-30
  - The Spring Valley proposed utility corridor (Map 2.4-22) is identified as passing directly through VRM Class II zones when overlain on this VRM map. Case in point, if a new utility line is proposed through an area with a VRM Class of I or II, then it would be expected that the line would be placed underground or mitigated in a way to maintain the integrity of the existing VRM Class. It is not appropriate for the VRM class to be amended due to the new use.

S1-31
  - Other maps have cross referencing discrepancies. For example, lands identified for special recreation permits (motorcycle and truck races) are the same lands identified as having high concentrations of sensitive resources and wildlife values and springs in the Egan Crest area.

S1-32
- US Forest Service Lands, reservations, and Great Basin National Park, are not identified. Some discussion beyond the listing of cooperating agencies is needed for the reader to understand the rationale for VRM class designations. For example, how is it possible that all lands surrounding Great Basin National Park are identified as VRM Class III or IV? Shouldn't there be some proactive policy that encourages a buffer zone around the park?

S1-33
Maps 2.4-8 through 2.8-21, *Lands Available for Disposal*

- These maps are a very good candidate for all comments listed in the General Comments – Maps section previously. Of utmost importance is the inclusion of a useable GIS topo background (grey shade) so that the reviewer can find relative vantage points on the ground. The current format makes these maps a challenge to interpret.

Responses to Letter S1

S1-29 Please refer to Section 4.11 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of impacts to visual resources. VRM class objectives do not prohibit other multiple uses. The type of issues raised in your comment will be considered by the Ely Field Office when project-specific plans for wind energy development are evaluated.

S1-30 Please refer to Section 4.11 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of impacts to visual resources. VRM class objectives do not prohibit other multiple uses. Mitigation for potential visual resource impacts would be evaluated on a project-specific basis.

S1-31 In response to your comment, the text in Section 4.15 of the Proposed RMP and Final EIS has been expanded to clarify the impacts associated with special recreation permit areas. Conflicts among resources will occur and will be addressed at the time specific projects are reviewed and implemented.

S1-32 VRM classes were designated based on the visual characteristics of the Public lands being managed by the Ely Field Office. BLM does not designate VRM buffer zones around lands managed by other agencies.

S1-33 In response to your comment and similar comments, numerous modifications to maps have been made to improve the clarity of presentation.

Letter S1 Continued

S1-34 Maps 2.4-24, 2.4-25, *Potential Wind Development*

- These maps are a good example of proper use of GIS topo (grey shade) background. However, it is very important that mountain range and valley names be included to help the reviewer understand locations.

S1-35 Map 2.4-32, *District Transportation Map*

- All roads, where practical, should include the labeling of commonly accepted names.

S1-36 Map 2.5-1, *Duck Creek Basin Transportation Plan*

- This map is an excellent example of one needing a GIS topo Grey shade background and valley/canyon names. Without such a background, the information contained on the map is almost useless.

S1-37 Map 3.1-1, *Egan Basin Watershed Soil Units*

- It appears that information was left off of this map (soil unit numbers with key). Without this information, this map should be removed from the plan.

S1-38 Map 3.3-1, *Springs and Perennial Streams*

- This is a very important map and should be revised to include mountain, valley and canyon names in a multi page format so that details and locations can be understood. Of more importance, the spring names themselves should be included, either by name on the map, or by number reference keyed to the legend. Without this information, it is not clear why the map was even included.

S1-39 Map 3.5-6, *Risk of Cheat Grass et al*

- This map has format errors and is unreadable.

Specific Comments from the beginning of the document

Page S-i

S1-40
- The Table of Contents, beginning on page i and ending on page xxii should be relocated prominently to the page prior to page S-i. As is, this very important section is lost in between other sections of less importance.

Responses to Letter S1

S1-34 To keep the maps as legible as possible, extra background material such as mountain range and valley names were not included on these maps so as to avoid obscuring the primary information being presented.

S1-35 Thank you for your comment. Given the scale of the map, it is not possible to label all the roads. The intent of the map was to provide the reader with the general distribution of highways and roads within the Ely RMP planning area.

S1-36 In response to your comment, Map 2.5.14-1 in the Proposed RMP and Final EIS has been modified to more clearly present the roads in the Duck Creek Basin.

S1-37 This map was included to display to the reader a typical number and distribution of soil units within a watershed. The individual soil unit numbers are not relevant to the intent of the map.

S1-38 Thank you for your comment. Given the scale of the map, it is not possible to label all the basins, ranges, and springs. The intent of the map was to provide the reader with the general distribution of springs within the Ely RMP planning area.

S1-39 In response to your comment, Map 3.5-6 in the Proposed RMP and Final EIS has been modified to more clearly present the risk of cheatgrass invasion. New mapping became available subsequent to publication of the Draft RMP and EIS.

S1-40 The location of the Table of Contents follows standard document organization format.

Letter S1 Continued

S1-41

Pages S-i through S-vi

This would be the appropriate section to include questions and answers on many of the concerns listed previously in this letter regarding process and readability.

- What are the criteria utilized to determine the preferred alternative as well as all of the management directions?
- What defendable decision-making process did BLM employ to determine the preferred alternative?
- What is the BLM policy on maintaining the integrity of areas with high quality VRM classes?
- How will the RMP management directions and actions be monitored for success?
- What consistent measures will be employed to ensure affective monitoring?
- How and by whom will the management directions and actions be implemented?

S1-42

Page S-vii:

- The first paragraph should include a sentence that states that Chapter 2 of the Draft is the Resource Management Plan and the remainder chapters are relevant to the EIS.

S1-43

Pages S-xi through S-xiii

As mentioned previously, this is the spot for BLM to make it as simple as possible so that the reader can understand each alternative and the differences between each alternative. This is the point in the document where 99% of readers will look for information. If this section is written and formatted in as user-friendly a manner as possible, it would drastically reduce questions and concerns.

S1-44

- Each alternative should have a one line title that distinguishes it from the others. For example, "Accelerated Commodity Production", "Passive Management", "De-emphasis on Commodity Production", "Multiple Use Proactive Planning", etc.

Responses to Letter S1

S1-41 The Question and Answer section is not required by CEQ regulations or BLM planning policy. It has not been retained in the Proposed RMP and Final EIS.

S1-42 In response to your comment, the text in the Introduction to the Summary of the Proposed RMP and Final EIS has been expanded to clarify where in the document the proposed plan is presented.

S1-43 In response to your comment, the Summary in the Proposed RMP and Final EIS has been revised to more closely follow Council on Environmental Quality regulations for content. This change resulted in a reduced length for the Summary, which should improve its effectiveness.

S1-44 Please refer to Response to Comment S1-8 for a discussion of titles for the alternatives.

Letter S1 Continued

S1-45
- The alternatives should NOT be written in large block paragraph format. The description of each alternative must include bulleted statements that clearly and concisely detail the unique characteristics of the subject alternative as well as an accurate listing of the differences between it and the other alternatives.

S1-46
- As written, it is extremely difficult to distinguish between Alternative B and Alternative E.

S1-47

Page S-xvi

- Table S-2 should include a note that clearly informs the reader that Table 4.1-1 is identical. Table 4.1-1 should have a similar note. This will reduce confusion.

S1-48

Page S-xxiv, *Alternative E, Renewable Energy*, fourth column

- What is the meaning of the following sentence? *"The management direction would address issues as they arise, but would not provide the opportunity to develop management strategies for anticipated future conditions."* It is believed that the first part implies adaptive management. However, the second part needs clarification as to why there is no opportunity for management strategies for anticipated future conditions. The statement seems to be an error.

S1-49

Page S-xxv, *Woodland and Native Plant Products*, Alternative B

- The discussion regarding expansion of commodities production is in direct conflict with the more detailed discussion on page 2.2-1 which states that commodities production will be constrained.

S1-50

Page S-xxviii, *Special Designations*

- It is very confusing that Alternative C includes 20 new ACECs while Alternatives B and E indicate 18 new ACECs. When one reads the summary for Alternative C on page S-xii, there is no rationalization included that explains the differences. The rest of the summary description for Alternative C would lead the reader to surmise that there should be less ACECs. It is further unclear why Alternative E has less proposed ACECs, after one reads the summary and attempts to understand the Preferred Alternative's parameters.

Responses to Letter S1

S1-45 Please refer to Response to Comment S1-9 for a discussion of the format for presenting the alternatives.

S1-46 Thank you for expressing your concerns. In the Proposed RMP and Final EIS, Alternative E has been modified to be the Proposed RMP and is presented first in all sections.

S1-47 In response to your comment, the Summary in the Proposed RMP and Final EIS has been revised to more closely follow Council on Environmental Quality regulations for content. This change resulted in a reduced length for the Summary, which should improve its effectiveness. Table S-2 has been eliminated.

S1-48 Table S-2 has been eliminated from the Proposed RMP and Final EIS.

S1-49 In response to your comment, the text in Section 2.4.17 of the Proposed RMP and Final EIS has been revised to clarify the discussion of commodity production. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S1-50 Please refer to Appendix D in the Proposed RMP and Final EIS for a discussion of why different ACECs were identified for each alternative. ACEC designation not only considers areas that contain sensitive resources but also whether those resources are in need of special management, beyond what can be provided by the management actions that would be applied across the entire Ely RMP decision area. Alternative C is more oriented toward commodity production; therefore, the BLM felt that two additional areas would require special management, and thus ACEC designation, when compared to the Proposed RMP and Alternatives B. The text has been revised to clarify this point.

Letter S1 Continued

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Kimberly Perondi
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Page 11

S1-51 Page S-xxix, *Economic and Social Conditions*

- The Draft loses credibility and substance by the lack of program specific goals for this topic. There is no explanation as to why this is lacking. The document should be amended by preferably including goals or lacking that, a concise explanation for the omission. Socioeconomic factors are very identifiable to many stakeholders.

S1-52

- It is unclear why payment in lieu of taxes (PILT) payments would increase in Lincoln County, as stated under Alternative E. The alternative includes the potential disposal of over 100,000 acres of public lands. This would undoubtedly result in a reduction in that county's PILT payments. This statement needs clarification.

S1-53 Page S-xxx, *American Indian Issues*

- This section should be renamed to "Native American Issues" or "Tribal Issues".

S1-54

- The trend towards tribal expansions will have impacts district-wide. The Draft should include a discussion on the issues surrounding tribal expansions and how changes in land status could affect other management directions.

S1-55 Section 1.6, *Scoping Issues*

- The Draft lacks to include "Renewable Energy" as a separate Issue. Portions are found in other locations (e.g. Geothermal in the "Minerals" section), but there is a lack of mention of wind and solar energy. Wind and solar energy development has far reaching incremental and ancillary impacts on multiple uses due to proliferation of new roads and infrastructure.

S1-56

- This topic was an important aspect of the scoping process by this reviewer/commenter, and has been omitted.

S1-57 Section 1.8, *Relationships that are Key to the Ely District RMP/EIS*

- Section 1.8.3, *Local Government*, fails to include coordination with locally appointed Public Land Use Advisory Councils (PLUACs). It is very important that all PLUACs are consulted in regards to any proposal that affects public lands.

Responses to Letter S1

S1-51 The BLM does not make allocations for social or economic goals; however, it is required under NEPA regulations to address impacts to social and economic conditions in the EIS prepared for the Proposed RMP. Please refer to Sections 1.3.2, 3.23, 3.24, 4.23, and 4.24 in the Draft RMP and EIS and Proposed RMP and Final EIS for discussions of economic and social visions, conditions, and impacts.

S1-52 Lincoln County's receipts of PILT have historically been capped on the basis of its low population. Projected population growth under the Proposed RMP could be expected to exceed the threshold for higher PILT payments. In response to your comment, the text in Sections 3.23.2 and 4.23 of the Proposed RMP and Final EIS has been revised. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S1-53 Use of the term "American Indian" throughout the document was recommended by the Tribal representatives from the cooperating agencies on the Ely RMP. Please refer to Section 5.1.5 in the Draft RMP and EIS and Proposed RMP and Final EIS for a listing of the Tribes represented.

S1-54 Thank you for your comment. The subject of this comment is beyond the scope of the Ely RMP and does not require further agency response.

S1-55 Renewable energy was not raised during the scoping period by agencies or members of the public, thus it is not recorded in this section of the document. However, renewable energy is one of the major resource categories addressed in the Ely RMP and is discussed in Sections 2.4.13, 3.13, and 4.13 in the Proposed RMP and Final EIS.

S1-56 Please refer to Response to Comment S1-55. Renewable Energy (Wind and Solar Energy) is addressed in Section 2.4.13, Section 3.13, and Section 4.13. Where applicable, impacts from renewable energy on other programs are addressed in "Interactions with Other Programs" in subsections of each resource program.

S1-57 The PLUACs function in an advisory capacity to the county commissions. Since White Pine, Lincoln, and Nye Counties were all formal cooperating agencies on the preparation of the Draft RMP and EIS and Proposed RMP and Final EIS, the PLUACs had input into the planning process through the county commissions.

Letter S1 Continued

Section 2.0, *Alternatives*

S1-58 ▪ Section 2.1.2, *Intent of the Alternatives*: This section is confusing. This is the bulleted type of format that is emphasized previously in this letter as an effective way to improve readability. In this case however, the reader cannot ascertain if all bullets apply to all alternatives. Also, as written, some bullets are too vague and ambiguous. It is evident from reading the bullets that, in fact, many only apply to certain alternatives.

S1-59 ▪ Section 2.2, *Overview of Alternatives*: This section should be rewritten in bulleted format with clear and concise statements explaining the differences of each Alternative.

S1-60 ▪ Table 2.4-1, page 2.4-19: A better discussion on the need for fees is needed to educate the public on the necessity for fees in the preferred alternative as compared to Alternatives A and B. Fees are a controversial topic. What criteria were utilized to determine that the preferred alternative includes fees and what criteria were utilized to determine which sites warrant fees? Also, where do the revenues go from fees paid? It might be more palatable if there was a discussion included that the fees go back to the specific site where they were paid, if this is an option.

S1-61 ▪ Table 2.4-1, page 2.4-23, *Disposal of Public Lands*: This section is confusing when one compares the text in Alternative B with the text in Alternative E. It should be clearly explained why the text *"No disposal of critical habitat for threatened and endangered species, and sensitive species"* is not included in the Preferred Alternative. Or, there should be a discussion on the rationale for allowing disposal of these sensitive lands.

S1-62 ▪ Table 2.4-1, page 2.4-25, *Land Use Authorizations*: This section does not adequately address impacts to resources. The Preferred Alternative includes *"...authorizations on a case-by-case basis"*. Much stronger language is needed such as that contained in Alternative B to protect the resource and proactively address cumulative and incremental impacts.

- ➢ What consistent criteria will be utilized to determine actions on a case-by-case basis?

S1-63 ▪ Table 2.4-1, page 2.4-25, *Wind and Solar Energy*: The Preferred Alternative includes *"Applications for renewable energy development would be accepted for areas outside the identified areas as well."*

- ➢ Subjective statements such as this detract from the Draft's ability to provide any form of certainty to the reader. What consistent

Responses to Letter S1

S1-58 In response to your comment, the text in Section 2.2 of the Proposed RMP and Final EIS has been revised to clarify the intent of the alternatives.

S1-59 Please refer to Response to Comment S1-9 for a discussion of the format for presenting the alternatives.

S1-60 The designation of fee sites is no longer included in the Proposed RMP. Fee areas are allowed under BLM policy where special management incurs costs that cannot reasonably be funded through the normal budget process. The number of fee sites that could be established during the life of the plan can not be determined at this time. The designation of fee sites may occur in the future when a project-specific plan is prepared including public input and review.

S1-61 Please refer to Section 2.4.12.1 in the Proposed RMP and Final EIS for a discussion of criteria for disposal of lands. Designated critical habitat for federally listed threatened and endangered species would be retained unless the disposal results in acquisition of land(s) with higher quality habitat.

S1-62 Please refer to the text in Section 2.4.12.7 of the Proposed RMP and Final EIS for a discussion of the management actions for Land Use Authorizations. Land use authorizations are made at the discretion of the BLM Authorized Officer.

S1-63 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. All applications will be subject to NEPA analysis and the Wind Energy Best Management Practices contained in Appendix F, Section 3.

Letter S1 Continued

S1-63 criteria would be utilized to determine the suitability of these applications once accepted?

S1-64
- How will the public understand the big picture consequences of proposed management directions in this Draft if those very directions could be affected by broad ambiguous policies that allow possible unanticipated projects?

Section 2.5. Management Direction

S1-65
- Section 2.5.5.2, *Parameter – Aspen*, page 2.5-19:
  - In the third paragraph of the Preferred Alternative, there is an error. Common treatment tools in aspen stands should NOT include grazing.

S1-66
- Section 2.5.5.7, *Parameter – Mojave Desert Vegetation*, page 2.5-43:
  - The Preferred Alternative statement is not adequate in addressing invasive weeds.

S1-67
- Section 2.5.9.2, *Parameter, Cultural Resources*, Pages 2.5-86 through 2.5-99: A discussion is needed that details the criteria and parameters utilized to determine:
  - The need for fees.
  - The sites proposed for fees and those not, and why.
  - Where the fee revenues are spent.
  - What public improvements justify fees.

S1-68
- Section 2.5.11, *Visual Resources*:
  - What is BLM's policy on Visual Resources management? Is Map 2.4-5 a snapshot in time that only portrays existing conditions, subject to change at any time? Or does the plan represent strong preservation policies that are intended to provide assurances to the public about protection of valuable visual resources? This discussion is completely absent from the Draft and has far reaching implications on the integrity of the overall Draft. Many other potential uses can and will have direct impacts to visual resources. The Draft, as written with a lack of rationale and policy, trivializes visual resources and projects the appearance that visual resources are low priority and expendable upon application of a project.

Responses to Letter S1

S1-64 By its very nature, the RMP contains broad management actions that form the framework for future management decisions. It is expected that there will be many "unanticipated projects" during the life of the Ely RMP. These projects will be evaluated based on conformance with the land use plan, current BLM policy, and the analysis conducted for the appropriate NEPA document. A decision on the project will then be made by the Field Manager.

S1-65 In response to your comment, the text of Section 2.5.5.2 of the Proposed RMP and Final EIS has been revised. Aspen management may include grazing or the total lack of grazing.

S1-66 In response to this and related comments regarding Mojave Desert vegetation plus changes in vegetation conditions that have occurred since publication of the Draft RMP and EIS, the text section (2.4.5.8) addressing Mojave Desert vegetation has been substantially revised in the Proposed RMP and Final EIS. The text revisions provide clarification of proposed management actions in relation to the South Desert Complex Fires of 2005 and additional detail regarding control of invasive weeds.

S1-67 The number of fee sites that could be established during the life of the plan can not be determined at this time. Fee areas are allowed under BLM policy where special management incurs costs that cannot reasonably be funded through the normal budget process.

S1-68 Please refer to Response to Comment S1-27 for a discussion of visual resources management actions.

Letter S1 Continued

S1-69 ▪ Page 2.5-112: Alternative D includes the statement, *"Projects would be designed to minimize light pollution from artificial light."*

➢ This text should be included as a strong policy in the Preferred Alternative (where it is currently lacking).

S1-70 ➢ There are multiple common mitigation measures currently in practice to limit light pollution. These measures should be common practice district wide.

S1-71 ▪ Page 2.5-112, *Lands and Reality*: The paragraph that begins on the bottom of page 2.5-112 and carries over to the top of page 2.5-113 is very confusing and needs to be rewritten.

➢ The paragraph should emphasize the requirement for applicants of right-of-ways to locate within existing corridors unless a public and transparent process is followed that proves an alternative is necessary. This alternative should not compromise the integrity of other aspects of the RMP, especially Visual Resource Management Classes.

S1-72 ➢ The current paragraph is written in a manner that supports the applicant to the detriment of the general public and the multiple resource values.

S1-73 ➢ The paragraph should emphasize the integrity of all management direction and resource values and should NOT treat a right-of-way applicant as superior to other resource needs.

S1-74 ➢ The paragraph should better describe how the proliferation of power lines and new right-of-way corridors is being proactively addressed to limit negative impacts to the visual and other affected resources. (FLPMA Section 503)

S1-75 ▪ Page 2.5-114, *Management Common to all Alternatives, Parameter - Retention*: An additional item #4 is suggested for this section.

➢ Lands identified as open space on a local Open Space Plan (local government or joint BLM/local plan) should be retained.

Responses to Letter S1

S1-69 In response to your comment, a new best management practice based on the wording you suggested has been added to the Proposed RMP and Final EIS (see Appendix F, Section 2).

S1-70 Please refer to Response to Comment S1-69.

S1-71 In response to your comment, the text in Section 2.4.12, of the Proposed RMP and Final EIS has been revised to clarify the discussion of designated corridors.

S1-72 Please refer to Response to Comment S1-71 for a discussion of designated corridors.

S1-73 Please refer to Response to Comment S1-71 for a discussion of designated corridors.

S1-74 Please refer to Response to Comment S1-71 for a discussion of designated corridors.

S1-75 Please refer to Section 1.9.1 in the Proposed RMP and Final EIS for a discussion of conformance with local plans, including the White Pine County Open Space Plan. The White Pine County plan does not recommend retention of lands identified as open space.

Letter S1 Continued

S1-76
- Page 2.5-114, Alternative B (Preferred Alternative section): The first sentence should be amended to include the following.
  - *"The BLM would retain public land or interest in lands that contribute to the restoration and health of the land within the District* ***and those lands identified by local governments as desired/suitable for open space".***

S1-77
- Page 2.5-116, third bullet, item #1:
  - Wetlands should be retained under BLM management regardless of the *"remoteness"* of the resource. Most wetlands in Nevada are considered remote.
  - How is *"so small"* as utilized in this sentence defined and what criteria are utilized to make the determination?

S1-78
- Page 2.5-120, last paragraph under Alternative E:
  - A discussion is needed to explain for what purpose forty acres are proposed for disposal in T68 R57E, Section 25. The statement simply informs the reader of the disposal, but lacks any explanation.

S1-79
  - These types of unsubstantiated statements reduce the amount of useable information that is needed by the reader to come to conclusions on the merits of an alternative. <u>This comment is a recurring theme throughout the document.</u>

S1-80
- Page 2.5-121, second bullet, top of page: Suggest amending the sentence to include:
  - Disposals should not occur in areas of high recreation value unless identified by local governments in an approved recreation management plan **and/or open space plan.**

S1-81
- Section 2.5.12.3, *Parameter – Acquisitions*, page 2.5-122, #3:
  - Why are acquisitions of WSAs and designated wilderness discussed here when WSAs and designated wilderness are not a part of the scope of this RMP? Does the paragraph imply in holdings within these specially designated areas?

Responses to Letter S1

S1-76 Please refer to Section 2.4.12.1 in the Proposed RMP and Final EIS for a discussion of retention. Also see response to Comment S1-75.

S1-77 In response to your comment, this sentence has been removed as it is regulation.

S1-78 In response to your comment, the text in Section 2.4.12.2 of the Proposed RMP and Final EIS has been revised to clarify disposal of the lands you reference.

S1-79 Please refer to Response to Comment S1-78.

S1-80 Please refer to Response to Comment S1-75.

S1-81 In response to your comment, the text in Section, 2.4.12.3 of the Proposed RMP and Final EIS has been revised to clarify acquisition of inholdings within Wilderness Study Areas and designated wilderness. The management of Wilderness Study Areas and designated wilderness is within the scope of the RMP.

Letter S1 Continued

S1-82
- Section 2.5.12.4, *Parameter – Withdrawals*, page 2.5-123, #2:
  - It appears that the text has omitted a significant proposed withdrawal, the Caliente to Yucca Mountain rail corridor.

S1-83
- Section 2.5.12.6, *Parameter – Communication Sites*, page 2.5-126, #2 and #3:
  - Since BLM manages WSAs as de facto wilderness, designated wilderness AND WSAs should constitute exclusion areas. As currently written, WSAs would constitute avoidance areas and this is not appropriate and only leads to incremental impacts on the resource.

S1-84
- Section 2.5.12.6, *Parameter – Communication Sites*, page 2.5-126, #5:
  - Coordination with the Department of Defense on communication towers over 100 feet should be required.

S1-85
- Section 2.5.12.7, *Parameter – Land Use Authorizations*, page 2.5-127, #1:
  - Designated wilderness and WSAs should be exclusion areas.

S1-86
- Section 2.5.12.7, *Parameter – Land Use Authorizations*, page 2.5-127, #2:
  - Coordination with the Department of Defense for rights-of-way equipment over 100 feet should be required.

S1-87
- Section 2.5.12.7, *Parameter – Land Use Authorizations*, page 2.5-128,
  - The Alternative E discussion should include all discussion contained in Alternative B as well as the inclusion of WSAs and designated wilderness areas as exclusion areas.

S1-88
  - The statement, *"Where feasible, new land use authorizations would be consolidated within or located adjacent to existing authorizations"* lacks a very important explanation of what exception criteria will be utilized if this scenario is NOT feasible.

S1-89
  - As written, Alternative E lacks the emphasis needed to protect valuable resources and does not give the reader a sense of certainty that other resource values can be protected.

Responses to Letter S1

S1-82 The Caliente to Yucca Mountain rail line corridor is no longer a proposed withdrawal as it was withdrawn on December 28, 2005.

S1-83 Wilderness study areas are temporary designations that are managed by the BLM in a manner so as not to impair the suitability of such areas for preservation as wilderness. According to the interim management policy for lands under wilderness review, new rights-of-way may be approved for temporary uses that satisfy the non-impairment criteria. This differentiates wilderness study areas from designated wilderness.

S1-84 Please refer to Response to Comment F2-8 for a discussion of coordination with the Department of Defense on communication towers.

S1-85 In response to your comment, Section 2.4.12.7 of the Proposed RMP and Final EIS has been revised to clarify the discussion of designated wilderness and Wilderness Study Areas.

S1-86 Please refer to Response to Comment F2-9 for a discussion of coordination with the Department of Defense on right-of-way equipment.

S1-87 Please refer to Response to Comment S1-85.

S1-88 Whether consolidated with or independent of existing authorizations, all new land use authorizations are made at the discretion of the BLM Field Manager. Such decisions would be made in accordance with applicable regulations, policies, and plans.

S1-89 The management actions contained in the Proposed RMP will provide for the protection of valuable resources managed by the Ely Field Office, consistent with the BLM Land Use Planning Handbook and other applicable laws, regulations, and policies. Please refer to Section 2.4 and Appendix F in the Proposed RMP and Final EIS.

Letter S1 Continued

S1-90 ➢ The issuance of land use authorizations on a case-by-case basis lacks any merit unless a clear process is explained that shows how these determinations will be made in a consistent manner using defendable criteria.

S1-91 ▪ Section 2.5.13.1, *Parameter – Wind and Solar Energy*, page 2.5-129: A discussion is needed here on the cumulative incremental impacts of these activities on the overall multiple use experience (e.g. roads, power lines, and infrastructure).

S1-92 ➢ A discussion on the impacts of geothermal energy is missing from this section.

S1-93 ➢ Coordination with the Department of Defense should be required.

S1-94 ➢ The main paragraph of the Management Common to All Alternatives section includes the last two sentences that state *"Areas of potential renewable development have been identified based on the locations most feasible for development. However, applications for development would not necessarily be limited to those areas".* This last sentence is cause for concern and carries over to many other sections of the Draft. Statements such as this give the appearance that all policies can be changed arbitrarily, and resources impacted based on the whim of an application that falls outside agreed upon boundaries.

S1-95 ➢ What are the exception criteria utilized to determine the acceptance of applications not within the designated areas?

S1-96 ➢ As written, the last sentence reduces the overall integrity of the Draft by giving the perception that all the other policies and elements are subject to change, on a case-by-case basis, depending on the receipt of an arbitrary application. There is no reader certainty and this causes distrust of the Draft.

S1-97 ▪ Section 2.5.15.1, *Parameter – Special Recreation Management Areas*, page 2.5-138, Alternative E discussion:

➢ The Loneliest Highway Special Recreation Management Area is proposed to be dropped. Why? What justification? This is a consistent example of statements being made without back-up information provided for the reader to utilize to comprehend the statement and make an informed decision on support of the

Responses to Letter S1

S1-90 Applications for land use authorizations will be reviewed in the context of the regulations and the policies and plans that are in place at the time they are submitted. Please note that project-specific NEPA analysis (either an EA or EIS) would be conducted for proposed land use authorizations, as appropriate.

S1-91 Please refer to Section 4.13 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the impacts from the development of renewable energy. Further analysis is also included under other resource programs such as wildlife. Cumulative impacts are discussed in Section 4.28.13.

S1-92 Please refer to Section 4.18 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the impacts from the development of geothermal energy. Geothermal resources are managed as a leaseable mineral. Further analysis is also included under other resource programs such as wildlife.

S1-93 Please refer to Response to Comment F2-10 for a discussion of coordination with the Department of Defense on wind energy development.

S1-94 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. All applications will be subject to NEPA analysis and the Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS (Appendix F, Section 3, of the Ely Proposed RMP and Final EIS).

S1-95 Please refer to Response to Comment S1-94.

S1-96 In response to your comment, the text in Section 2.4.13 of the Proposed RMP and Final EIS has been revised to clarify the discussion of authorization of wind and solar energy projects.

S1-97 In response to your comment, the text in Section 2.4.15.1 of the Proposed RMP and Final EIS has been revised to clarify discussion of this special recreation management area. Continuation of management is appropriate under the Proposed RMP.

Letter S1 Continued

S1-97 alternative. BLM would avoid many questions if statements like these were not made without supporting rationale.

S1-98
- Section 2.5.22.1, *Parameter – ACECs*, page 2.5-194, Alternatives B, C and E discussions:
  - The reader is not provided any information that explains why Alternative C includes 20 new ACECs while Alternatives B and E include 18 new ACECs. A brief paragraph to support the statements would help.

S1-99
- Section 4.13, *Renewable Energy*
  - This entire section is a good example of how <u>not</u> to describe the different alternatives. It is almost impossible for this reader to follow and understand what unique characteristics apply to each alternative as well as what the <u>differences</u> are. Each alternative's discussion should include succinct bullets that describe the attributes in a manner that the reader can comprehend what is presented AND make a determination on support or opposition to the preferred alternative. **(Also refer to page 4.20-8, same readability concerns.)**

S1-100
- Section 4.23, *Economic Conditions*
  - This section lacks relevance since there is no corresponding socioeconomic goals or discussion for management direction in Section 2. This is a glaring omission in the Draft and a section should be included.

S1-101
- Section 4.28.2, *Air Quality*, page 4.28-24
  - The last section begs the question, is this really true? Are all the alternatives exactly the same?

S1-102
- Section 4.28.11, *Visual Resources*:
  - Previous comments expressing strong concern about Visual Resource Management policies apply here.

S1-103
- Section 4.28.12, *Lands and Reality*
  - The last sentence under Impacts of the Proposed Action is too weak. Co location of utility rights-of-ways is the only way to

Responses to Letter S1

S1-98 In response to your comment, the text in Section 4.22 of the Proposed RMP and Final EIS has been revised to include rationale for ACEC designations by alternative.

S1-99 In response to your comment, the text in Section 4.13 of the Proposed RMP and Final EIS has been revised to clarify the discussion of renewable energy impacts. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S1-100 Please refer to Response to Comment S1-51 for a discussion of socioeconomic goals and management direction.

S1-101 In response to your comment, the text in Section 4.28.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of the difference in cumulative impacts between the Proposed RMP and Alternative D.

S1-102 Please refer to Response to Comment S1-27 for a discussion of visual resource management policy.

S1-103 Thank you for expressing your concerns. The co-location of utility rights-of-way is encouraged under all alternatives, except Alternative D which would allow no new rights-of-way. Please refer to Section 2.4.12 in the Proposed RMP and Final EIS.

Letter S1 Continued

S1-103 maintain a handle on cumulative and incremental impacts to the overall resource, especially visual.

- Section 4.28.13, *Renewable Energy*

S1-104
- Again, the last sentence under Impacts of the Proposed Action is weak and subjective. The statement does not project a confidence level to the reader.

S1-105
- What is the BLM policy for preserving the integrity of VRM Class I and II areas?

S1-106
- Can VRM Class I and II areas be degraded on a "case-by-case" basis simply due to receipt of a higher priority energy project application?

S1-107
- Existing Class I and II areas, especially the few remaining pristine valleys, need as much visual protection as possible. <u>This is consistent with BLM's vision, is it reality?</u>

Thank you for the opportunity to comment on the Ely District Draft RMP/EIS. If you have any questions, please feel free to contact me at 775-684-2723.

Sincerely,

Don D. Canfield III, AICP (Skip)
Senior Planner

cc: Gene A. Kolkman
BLM Ely Field Office
HC 33 Box 33500
Ely, NV 89301-9408

Responses to Letter S1

S1-104 Please refer to Response to Comment S1-94.

S1-105 Please refer to section 2.5.11 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of visual resource management policy. The VRM classifications shown on Map 2.4-5 have been incorporated into the Proposed RMP and will be used during the life of the plan to manage visual resources. VRM management class objectives would be considered when evaluating BLM projects or private party proposals. Mitigation for potential visual resource impacts would be evaluated on a project-specific basis. VRM class objectives do not prohibit other multiple uses.

S1-106 VRM management class objectives would be considered when evaluating BLM projects or private party proposals. Mitigation for potential visual resource impacts would be evaluated on a project-specific basis. VRM class objectives do not prohibit other multiple uses.

S1-107 Visual resources within the Ely RMP decision area will be managed in accordance with BLM policies and guidelines, which will be considered as project-specific plans are prepared or evaluated.

Letter S2

LEO DROZDOFF, *Administrator*

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DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249

November 23, 2005

Gene Drais, RMP Project Manager
BLM Ely Field Office
HC 33 Box 33500
Ely, NV 89301

RE: Draft Resource Management Plan:
Consideration of Public Drinking Water Sources

Dear Mr. Drais:

The Nevada Division of Environmental Protection (NDEP) has reviewed the draft Resource Management Plan / Environmental Impact Statement for the Ely District BLM Office (RMP) dated July 2005. We would like to assist with the RMP goals to restore and maintain ecologic health, and protect and prevent irreparable damage to natural systems by providing information on wells and springs in the BLM Ely District used as sources of public drinking water.

Enclosed is a map of the public drinking water sources and associated protection areas for all well and spring sources of drinking water in the BLM Ely District. This map is also provided as a pdf file on the enclosed CD ROM (Ely_Dist.pdf). Source data for the entire state is also provided on the enclosed CD as geographic information system (GIS) shape files. This data was gathered from Source Water Assessments conducted for these public water systems, and from the Wellhead Protection Plans developed by the communities of Ely, Baker, Pioche, Caliente, and Alamo located in the BLM Ely District. Please incorporate this data into the RMP to guide current and future land use adjacent to these sources to prevent chemical, physical and biological impacts. We urge the Nevada BLM and the Ely District to carefully consider, and in some cases forbid, certain land uses that occur or are planned in wellhead and spring protection areas. Where formal protection areas have not been delineated, we request that protection areas be defined by a circle with a radius of 7,000 feet around the drinking water source. S2-1

The value of potable sources of drinking water continues to increase in Nevada. The development of the RMP provides a great opportunity for the BLM, the State of Nevada, and public water systems to work together to protect these sources. S2-2

Responses to Letter S2

S2-1 In response to your comment, the text in Section 2.4.3 of the Proposed RMP and Final EIS has been revised to include additional management actions for wellhead protection.

S2-2 Thank you for your comment.

Letter S2 Continued

The data on the enclosed CD can be provided to you in a variety of forms to fit the needs of the RMP. Please contact me if I can be of further assistance with the development and implementation of the RMP, and place me on your mailing list for this project. I look forward to receiving a CD copy of the next draft of the RMP / EIS when it is completed.

Sincerely,

Nevan Kane, C.E.M
Hydrogeologist
Bureau of Water pollution Control
(775) 687-9426

cc:

Ron Wenker, Director, BLM-Nevada P.O. Box 12000 Reno NV 89520-0006
Nevada Division of Minerals
Nevada Department of Transportation
Nevada Department of Wildlife
Nevada State Historic Preservation Office
Russ Land, Groundwater Branch Supervisor, NDEP
GW Branch Reader File

Letter S3

STATE OF NEVADA
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November 18, 2005

NOV 2005
RECEIVED

Gene Drais
Project Manager
Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, NV 89301

RE: Comments on the Draft Resource Management Plan/Environmental Impact Statement for the Ely District

Dear Mr. Drais:

We appreciate the opportunity to review and provide comments on the subject document. There are three underlying themes that pervade this document that the Nevada Department of Wildlife has major concerns about.

Vegetation treatments will provide suitable habitat for wildlife.

S3-1 The document states that "Treated areas would result in increased herbaceous forage and cover in the short term(less than 5 years), followed by establishment of shrub vegetation in the long term (greater than 50 years)." The preferred alternative proposes to treat over 55 percent of the sagebrush vegetative community and 52 percent of the pinyon juniper vegetative community over the life of the plan (20years). These two facts seem to indicate that the desirable vegetative state for wildlife may be anywhere from five to 50 years in development. This conversion from mature shrub communities to states where there are lesser values of cover and diversity for up to 50 years would seem to be less positive for the wildlife species which are presently dependent on these vegetative communities on public lands.

Elk are a problem and have created habitat degradation in the Ely District.

S3-2 In numerous locations noted in our specific comments, this document tries to implicate elk in particular and wildlife in general as contributors to vegetative conditions that are problematic in the Ely District. We strongly disagree with this assertion. We know of no examples where elk have influenced vegetated conditions to the degree that livestock and wild horse use have. We continue to submit that if elk or wildlife can be documented generating conditions that lead to habitat degradation, we would use any and all the management tools available to the Department to resolve the problem. No such documentation has been forthcoming to date. Small minor use issues have been resolved

Responses to Letter S3

S3-1 The commenter assumes that all proposed treatments would occur within a 20-year time span. This is incorrect, and the Draft RMP and EIS pointed out that treatments would continue over several decades, as opposed to a shorter, fixed time period. Neither the Draft RMP and EIS nor the Proposed RMP and Final EIS identify a specific time frame for treating all subject areas. Rate of treatment application would be affected by several factors, including funding availability. The Ely RMP also emphasizes that the treatments would occur within individual watersheds or portions thereof rather than as huge consolidated blocks encompassing numerous watersheds. Thus, at any given time during the treatments, the overall planning area would include a mosaic of sagebrush and pinyon-juniper communities in various states and phases including abundant untreated areas.

S3-2 In response to your comment, the text in Section 2.5.6.6 and 4.6.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of the effects of elk on habitat within the Ely RMP planning area.

Letter S3 Continued

S3-2 on private lands to resolve complaints regarding wildlife use as they are brought to our attention but we reiterate, there have been no examples on public land for us to respond to.

S3-3 Performance based grazing is a suitable management alternative

We are concerned that this type of management would not provide adequate monitoring to protect ecological health and would not be responsive enough to meet the management focus of the Ely District of the BLM in restoring and maintaining healthy ecological systems in the watersheds. We believe this type of management requires a high level of participation by both the permittee and the BLM field personnel tasked with ensuring actions on public land do not degrade the lands. We are unsure if this level of participation is attainable. We are concerned that putting the determination of appropriate use levels in the hands of the permittees will provide the level of management expertise to ensure that the ecological health of the vegetative communities is the ultimate goal of the grazing decisions.

We have the following specific comments on the document.

Chapter 2 –

S3-4 2.5-7.1. Who defines what the desirable non-native species to be used in restoration are?

S3-5 2.5-12.1. The analysis had not taken into account the impact of treatments on sagebrush obligate species and the length of time that these species will be impacted. With potentially hundreds of thousands of acres treated within the near future, we see an over emphasis on the goal of achieving an herbaceous state and not much emphasis on creating states which benefit a greater variety of wildlife species.

S3-6 2.5-18. Alt. A. We need clarification on the issue of utilizing grazing management to benefit aspen. It is our experience that the only benefit to aspen in terms of grazing management would be to minimize or eliminate ungulate use. When we utilize grazing management as a tool, will we see more or less grazing. In a recent publication concerning aspen on BLM managed lands in the Elko District, Dr. Charles Kay cites a study by Borman etal. 1999 and states, "To reverse the decline of aspen on BLM administered lands in north-central Nevada it will be necessary to more closely manage livestock. Depending on site-specific conditions, it may be necessary to fence some aspen stands, if those clones are to survive. In other areas, season-of-use changes may be sufficient to restore aspen. Year-long or season long grazing is particularly detrimental to aspen, while early-season or dormant-season use may allow aspen to successfully regenerate. That is to say, the timing of grazing can be more important than the intensity."

Responses to Letter S3

S3-3 Reference to Performance Based Grazing has been removed as a Parameter or a management action in the Proposed RMP. Flexibility associated with livestock grazing is allowed in the current grazing regulations at 43 CFR Part 4100 and is specifically addressed under allotment management plans. Flexibility will continue to be addressed on a site-specific basis. Allotment compliance will continue and will be prioritized based on criteria to include resource issues and operator performance capabilities.

S3-4 No reference is found in the Draft RMP and EIS to "desirable non-native species to be used in restoration" at either Section 2.5.7.1 or in the first paragraph on page 2.5-7. However, appropriate species (native and non-native) to be seeded in conjunction with vegetation treatments of a given watershed would be selected by BLM specialists and managers to meet resource objectives.

S3-5 This comment implies that NDOW believes that the sagebrush communities currently outside the desired range of conditions, as described in Section 2.4.5.6, are essential to sagebrush obligate species and more valuable to a greater variety of wildlife species than would be these same areas if treated to be within the described desired range of conditions. The Ely Field Office will continue to work with NDOW in selection of specific treatments for individual watersheds, including site-specific objectives for a range of wildlife species. It is also important to bear in mind that treatments will occur over several decades, not a few years. In response to your comment and similar comments, the impact analysis has been clarified as to the effects of vegetation treatment on wildlife.

S3-6 In response to your comment, the text of Section 2.4.5.3 of the Proposed RMP and Final EIS has been revised. Grazing management (including reduction or total elimination of grazing) is a viable management tool.

Letter S3 Continued

S3-7 2.5-19 Alt C. Document states that aspen regeneration would be protected by allowing grazing and harvest to occur outside the growing season. Can grazing be controlled to the point that this goal can be met? Is this control realistic? Is this grazing strategy consistent with the physiologic needs of aspen? Unlike grasses, non-growing season use during periods when herbaceous forage is phenologically less palatable is likely to be concentrated on shrubs and tree species. Excessive use, even outside of the growing season, can result in detrimental effects on aspen regeneration.

S3-8 2.5-31 Alt B. We question the need to treat over half the sagebrush communities within the Ely District to achieve a thriving ecological condition. Again, the amount of treatment within this vegetative type will have a direct negative impact on sagebrush obligate species. The time lag with develops between achieving a herbaceous state and regaining the shrubby state can potentially impact a myriad of wildlife species for years. Methods of treatment, goals for treatment, and species seeded will ultimately determine whether these treatments and the level of treatment prove to be problematic for wildlife.

S3-9 2.5-36. Alt C. We question the desire to treat 75% of the sagebrush community even under this commodity alternative. How can we meet goals and direction for sagebrush obligate species at this level of treatment? How can we include an alternative that sets goals which contradict goals and objectives already established., i.e. maintain elements of sage grouse guidelines?

S3-10 2.5-43. Resource use (livestock grazing) would be utilized to maintain desert vegetation. How would this be accomplished? We realistically do not think that this is possible? This comment would also pertain to Alt. E, the preferred alternative.

S3-11 2.5-46. Desired future condition for non-native seedings. We question the multiple use resource values of non native seedings. Maintenance of these seedings and their herbaceous component into the future will not benefit wildlife. These seedings are single use treatments which will directly benefit livestock resources with minimal to no benefits to most wildlife species.

S3-12 2.5-48. What vegetative species are resistant to grazing? We think that these seedings should be managed to the extent that the herbaceous component will not be lost in the long term. Are we just trying to justify the use of exotic wheat grasses? Can we emphasize management of non-native seedings to attain a functional shrub overstory while maintaining healthy understory characteristics?

S3-13 Alternatives and levels of treatment. What methods would be used to achieve this level of treatment?

S3-14 2.5-50. Mule deer and antelope populations have fluctuated due to climatic conditions also.

Responses to Letter S3

S3-7 In response to your comment, the text of Section 2.4.5.3 of the Proposed RMP and Final EIS has been revised. Grazing management (including reduction or total elimination of grazing) is a viable management tool.

S3-8 The desired range of conditions explained in Section 2.4.5 of the Proposed RMP and Final EIS addresses the composition of plant communities and their various states desired across the landscape. Sagebrush obligate species habitat needs were considered as part of this desired range. The Ely Field Office is assessing and evaluating vegetation condition through watershed analyses to determine if rangeland health standards are being achieved. Resultant implementation strategies and site-specific management actions will consider the current uses in the watershed that will help achieve land health standards. Meeting sagebrush obligate species habitat needs is part of meeting the land health standards.

S3-9 Alternative C looks at the maximum level of sagebrush treatment. While this level of treatment would not be acceptable to all users, the alternative does present a range of approaches for analysis purposes. The goals for sagebrush obligate species would still have to be met, specifically during mid-level (watershed) analyses and site-specific implementation. Alternative C would still have the directive to assure that the rangeland health standards are met.

S3-10 In response to this and related comments regarding vegetation management in the Mojave Desert and to changes in vegetation conditions that occurred as a result of the South Desert Complex Fires of 2005, Section 2.4.5.8 in the Proposed RMP and Final EIS has been substantially revised. Please see the revised text of this section describing proposed management of the Mojave ecosystem.

S3-11 Thank you for expressing your concerns regarding the value of non-native seedings for wildlife. Ely Field Office personnel have frequently observed elk using various non-native seedings.

S3-12 In response to your comment, the text of Section 2.4.5.10 under Alternative A has been revised in the Proposed RMP and Final EIS to omit the term "resistant to grazing." The commenter's suggestions regarding recommended management are more appropriately directed to alternatives other than current management (Alternative A). The Proposed RMP and Alternative B generally tend to address the objectives expressed in this comment.

S3-13 Please refer to Appendix H - Tools and Techniques in the Proposed RMP and Final EIS for discussion of the methods (tools) that could be used in the vegetation treatments.

S3-14 The text in this paragraph of Section 2.5.6 was removed. Section 3.6 acknowledges the fact that climatic conditions affect wildlife populations. The basic impact conclusions present in the Draft RMP and EIS have not changed.

Letter S3 Continued

S3-15 2.5-54. Alt. E would be a more appropriate wildlife alternative for Alt. B. Current language in Alt. B is a preservationist approach. We would recommend that discussion language provided in Alt. E. be duplicated for Alt. B.

S3-16 2.5-57. Throughout this document we continue to reference the White Pine and Lincoln elk technical review teams. It would be more appropriate to site the specific management documents. These teams are not permanent management entities that will exist forever. As a matter of BLM policy and regulation this plan needs to adopt all State plans to the maximum extent consistent with federal law.

S3-17 We have concerns with the management and development criteria as presented. We are unsure as to what process the Bureau would be employed to determine whether competition is occurring and whether competition between wildlife species falls under BLM jurisdiction.

S3-18 2.5-60. Alt A. Elk are an indigenous species. The statewide Elk Species Management Plan considers elk as indigenous. There should be no question as to elk's indigenous nature and this document should reflect this. We have attached a document that has 39 references to historic elk sightings in Nevada. Additionally, plans cannot monitor, plans only provide guidance for monitoring. This approach is contradicted on page 61.

S3-19 2.5-61. "Elk habitat management objectives would be developed to support elk, but only at the level where they naturally and historically occurred." How would the natural, preexisting population level be defined and who would define it? This is the role of the State and the process is the Elk Management sub-plans which should be adopted by the BLM land use plans.

S3-20 Under Alt. C. additional forage would be allocated to livestock. Under this commodity alternative it may make some sense to allocated forage for elk based on the significant economic gains which could be made due to increased allocation of elk permits.

S3-21 Rural communities make a tremendous amount of money from hunting related activities. In a fairly recent document (1994) which analyzes federal land policies and the economy of Elko County, data suggests that outdoor recreation provides twice as much income to the county as does agriculture (see attached document, Federal Land Policies and the Economy of Elko County, Final Report, Western Economic Analysis Center, 1994, Table 32, page 91. Additionally, based on a USFWS analysis of expenditures in 1991 relative to fishing, hunting, and wildlife-associated recreation, hunters alone in Nevada spent over $65 million. During the 2005 big game seasons, 15% of all resident antelope tags, 18% of all resident deer tags, and 68% of all resident elk tags sold were associated with hunt units encompassed within the Ely BLM District. Revenue generated from big game hunting activities within the District alone is substantial and may surpass agricultural generated revenues. We will be sending a copy of that document to the BLM for your information.

Responses to Letter S3

S3-15 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes.

S3-16 In response to your comment, the text references to the White Pine and Lincoln elk technical review teams have been modified, where practical, to cite the specific management documents.

S3-17 In response to your comment, the text in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to clarify the discussion of big game habitat management for increased game species distribution and densities.

S3-18 In response to your comment, the text in this paragraph of Section 3.6.2 and other sections of the document have been revised to acknowledge the fact that elk is an indigenous species.

S3-19 In response to this and similar comments, the text in Chapters 2 and 4 related to elk management has been revised to clarify that habitat management for this species (under the Proposed RMP and Alternatives B and C) would be consistent with the county elk management plans. It should be noted that the BLM through its land use plans must make decisions about introductions, transplants, or reestablishments of wildlife. It is Bureau policy (1745- Introduction, Transplant, Augmentation, and Reestablishment of Fish Wildlife, and Plants) that releases must be in conformance with approved land use plans. Please note that the Elk Management sub-plans must be in conformance with the approved land use plan. BLM can not just adopt these plans. The BLM and the State will coordinate in establishing habitat, population, and desired plant community objectives. This process is covered in Supplement No. 3 of MOU between NDOW and BLM.

S3-20 A range of alternatives was presented and analyzed in the Draft RMP and EIS and Proposed RMP and Final EIS. Each alternative had a different management emphasis, based on comments received during scoping and the needs/desires of various public land users. While not all management actions would be acceptable to all users, the alternatives do contain a range of approaches for analysis purposes. Please refer to Response to Comment S3-20 for a discussion of the economic contributions of elk hunting.

S3-21 Thank you for your comment. The Ely Field Office is aware of the economic contributions of big game hunting to the local economy, devoting a separate sub-section to the subject in Section 3.23. That discussion was prepared in consultation with NDOW, relying upon information contained in the 2001 National Survey of Fishing, Hunting and Wildlife-related Expenditures, an analysis of big game license sales in 2002-2003, and information about guiding and outfitting obtained from NDOW. While the specific levels of activities may vary from year-to-year, the portrayal of activity in the draft is reasonable and appropriate. The comment requires no changes in the discussion, analysis, or conclusions.

Letter S3 Continued

S3-22 2.5-62. We reiterate that fact that elk are considered indigenous by the State of Nevada. If additional forage is created through treatment work, elk as well as other wildlife species should be provided an adequate portion of the forage allocation. The document indicates that BLM will initiate a study to determine intra-inter specific competition between species. We question whether this is BLM's role? From a scientific perspective, two years of study in such a broad category is unrealistic.

S3-23

S3-24 Remove reference to elk technical review teams.

S3-25 We have yet to see or determine competition between ungulate wildlife species in Nevada. This preoccupation with competition pervades the document. It is our impression that the nature of this focus is anti elk and attempts to lay the ground work for less elk within the District or minimizing expansion opportunities for elk within the District.

S3-26 2.5-62. Wildlife population management is a State responsibility. The decision to augment or reestablish an indigenous wildlife population such as bighorn sheep is not a BLM decision. In addition it is the BLM wildlife program direction to cooperate with the State in the re-establishment of native species into their historically occupied habitats.

S3-27 2.5-64. What are wildlife use records? NDOW does not monitor vegetative use by wildlife on a consistent, regular basis.

S3-28 2.5-73. Again, wildlife population management is a State responsibility. The decision where desert bighorn sheep would be maintained is not a BLM call. The plan should clearly recognize these roles and responsibilities and adopt the State plans to the maximum extent consistent with federal law. To our knowledge there is nothing in our plans that conflicts with any federal law.

S3-29 2.5-73. Throughout the document, Alt. E. makes an exception to management of existing protective measures for bighorn sheep in that topographic features would prevent physical contact between bighorn and domestic sheep. We are unaware of any topographic features or physical barriers that could not be negotiated by either wild or domestic sheep. BLM needs to adopt in full the guidelines developed in cooperation with the livestock industry, several western state wildlife agencies and agricultural agencies, private and state veterinaries, BLM etc.

S3-30 2.5-74. Alt. B commits NDOW to an activity for which we may not be able to appropriate resources to.

S3-31 2.5-77. We question whether sage grouse should be the indicator for management of healthy sagebrush communities. It is apparent that sage grouse populations can be maintained in areas where existing conditions are less than desirable.

Responses to Letter S3

S3-22 In response to your comment, the text in this paragraph of Section 3.6.2 in the Proposed RMP and Final EIS and other sections of the document have been revised to acknowledge the fact that elk is an indigenous species. Text has also been revised in Section 2.4.6.4 to clarify that forage is available for but not allocated to wildlife.

S3-23 In response to your comment, the text in Section 2.4.23 of the Proposed RMP and Final EIS has been revised to clarify the discussion of the Nevada Department of Wildlife vs. BLM role in big game management, big game habitat management for increased game species distribution and densities, and the time required to study wildlife interactions and impacts.

S3-24 In response to your comment, the text in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to remove the reference to elk technical review teams.

S3-25 The management actions presented in the Proposed RMP are not anti-elk and are not based on competition between ungulate species.

S3-26 Please refer to the Introduction to Section 2.4.6 and 2.4.23 in the Proposed RMP and Final EIS for a discussion of the Nevada Department of Wildlife's and BLM's roles in wildlife habitat and population management. Also, please refer to Response to Comment S3-19 for a discussion wildlife population management.

S3-27 In response to your comment, the text in Section 2.4.6 and 2.4.23 of the Proposed RMP and Final EIS has been revised to clarify the discussion of vegetation use by wildlife.

S3-28 Please refer to the Introduction to Section 2.6 in the Proposed RMP and Final EIS for a discussion of the Nevada Department of Wildlife's and BLM's roles in wildlife habitat and population management. Text has also been added to Section 2.4.6.4 regarding management direction for bighorn sheep. Also, please refer to Response to Comment S3-19 for a discussion wildlife population management.

S3-29 Thank you for your opinion. Sections 2.4.6.3 and Section 2.4.16 of the Proposed RMP and Final EIS have been revised to clarify that when changes to BLM grazing permits are being considered within occupied habitat for desert bighorn or Rocky Mountain bighorn sheep, domestic sheep and goats would be managed in accordance with current BLM guidelines at that time. The way the current BLM guidelines read, if a topographic feature or physical barrier would not prevent physical contact, the entire 9-mile buffer would be applied.

S3-30 Alternative B commits BLM, not NDOW, to conduct western burrowing owl surveys in cooperation with NDOW. The absence of NDOW's cooperation, if they are unavailable to commit the resources to cooperate, would be regrettable but would not affect the impact analysis for this alternative.

S3-31 In response to your comment, the text in Section 4.7.1 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of sage -grouse as an "umbrella" species. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

Letter S3 Continued

S3-32 2.5-118. The document states that a 40 acres parcel would be disposed of through direct sale under Alt. B. We question the provided location and the reason for this disposal.

S3-33 2.5-119. We question the benefit to the American public of disposing of 7,800 acres to private interests to promote a horse preserve. There are public access and wildlife management issues related to this proposed disposal. Currently this allotment is utilized quite extensively by the general public. This disposal is contrary to criteria provided on 2.5-121.

S3-34 2.5-122. While most of this plan deals in broad management and generalities, the section on land disposals requires more detail. It is impossible to ascertain specific locations identified on the maps. We are unable to assess the value of these parcels to wildlife and the potential impacts of development. This plan should not obligate the disposal of any lands without a more detailed analysis of the impacts.

S3-35 2.5-127. The Department recommends that utility corridors be consolidated. Due to the significant changes since the completion of the SWIP EIS, it would be appropriate to require an updated analysis of this project. The corridor identified in the Lincoln County Conservation, Recreation, and Development Act of 2004, and the SWIP alignment should follow the eastern alignment shown on Map 2.4-22. Such a move would reduce impacts on all resources through Steptoe, Jakes and White River Valleys.

S3-36 2.5-134. The Department of Wildlife is concerned that both casual and competitive uses by OHVs in the Ely District are already hampering use of some existing roads and trails. Use of current roads for increased casual use by OHVs and for competitive events damage those roads and influence access to the public lands by the broad spectrum of the public. Dips, undulations and ruts caused by these uses must be repaired, or OHVs should be restricted to only certain roads.

S3-37 2.5-143. Alt. C. We have significant concerns relative to performance based grazing. We are unsure that performance based grazing will provide the tools necessary to promote the maintenance or enhancement of habitats on public lands in perpetuity. It still remains the BLM's responsibility to ensure that public lands are managed to restore and maintain ecological health.

S3-38 2.5-146. The Department of Wildlife does not advocate the elimination of permits for domestic sheep grazing in the Ely District. We, however, support the purchase of domestic sheep grazing privileges and conversions from sheep to cattle by willing permittees. We also support the Bureau's 9 mile buffer between wild sheep and domestic sheep.

S3-39 We do request that the section stating "except where topographical features or other barriers prevent physical contact" in Alternative E be stricken. We are

Responses to Letter S3

S3-32 In response to your comment, the text in Section 2.4.12.2 of the Proposed RMP and Final EIS has been revised to clarify the disposal of this specific parcel.

S3-33 Aliquot parts of the Haypress Allotment have been identified in the Proposed RMP for potential disposal but not specifically for a wild horse preserve. Any disposal would be in accordance with the Lincoln County Conservation, Recreation, and Development Act, would be a public process, and would be analyzed in accordance with the National Environmental Policy Act.

S3-34 The RMP would not obligate the disposal of any lands. It merely identifies where the disposal of public lands would be considered by the Ely Field Office. If and when an application to obtain lands identified for disposal is received, a more detailed analysis of the parcel(s) involved would be conducted, looking at concerns such as wildlife habitat. The appropriate NEPA review would be conducted prior to any land disposal. Please note that the land disposal maps and the legal descriptions in Appendix I of the Proposed RMP and Final EIS have been updated.

S3-35 The Proposed RMP has retained the SWIP corridor in response to public demand for energy and the Western Energy Corridor Study EIS.

S3-36 Please refer to Section 4.14 in the Proposed RMP and Final EIS for a discussion of the effects of OHV use on roads.

S3-37 Please refer to Response to Comment S3-3 for a discussion of performance based grazing.

S3-38 The Ely Field Office is not proposing to eliminate grazing permits. The management action in the Proposed RMP and Final EIS would restrict the kind of livestock that could be grazed in the buffer area when changes are considered to grazing permits within occupied bighorn sheep habitat, which is consistent with current BLM policy. Conversions from sheep grazing to cattle grazing would be decisions made by the permit holder and evaluated by the Field Office on a case-by-case basis. Forage availability, rangeland health, stocking rates, and season of use are all considered when evaluating conversion from one kind of livestock to another.

S3-39 Thank you for expressing your concerns regarding the wording regarding bighorn sheep and domestic sheep interactions. The specific wording in question has been taken directly from BLM Washington Office Instruction Memorandum No-98-140 and is being retained in the Proposed RMP and Final EIS.

Letter S3 Continued

S3-39 unaware of any such feature or barrier in the Ely District which could not be negotiated by either wild or domestic sheep.

S3-40 2.5-185. In a commodity alternative consideration should be given to allocating additional forage to wildlife, including elk, due to the economic benefit to local communities from increased tag sales within the Ely District.

S3-41 2.5-186. The Department of Wildlife has cooperated in fire planning in the past with mix results. Identified valuable wildlife habitat has been allowed to burn, while full fire suppression has been implemented in areas designated for "few constraints."

Chapter 3

S3-42 3.5-5. Crested wheat provides little benefit to wildlife species. In addition it has the ability to dominate sites and preclude reoccupation by native species.

S3-43 We question the percent breakdown between states relative to nonnative seedings. It is our view that the 80% attributed to the shrubby state is misleading. We see only minimal reoccupation of old crested wheat seeding by sagebrush in many locations such as South Steptoe and Butte valleys.

S3-44 3.5-6. When talking about the extent of PJ woodland, does the 31% figure include both historic PJ woodland sites and areas of PJ expansion sites? Clear distinction should be made between encroaching PJ communities resulting from man's intervention and past management and True PJ woodlands. The suite of wildlife species associated with the true woodland is significant and we can ill afford additional efforts to federally list these species as result of not paying strict attention to these differences.

S3-45 3.5-7. 4th paragraph. Exclude last two words (and elk) and insert 'and wild ungulates.'

S3-46 3.6-2 Table identifying game fish resources in the District is greatly in error. NDOW provided revised information earlier. This information is not provided in this iteration. Please note the following changes.

Bassett Lake – Remove rainbow trout and brown trout
Big Springs Creek – Remove the stream altogether – no game fish in Big Springs Creek
Comins Lake – Remove brook trout and add northern pike and largemouth bass
Hampton Creek – Remove rainbow trout
Huntington Creek – Remove rainbow trout
Snake Creek – Add Bonneville cutthroat trout
Tailings Creek – Remove rainbow trout and brown trout and add northern pike
Baker Creek – Remove rainbow x cutthroat hybrid

Responses to Letter S3

S3-40 In response to your comment, the text in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to clarify that while additional forage is allocated to livestock, additional forage would also be available for but not allocated to wildlife.

S3-41 The Nevada Department of Wildlife has played a critical role in the past during fire management planning, particularly in the Ely RMP planning area. The Ely Field Office looks forward to continuing to work with NDOW as plans are revised or developed. Current fire plans allow for flexibility in management decisions of all areas during any given year. Some areas that might benefit from fire use may not be in prescription during any given year due to drought, and thus fires may be suppressed. Other areas that are in prescription may be suppressed due to lack of available resources to manage the fire. Many of the fire management polygons are large in nature. In some full suppression polygons, there may be areas where fire would be beneficial, and the Ely Field Office may manage a fire for resource benefits. Conversely, in areas that have very few constraints, there may be areas, which due to cheatgrass or other issues, the best decision would be suppression. Fire plans are developed to allow flexibility in their implementation and to ensure that site-specific evaluations, from year to year, are addressed during the management of fires.

S3-42 Thank you for your comment. Crested wheatgrass seedings do provide a benefit to wildlife, especially elk which use these seedings yearlong. In addition, mule deer will use crested wheatgrass seeding in the spring, because crested wheatgrass is usually one of the first plants to green-up.

S3-43 In response to your comment, the text in Section 2.4.5.10 of the Proposed RMP and Final EIS has been revised to clarify the discussion of non-native seedings. The Ely Field Office would manage for the cyclic return of sagebrush in the non-native seedings until 65 percent herbaceous state is accomplished, plus or minus 5 percent.

S3-44 As emphasized at various locations throughout the text, the discussion of pinyon-juniper woodlands focuses on true woodland sites (as defined by soil characteristics) rather than on areas of pinyon and juniper invasion into sagebrush sites.

S3-45 In response to your comment, the text in Section 3.5.16 of the Draft RMP/ EIS has been revised in the Proposed RMP and Final EIS to replace the word "elk" with "wild ungulates."

S3-46 In response to your comment, Table 3.6-1 in the Proposed RMP and Final EIS has been revised in accordance with the corrections you provided.

Letter S3 Continued

S3-47 3.6-5.1. Current Management. NDOW works with BLM to provide optimal habitat for fish species.

S3-48 3.6-5.2. Mountain goats are at the present time not known to be full time residents within the Ely District.

S3-49 3.6-5.3. Elk currently occupy low elevation habitat. Rocky Mountain elk as an indigenous species were REINTRODUCED to White Pine County. Release figures for antelope represent statewide totals and are not specific to White Pine, Lincoln, and Nye counties. Crested wheat grass is not an important forage species for antelope.

S3-50 3.6-6. Bighorn sheep (not Desert Bighorn) occupied habitats in all 17 counties in Nevada. NDOW has made no releases of Desert Bighorn in the Pahranagat Range in the Ely District, although it was proposed at one time. The USFWS did release sheep from a pen at the southern tip of the range in 1991, but the purpose was for a noise disturbance study funded by the Air Force.

S3-51 3.6-7. Sightings of mountain goats on BLM administered lands in the Ely District are limited and we know of no consistent yearlong use. APHIS's interaction in management of mountain lions within the state is specific to livestock depredation or wildlife management direction from NDOW. The description for the mountain lion is weak. A more complete description is provided in NDOW's Comprehensive Mountain Lion Species Management Plan. Blacktailed jackrabbits are not a small game species. Rio Grande and Merriams subspecies have been introduced to the District. Chukar distribution includes low to upper elevations of mountain ranges within the District.

S3-52 3.6-8. Rather than listing just a few of the wildlife species which occupy the District, NDOW would have an entire wildlife species for the District. This could be provided in an appendix.

S3-53 3.6-9. Elk. No current population objectives have been established in Unit 24. Deer. Current mule deer population levels remain above historic levels. Within the Ely District mule deer have experienced recent (last 10 years) declining trends through the District. This is consistent across the West. Pronghorn currently remain well below historic levels within the Ely District. Improved habitat conditions of late are currently allowing for population increases throughout the District.

S3-54 3.6-10. NDOW currently has small game trend data. Additionally, non game trend data is available, however, limited to specific species. Current Management. First paragraph, second sentence is confusing. NDOW manages wildlife populations,

Responses to Letter S3

S3-47 In response to your comment, the text in Section 3.6.1 (Current Management) of the Proposed RMP and Final EIS has been revised to insert the words "to provide optimal habitat for fish species."

S3-48 In response to your comment, the text in Section 3.6.2 (Existing Conditions) of the Proposed RMP and Final EIS (see page 3.6-9, paragraph 2 of the Draft RMP and EIS) has been revised to clarify that mountain goats are at present not known to be full time residents within the Ely RMP planning area.

S3-49 In response to your comment, the text in this paragraph of Section 3.6.2 of the Proposed RMP and Final EIS and other sections of the document has been revised to acknowledge the fact that elk is an indigenous species. crested wheat grass is acknowledged as an important forage for antelope, however sagebrush is the primary forage source.

S3-50 In response to your comment, the text in this paragraph of Section 3.6.2 of the Proposed RMP and Final EIS has been revised to incorporate the corrections identified in your comment.

S3-51 In response to your comment, the text in these paragraphs of Section 3.6.2 in the Proposed RMP and Final EIS has been revised to incorporate your clarifications regarding mountain goats, mountain lion control by APHIS, the status of blacktailed jackrabbits, the introduction of Merriam's turkeys, and the distribution of chukars. The basic impact conclusions present in the Draft RMP and EIS have not changed.

S3-52 NEPA regulations direct federal agencies during their preparation of an EIS to reduce the "accumulation of extraneous background data" [40 CFR 1500.2(b)]. Thus, the BLM is not required to collect all potentially useful data before proceeding with the preparation of an EIS. However, where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment is more detailed than that required to prepare an RMP/EIS for the Ely planning area.

S3-53 In response to your comment, the text in these paragraphs (Species Trends) of Section 3.6.2 of the Proposed RMP and Final EIS has been revised to incorporate some of your clarifications regarding elk population objectives, mule deer trends, and pronghorn trends.

S3-54 In response to your comment, the text in these paragraphs (Small Game and Non-game Trends and Current Management) of Section 3.6.2 in the Proposed RMP and Final EIS has been revised to clarify the discussion of small game and non-game trends and to incorporate your clarifications regarding BLM and NDOW roles relative to habitat and wildlife management, the relationships of county and statewide elk plans, and the correct citations for the bighorn sheep management plans. Also, please refer to Response to Comment S3-19 for a discussion wildlife population management.

Letter S3 Continued

S3-54 BLM manages habitat. NDOW makes recommendation to BLM relative to managing habitat for wildlife species. Need a discussion on current roles and responsibilities for the agencies. Second paragraph. Management guidelines and objectives for elk management within the District are presented, in general, in the Statewide Elk Species Management and more specifically in the White Pine County and Lincoln County Elk Management Plans. The county management plans present short and long term management actions and strategies that are designed to meet the requirements of an elk management sub plan as referenced the Statewide Elk Plan and Assembly Concurrent Resolution No. 46. Third paragraph. The document attributes three of the four habitat management plans to the Nevada Department of Wildlife. All four are BLM documents. A more recent document is available relative to management of bighorn sheep in Nevada (NDOW Bighorn Sheep Management Plan-2001).

S3-55 3.7-7. Fish. A sucker is referenced here. No specific species is noted. Need to check NDOW data base relative to recent/historic Spotted Frog distribution. Some baseline data for spring snails, at least for Steptoe Valley, may be available through the White Pine Energy Station Project. Additionally, Don Sada may have more current information on spring snails within the District.

S3-56 3.7-11. Need to check NDOW data base for information relative to bald eagle sightings. In Nevada, numerous other tree species are utilized as roosting habitat, therefore, roosting habitat is not limited to 22,000 acres of riparian habitat within the District.

S3-57 3.7-12. The current description of trend for federally petitioned species and BLM sensitive species is weak at best. Description does not mirror the mass of data available relative to sage grouse.

S3-58 **Note: NDOW has recently completed the Nevada Comprehensive Wildlife Conservation Strategy. This plan has been accepted by the USFWS and Department of Interior. Recent commitments from the Secretary of Interior that these plans will be incorporated into federal land use plans should be recognized. It is our strong recommendation that this plan be integrated into this RMP.**

S3-59 3.8-2. First paragraph under trends. Wild horse population approximately 2,000. Need to provide point in time for this estimate (i.e. 2004?). Second paragraph. Since 1973 horses have not been harvested but captured? Third paragraph. Has Congress not again amended the 1971 Act again to change how the BLM facilitates the sale of horse since the fall of 2004? Fourth paragraph. Has the immunocontraceptive provided horses on the Ely District been successful?

S3-60

S3-61 3.9-5. Trends. Degradation of cultural sites is increasing not because of population increases in the State, but because more people are recreating on public lands.

Responses to Letter S3

S3-55 In response to your comment, the text in Section 3.7.2 of the Proposed RMP and Final EIS has been revised to clarify the species that are discussed. In addition, a reference has been added to direct the reader to Appendix E for a list of special status species occurrence by county.

S3-56 In response to your comment, the text in Section 3.7.3 of the Proposed RMP and Final EIS has been modified to address an array of roosting habitats.

S3-57 Thank you for your comment. The text is adequate for the intended purpose of providing a planning-level overview of sage-grouse trends.

S3-58 In response to your comment, the text at the beginning of Section 2.4.6 under "Introduction" of the Proposed RMP and Final EIS has been revised to clarify how the Ely Field Office would work with the Nevada Department of Wildlife to implement the goals, objectives, and actions outlined in the Nevada Comprehensive Wildlife Conservation Strategy.

S3-59 In response to your comment, the text in Section 3.8.2 of the Proposed RMP and Final EIS has been revised to clarify that sale authority is valid unless the authority is revoked.

S3-60 The status of immunocontraception for population control within wild horse herds within the Ely RMP decision area has not changed since the Draft RMP and EIS was released. The evaluation of effectiveness remains in the research phase.

S3-61 In response to your comment, the text in Section 3.9.2 has been revised to clarify the discussion of degradation trends.

Letter S3 Continued

S3-62 3.12-4. Right-of-Way. Is the ROW for the White Pine Energy Station identified in this document? The description of existing Falcon-Gondor ROW widths is in error – 160 feet? Is it not .5 mile? The description of the Southwest Intertie Project is completely in error.

S3-63 3.13-1. Biomass Utilization. Once a biomass industry in place, will we be able to maintain a constant supply of wood? At what point would the need to fund the biomass industry overtake the goal to restore watersheds?

S3-64 3.13-2. Discussion of current conditions concerning wind energy/trends/current management is not up to date.

S3-65 3.14-3. Discussion of current management concerning travel management and OHV use is not up to date. Discussion does not give a total picture of how the District is moving concerning travel management with or without the RMP revision (i.e. we are currently moving forward with some OHV trail designation, etc).
Recommend an emphasis on cumulative effects section here specifically relative to impacts on the State of Nevada wildlife resources.

S3-66 3.16-4. Did not the BLM do away with suspended AUMs?

S3-67 3.16-7. Great Basin Area and the Mojave-Southern Great Basin Area RAC guidelines?

S3-68 3.16-9. Middle paragraph. #2. restoration activities that including rangeland seedings following fire .....

S3-69 3.16-10. What seedings have the Ely District developed that benefit wildlife? Are we talking about crested wheat seedings? We also disagree with the idea that 206,000+ acres of seeding have been developed to benefit other resources. The fact is that the majority of crested wheat grass seeding which have been developed in the Ely District we completed in the 1950s-1970s to provide forage for livestock.

S3-70 3.18-7. We are not aware of any oil or natural gas fields in central Elko County.

S3-71 3.20-3. Trends. Is not Nevada Division of Forestry an important entity in initial attack in the Ely District?

S3-72 3.20-9. Noxious weed control is large issue relative to fire rehabilitation and restoration. It is not mentioned in this discussion.

S3-73 3.22-5. First paragraph. There is no discussion concerning the pending White Pine County Lands Bill in this document. This legislation will have significant implications concerning wilderness, land disposal, OHV route designation, etc.

Responses to Letter S3

S3-62 The NEPA review for the White Pine Energy Station has not been completed, and no right-of-way has been issued. The information presented for the Falcon to Gonder right-of-way is correct as written. The right-of-way is 160 feet wide, while the corridor within which it is located is 0.5 mile wide. The description of the Southwest Intertie Project has been updated in the Proposed RMP and Final EIS.

S3-63 Please refer to Sections 2.4.17.2 and 3.17.1 in the Proposed RMP and Final EIS for discussions of fuelwood management and fuelwood supplies in the Ely RMP decision area. Also in response to your comment, the text in Section 4.13 of the Proposed RMP and Final EIS has been expanded to address the effects of vegetation treatment management actions on biomass utilization.

S3-64 In response to your comment, the text in Section 3.13.3 of the Proposed RMP and Final EIS has been revised to reflect changes in current management direction that have occurred since the Draft RMP and EIS was released for public comment. There have been few proposals for wind energy development.

S3-65 The description of current management for travel designations is accurate. OHV designations may only be made during the land use planning process, or through emergency closures. Section 3.14 of the Proposed RMP and Final EIS gives a full description of how the Ely Field Office is proposing to handle travel management and OHV designations in the short-term and long-term.

S3-66 In response to your question regarding suspended AUMs, the answer is "No." The text is correct as written that AUMs are still recognized as being in suspended use.

S3-67 In response to your comment, the text in Section 3.16 of the Proposed RMP and Final EIS has been revised to clarify the reference to the RAC guidelines.

S3-68 In response to your comment, the text in Section 3.16.3 of the Proposed RMP and Final EIS has been revised to incorporate the suggested wording.

S3-69 In response to your comment, a new best management practice based on the wording you suggested has been added to the Proposed RMP and Final EIS (see Appendix F, Section 1).

S3-70 Data for this field (Deadman Creek Field) is listed in the citation referenced in the text and also presented in the Nevada Bureau of Mines and Geology Open-file Report 2001-07 Nevada Oil and Gas Database Map. Production appears to have been limited and from a single well (Deadman Creek No. 44-13). No change was considered necessary in the text.

S3-71 In response to your comment, the text in Section 3.20.2 of the Proposed RMP and Final EIS has been revised to expand the discussion of BLM's interagency agreements related to fire protection within the Ely RMP planning area.

Responses to Letter S3

S3-72 In response to your comment, the text in Section 3.20.3 of the Proposed RMP and Final EIS has been revised to expand the discussion of weed control in the emergency stabilization and rehabilitation process.

S3-73 The provisions of the White Pine County Conservation, Recreation, and Development Act have been incorporated into the Proposed RMP and Final EIS.

Letter S3 Continued

S3-74 3.23-3. Second paragraph. Are tourism and recreation (hunting/fishing, etc.) included in the services industry? If not, these industries are a significant economic force in White Pine and Lincoln counties.

S3-75 3.23-3. The information pertaining to farming and ranching has a larger discussion than other economic forces which provide substantially more income to the county economies (mining, recreation including hunting and fishing, tourism, etc.). A few years ago the State initiated economic profiles of all of the counties in Nevada. These documents provided a substantial amount of information concerning the significance of certain industries to local economies. These documents along with other readily available information should provide for a more accurate discussion in this section. As well as preciously provided Department of Interior publications on the expenditures in Nevada on wildlife related recreation.

S3-76 3.23-9. Discussion concerning Bald Mountain needs to be expanded.

S3-77 3.23-10. Discussion concerning hunting and fishing is weak. More information is available and can be provided.

S3-78 3.23-13. Moderately high incomes in Lincoln and White Pine counties can be attributed to the large percentage of state and federal employees. Is this true?

Chapter 4

S3-79 4.1-11. Bighorn Sheep and Domestic Sheep Interactions. Summary of Existing Information. The discussion concerning transference of disease from domestic sheep to bighorn sheep is not a matter of debate amongst wildlife specialists and game management agencies but between wildlife interests and the **(local)** livestock industry. This discussion is not complete nor up to date and does not represent the current thoughts of wildlife disease researchers in the West. The discussion concerning approach to evaluate impacts is appropriate. The above comment in red that relates to the technical team of varied interests that was charged with the development of guidelines for management of wild sheep/domestic sheep lead into the guidelines by a jointly agreed upon statement that disease between domestic and native sheep **IS A PROBLEM.** This includes representative from the national woolgrowers and the American Sheep Industry.

S3-80 4.1-19. Alt. B. Aquatic Species. Grazing impacts would be eliminated? Does this address the District wide issue or is the specific to the Mojave?

S3-81 4.4-3. Travel Management and OHV use. The level of use has a direct impact the severity of erosion.

Responses to Letter S3

S3-74 Most tourism and recreation economic activity is included in the services and the trade sectors.

S3-75 The scope and complexity of the Ely RMP require discussions to highlight information regarding important industries and economic activities and important trends affecting those activities as they relate to public lands management. As stated in Section 3.23, farming and ranching have traditionally played important roles in Nevada's rural economy and social fabric, are very directly affected by public lands management, and have faced challenging economic times; factors which warranted discussion. Any appearance of differential consideration of the economic contributions of specific industries based on the length of the discussion was unintended.

S3-76 In response to your comment, the text in Section 3.23 of the Proposed RMP and Final EIS has been revised regarding the Bald Mountain Mine.

S3-77 Please refer to Response to Comment S3-75 regarding the discussion of hunting and fishing and Response to Comment S3-21 regarding consultation with NDOW staff.

S3-78 The statement regarding the influence of state and federal payrolls on local personal income is based on data published by the U.S. Bureau of Economic Analysis. That data shows average earnings per job of state and federal employees being considerably higher than those in most other sectors and that the aggregate state and federal payroll represents a substantial share of the total labor earnings in the local economies.

S3-79 In response to your comment, the text in Section 4.1.4.4 of the Proposed RMP and Final EIS has been revised to clarify the discussion of bighorn sheep and domestic sheep and goat interactions. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-80 In response to your comment, text related to this alternative has been revised to clarify that the elimination of grazing in approximately 3.5 million acres (see Section 2.6.16) including habitats for several special status aquatic species.

S3-81 In response to your comment, the text in Section 4.4 of the Proposed RMP and Final EIS has been revised to include level of use related to travel management and OHV activity as one of the primary factors affecting erosion.

Letter S3 Continued

S3-82 4.5-9. Alt. A. Fish and Wildlife. Change elk herbivory on aspen to wild ungulate herbivory.

S3-83 4.5-15. Second paragraph. ".....including wildlife usage....." Does the District intend to establish wildlife vegetation use levels in wetland and riparian areas? How would the District monitor these use levels? Why is wildlife singled out in this discussion?

S3-84 4.5-16. Wild horses. Temporary reduction in numbers of horses may provide some relief from impact of herbivory prior to or directly after restoration treatments.

S3-85 4.6-1. Alt. A. "Management would be designed to sustain nonnative game fish species (primarily rainbow trout)." The statement is too broad and does not reflect the present management goals for the Department of Wildlife in the Ely District. Management goals are specific to individual waters and habitats (i.e. native range for Bonneville Cutthroat).

S3-86 4.6-11. Second to last paragraph. The discussion is incomplete because it does not document the negative aspects of fencing to wildlife resources.

S3-87 4.6-12. Why would elk and antelope benefit more from water developments that other wildlife species? We have to date not documented competition between wildlife species for available habitat resources associated with water developments. To our knowledge, this impact has not been demonstrated. In the first sentence under Water Developments change "density" to "distribution."

S3-88 4.6-13. Alt. A. Second paragraph, last sentence. Why would elk and antelope benefit more from other developments than other wildlife species? To date, we have not documented competition between wildlife species for available habitat resources associated with water developments. To our knowledge, this impact has not been demonstrated.

S3-89 4.6-18. Alt. B. Impacts from Fish and Wildlife Management Direction. ".....for both game and nongame species where no known conflicts with native species exist." What does this statement mean? We are unsure what the document is trying to say.

S3-90 The document states, "however potential wildlife conflicts would continue to result in population expansion of some wildlife species (e.g. elk and pronghorn)." This sentence makes no sense. Is there data to justify this statement? How would conflicts result in population expansion? This idea or direct statements occur throughout the document and should be removed if no justifying data exists or reworded if the idea is not presented clearly.

S3-91 4.6-19. Second paragraph. The assumption that Alt. B will, in the long term, lead to a reduction in population growth in elk is in error. The growth in elk populations

Responses to Letter S3

S3-82 In response to your comment, the text in Section 4.5 of the Proposed RMP and Final EIS has been changed to incorporate the wording you suggested.

S3-83 The text indicates that general qualitative (not quantitative) usage of the restored community by wildlife (as indicated by species presence) is simply one component in the determination of whether the treated site has achieved the desired range of conditions. The text at this location does not state or imply that usage levels by individual wildlife species would be quantitatively measured or monitored.

S3-84 In response to your comment, the text in Section 4.5 of the Proposed RMP and Final EIS has been changed to incorporate the suggestion that treatments may be timed to coincide with low points in the normal wild horse population cycle (i.e., following gathers). The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-85 In response to your comment, the text in Section 4.6 of the Proposed RMP and Final EIS has been revised to clarify the discussion of nonnative fish management. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-86 In response to your comment, the text in Section 4.6 of the Proposed RMP and Final EIS has been modified to clarify the impacts of fencing on wildlife resources. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-87 In response to your comment, the text in Section 4.6 of the Proposed RMP and Final EIS has been revised to clarify the discussion of wildlife water developments. The Ely Field Office biologists consider the current distribution and availability of water sources to constitute more of a limiting factor to population growth and expansion of some wildlife species than others.

S3-88 Please refer to Response to Comment S3-87 for a discussion of competition among wildlife species.

S3-89 In response to your comment, the text in Section 4.6 of the Proposed RMP and Final EIS has been revised to clarify that habitat requirements of special status species would be a management priority over habitat management for other wildlife species.

S3-90 In response to your comment, the text in Section 4.6 of the Proposed RMP and Final EIS has been revised to clarify that continued conflicts with other resource uses would result in different types and levels of effects to various wildlife species.

S3-91 In response to your comment, the text in Section 2.4.6.3 and Section 4.6 of the Proposed RMP and Final EIS has been revised to clarify the discussion of big game habitat management for increased game species distribution and densities.

Letter S3 Continued

S3-91 will be limited by politics, not by habitat: The singling out of elk throughout the document as an issue detracts from the overall analysis for all wildlife resources. This statement is found throughout the document and needs to be corrected.

S3-92 4.6-22. Alt. C. Second paragraph. "Wildlife conflicts from localized water developments would be similar to those identified for Alt. A, except that the severity of impacts on wildlife would be greater under this alternative, resulting in increased population expansion of some wildlife species (e.g. elk) and increase competition for habitat resources (e.g., forage and cover)." We would like BLM to provide evidence that this statement is true. Again we believe that this negative fixation on elk is inappropriate.

S3-93 An increase in one species of wildlife does not necessarily indicate that there are negative impacts to other wildlife species. "Habitat management under this alternative would favor species such as nonnative game birds. Potential wildlife conflicts would result in increased competition for resources (e.g., forage, cover, water) between native and nonnative species." Where and how would this competition occur? We believe this assumption to be untrue.

S3-94 4.6-28. Alt. E. Fourth paragraph. This paragraph is poorly worded and does not make sense. Why is "where no known conflicts with native species exist" added to the sentence? Fifth paragraph. This paragraph needs some clarification. Change "beyond what natural habitat and water sources would support" and replace with "beyond what exists today." Is this what the BLM is trying to say?

S3-95 4.7-23. Special Designations. Big Springs Spinedace. The document indicates that recreational use in Condor Canyon as a result of this alternative could affect habitat for the Big Springs Spinedace. Would not this be conflict with existing and proposed BLM regulations on Special Status Species. If this is the case, is this a straw man alternative?

S3-96 4.7-25. Alt. E. Fish and Wildlife . This paragraph should also appear in Alt. A as it is a statement of current conditions.

S3-97 4.7-32. Mineral Extraction. The document discusses the displacement of more mobile species into adjacent habitats. It does not then indicate a potential reduction in population levels if the surrounding habitats are at carrying capacity. This statement should be consistent through the document in the displacement discussion.

S3-98 4.7-33. Nowhere in the document is there a discussion of the BLM's proposed management for historic mining properties on public lands with respect to the protection of bat populations. Please reference the Draft Bat Conservation Plan. This is a State plan being developed with many partners including BLM. The document should be incorporated into this plan.

Responses to Letter S3

S3-92 In response to your comment, the text in Section 4.6 of the Proposed RMP and Final EIS has been revised to eliminate the reference to elk as the example species favored by actions within this alternative.

S3-93 The Ely Field Office biologists have determined that the more open vegetation communities resulting from treatments in this alternative, with greater emphasis on the herbaceous state, would favor increased populations of some nonnative wildlife species with associated increased competition and reduced habitat availability for various native species, to the extent that such species share similar or overlapping ecological niches.

S3-94 In response to your comment, the text in Section 4.6 of the Proposed RMP and Final EIS has been revised to eliminate the reference to conflicts with native species.

S3-95 In response to your comment, the text in Section 4.7 of the Proposed RMP and Final EIS has been revised to clarify the discussion of hiking and vehicle use on existing roads and trails that could result in localized minor erosion. Sediment input to the stream or ponds is not anticipated. In addition, the management direction to be developed for the ACECs for these areas would not allow activities that could affect habitat for these species. NEPA and Section 7 compliance will be required, and impacts and mitigation will be described for the specific use areas. Appropriate mitigation and stipulations also would be included in the ACEC Management Plans.

S3-96 In response to your comment, this paragraph in Section 4.7 (Proposed RMP) of the Proposed RMP and Final EIS has been revised to be worded the same as the impact statement for Alternative B, since the management direction in these two alternatives is identical. The management direction in Alternative A is different.

S3-97 In response to your comment, the text in this paragraph of Section 4.7 (Alternative A, Impacts from other Programs) of the Proposed RMP and Final EIS has been revised to clarify the potential increase in mortality as individuals are displaced to surrounding habitats.

S3-98 In response to your comment, the management action in Section 2.4.7.1 regarding implementation of bat management actions has been expanded to reference guidance from the Revised Nevada Bat Conservation Plan (Bradley et al. 2006).

Letter S3 Continued

S3-99 4.7-39. What are the grassland dependent special status species? Is the BLM determination of this consistent with our Comprehensive Wildlife Conservation Strategy Plan?

S3-100 4.7-40. Alt. C. Vegetation Management. Are proposed vegetative treatments (scope, location) contrary to the Sage Grouse Guidelines? Would this be another example of a straw man alternative?

S3-101 4.7-43. Why is the Bat Conservation Plan not referenced in Alternative B as it is in Alternative E?

S3-102 4.7-44. Again we question whether sage grouse should be the model for healthy for sagebrush ecosystems.

S3-103 4.14-2. Travel Management and OHV Use. The document states that the areas of high wind potential tend to be located on the high ridges which would have little impact on existing transportation. We don't agree that the impact from wind development on transportation will be minimal. This is based on current wind energy development proposals submitted to the Ely District.

S3-104 4.16-12. Alt. D. The document states that " Since this decision would not be consistent with current regulation and agency policy, selection of this alternative would require Congressional approval for implementation." Would this not be a straw man alternative?

S3-105 4.19-2. Assumptions for Analysis. Under all alternatives should we not say something about the desire to conduct monitoring to see if we have achieved predetermined goals and objectives of the treatment?

S3-106 4.19-9. Impacts to other programs. We have a hard time believing that impacts related to implementation of a commodity alternative would be the same to fish and wildlife, special status species and wild horses as if an more wildlife friendly or current management alternative were to be selected. This view needs clarification. In the commodity alternative a greater portion of any watershed would be treated with project areas maintained for a longer period of time in the herbaceous state. This in itself will have a significant negative affect on wildlife resources overall.

S3-107 4.19-10. Alt. D. Impacts from Watershed Management Direction. We continue to have a problem with the premise that native communities which are is good ecological condition will, without perturbation, trend towards thresholds. We have yet to see any data that supports this assumption. Yet, this premise plays a big role in the state and transition models from which the BLM will derive guidance for restoration.

Responses to Letter S3

S3-99 In response to your comment, the text in Section 4.7 of the Proposed RMP and Final EIS has been revised to address your comment on grassland dependent species. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-100 The Sage Grouse guidelines will be one of the factors considered when project-specific plans are prepared. The Ely Field Office does not consider the actions described for Alternative C in Section 4.7.3 to be contrary to these guidelines.

S3-101 In response to your comment, the text in Section 4.7 (of the Proposed RMP and Final EIS has been modified to include a reference to the Bat Conservation Plan. The basic impact conclusions presented on the Draft RMP and EIS have not changed.

S3-102 Please refer to Response to Comment S3-31 for a discussion of sage-grouse as an "umbrella" species.

S3-103 In response to your comment, the text in Section 4.14 of the Proposed RMP and Final EIS has been clarified. Wind energy projects are unlikely to have impacts to overall travel management in the Ely RMP decision area. However, additional roads supporting wind energy projects may be required, but those would be analyzed during review of project-specific proposals. Maintaining public access to public lands would be a major consideration of the Ely Field Office during the review of wind energy proposals.

S3-104 NEPA regulations require the analysis of alternatives that are beyond the authority of the lead agency (the BLM in this case) to implement. While certain management actions contained in Alternative D might require regulatory or legislative changes before they could be implemented, including them in the Proposed RMP and Final EIS provides a reasonable range of alternatives, per NEPA regulations, for impact analysis and consideration by the public and decision makers.

S3-105 In response to your comment, the text in this paragraph of Section 4.19 under Assumptions for Analysis has been revised to clarify the role of monitoring data in the application of adaptive management and continual refinement of treatment technologies. The discussion of adaptive management and monitoring has been revised and expanded in the Proposed RMP and Final EIS (see Section 1.7 and Section 2.4.23).

S3-106 The commenter is misreading the context. This is not a discussion of the impacts of watershed management on fish and wildlife, but rather the impacts of the fish and wildlife management actions on the watershed management program.

S3-107 The Ely Field Office has not made the assumption you reference and has cited literature that strongly indicates that trends toward thresholds will occur. Management decisions regarding vegetation restoration will continue to consider changes in vegetation communities suggested by the state and transition pathways.

Letter S3 Continued

S3-108 4.20-5. We remain unsure as to why, under Alt. B, a significant portion of the District would be identified for wind and/or solar generation facilities. Based on our limited experience with energy development in wildlife habitat, the two are fairly incompatible and wildlife usually looses.

S3-109 4.23-1. Impact Issues. We would submit that in rural Nevada communities, loss of recreational opportunities (including hunting and fishing), tourism, etc. would be a concern to the public and local governments.

S3-110 4.23-9. We do not agree with the premise that changing the status of the District from open to limited will reduce spending from OHV recreation. Most OHV users currently stay on existing roads and trial with generally only the OHV hunter or OHV youth making new roads.

S3-111 4.23-11. One idea which needs to be brought out is the worth of a healthy, functioning watershed or ecosystem. The document fails to bring this aspect into perspective. What benefit economically is it to all resources to have a healthy ecosystem vs. what are the costs economically to all resources to have a nonfunctioning ecosystem?

S3-112 4.23-11. Conclusion. Document states that increases in big game hunting would result in minor, long-term enhancements of the local economy. We submit that these enhancements could be significant to local economies.

S3-113 4.24-9. Last sentence on the page is incomplete.

S3-114 4.28-23 Under the heading Cumulative Impacts Conclusion, the document suggests that air resources in the District are mainly affected by mining and vegetation management/fire management. We believe that recreation use of both on and off highway vehicles contributes significant levels of constituents that effect air quality in the District. This will be even more of a concern once the proposed OHV special designated areas are developed. We believe this type of activity may create greater problems than mining activity, which is limited to relatively small geographical areas.

S3-115 4.28-30 In the second paragraph under the heading Impacts of Interrelated Projects, the document indicates the present actions affecting vegetation composition and ecological health include among others wildlife management. We are unaware of any examples where wildlife management has affected either vegetation composition or ecological health. If there is evidence or examples of this, this information needs to be provided in this document as support for this type of statement. Our agency should have been made aware of these examples when they were identified.

S3-116 4.28-34 In the first paragraph under the heading Impacts of Interrelated Projects, the document again does not complete the analysis for when animals are displaced.

Responses to Letter S3

S3-108 The Proposed RMP does not designate areas for wind and solar energy development, and the text and map titles in the Proposed RMP and Final EIS have been changed to clarify this. Changes in technology may change the potential for renewable energy development and which areas are suitable. All applications will be subject to NEPA analysis and the Wind Energy Development Program Policies and Best Management Practices published in conjunction with the Record of Decision for BLM's Final Wind Energy Development Programmatic EIS (Appendix F, Section 1 of the Ely District Proposed RMP and Final EIS).

S3-109 In response to your comment, the text in Section 4.23 of the Proposed RMP and Final EIS has been revised to clarify the discussion of potential economic concerns related to the RMP management alternatives. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-110 In response to your comment, the text in Section 4.23 of the Proposed RMP and Final EIS has been revised, changing "...would temporarily" to "... could temporarily" to clarify the discussion of potential effects of Alternative B on off-highway vehicle use. The assessment reflects uncertainties associated with the timing, location, and changes in road and trail access. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-111 Big game hunting is acknowledged to be important to the local economies in Section 3.23. The referenced conclusion does not diminish or denigrate the potential importance of future increases in hunting to local economies. Rather, the conclusion refers to the aggregate economic effects of Alternative B, including not only those associated with increases in big-game hunting, but also the direct, indirect, and induced effects of implementing the overall management alternative relative to the size of the underlying regional economy.

S3-112 Thank you for your comment. The entire Ely RMP is in fact an acknowledgement of the comment's underlying premise, that being the positive value of a healthy, functioning ecosystem. Also refer to pages 4.23-1 to 4.23-6 for discussions of some of the economic costs of declining ecosystem health, augmented by other information incorporated throughout the document. More detailed discussions of this subject are beyond the scope of the Ely RMP and the comment does not require further agency response.

S3-113 In response to your comment, the text in Section 4.24 of the Proposed RMP and Final EIS has been revised. The change does not affect the basic impact conclusions presented in the Draft RMP and EIS.

S3-114 It is true that recreational use of both on- and off-highway vehicles contributes air pollutants, mostly in the form of PM10. It is a matter of conjecture whether this source would exceed emissions from mining and unlikely that it would exceed emissions from vegetation treatment and fire management. Section 4.2 in the Proposed RMP and Final EIS has been expanded to discuss the effects of dust from recreational vehicle use in the Ely RMP planning area, including competitive events held under special recreation permits. Please note that no special recreation management areas emphasizing off-highway vehicle use have been identified in the Proposed RMP.

Responses to Letter S3

S3-115 All herbivores, including wildlife species, affect vegetation communities (composition, density, production, ecological health, etc.) to one degree or another, depending on the type, intensity, and timing of herbivory. The statements in this section of the text do not assign relative levels of effect to the various factors mentioned, but simply acknowledge that such effects exist.

S3-116 In response to your comment, the text in of Section 4.28 (Impacts of the Proposed RMP) of the Proposed RMP and Final EIS has been revised to clarify the potential increase in mortality as individuals are displaced to surrounding habitats.

Letter S3 Continued

S3-116 If the surrounding habitat is at carrying capacity, the displacement of individuals may result in the loss of some of the individuals.

S3-117 4.28-36 Under the heading Impacts of the Proposed Action(Alternative E), the last sentence in the first paragraph suggests that maintenance mitigations would be implemented where populations are at or near maximum levels. Is this what the document wants to state or should it read "minimum" levels?

S3-118 4.28-39 Again the text does not finish the displacement analysis. When surrounding habitats are at carrying capacity, individuals may be lost.

S3-119 4.28-40 In the second paragraph under the heading Impacts of the Interrelated Projects, the document again tries to implicate wildlife as a causative facture in the decline of the vegetated community and in competition with wild horses.

S3-120 4.28-61 Under the heading of Impacts of Interrelated Projects, in the first paragraph the document indicates wildlife has been a major contributor to current deteriorated conditions. We do not believe this is true. This document has not provided evidence to this fact.

S3-121 4.28-61 Under the heading of Impacts of Interrelated Projects, in the second paragraph the document indicates wildlife management has affected watershed conditions. We do not believe there is evidence that this is the case.

S3-122 4.28-63 Under the heading of Impacts of Interrelated Projects, in the first paragraph the document indicates wildlife have contributed to deteriorated conditions. We do not believe there is evidence that this is the case. This thought pervades this document and we do not believe there is scientifically verifiable data that this is the case. We have agreed in the past to respond with appropriate management if and when this type of problem is brought to our attention. To date this has not occurred.

S3-123 Appendix D, page 16. We are not in agreement with the assumptions of some of the current state and transition models. We disagree with the idea that native vegetative communities, with limited perturbations, will trend toward thresholds naturally. This view to our knowledge remains unsubstantiated.

S3-124 Appendix F, page F-1. *Myotis evotis* has the potential to occur in Lincoln and Nye Counties.
Myotis lucifugus has the potential to occur in White Pine and Nye Counties.
Myotis yumanensis has the potential to occur in Lincoln County.
Accipiter gentiles has the potential to occur in Lincoln County
Page F-2
Ixobrychus exilis has the potential to occur in White Pine County.
Melanerpes lewis has the potential to occur in Lincoln County.

Responses to Letter S3

S3-117 In response to your comment, the text in Section 4.28.7 of the Proposed RMP and Final EIS has been revised to clarify the discussion of maintenance levels at which maintenance mitigations would be implemented. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-118 In response to your comment, the text in Section 4.28 of the Proposed RMP and Final EIS has been revised to clarify the potential increase in mortality as individuals are displaced to surrounding habitats.

S3-119 Please refer to Response to Comment S3-122 for a discussion of wildlife as a contributor to current deteriorated ecological conditions.

S3-120 Please refer to Response to Comment S3-122 for a discussion of wildlife as a contributor to current deteriorated ecological conditions.

S3-121 In response to your comment, the text in Section 4.28.19 of the Proposed RMP and Final EIS has been revised to not include wildlife management as one of the other land uses that affect watershed conditions.

S3-122 In response to your comment, the text in Section 4.28.19 of the Proposed RMP and Final EIS has been revised to clarify the discussion of wildlife as a contributor to current deteriorated ecological conditions. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-123 Please refer to Response to Comment S3-107.

S3-124 In response to your comment, the data in Appendix E of the Proposed RMP and Final EIS has been revised to incorporate your suggested revisions.

Letter S3 Continued

S3-125 Appendix J, page J-3. In the first paragraph under the heading Sagebrush, the document indicates that sagebrush is the main winter forage for sage grouse and antelope. This is also true for mule deer.

S3-126 Appendix J, page J-4. In the second bullet on the page the document suggests that sagebrush sites with cover in the 20-30 percent live cover are important to several migratory bird species. The text goes on to suggest that even though the herbaceous component may not be what is desired, these communities should be left intact and not treated to provide for the migratory bird species that utilize these communities. This recommendation seems to contradict the language in the vegetation and watershed sections of the RMP/EIS. Why is there this discrepancy?

Responses to Letter S3

S3-125 Appendix J has not been included in the Proposed RMP and Final EIS. Discussion of mule deer winter use of sagebrush is included in Section 3.6.2 (Mule Deer)

S3-126 Under the Proposed RMP and Alternative B, approximately 1.8 million acres of sagebrush communities in the shrub state would be subject to treatment over a period of several decades. This represents approximately 60 percent of the sagebrush area in the shrub state and approximately 32 percent of the total sagebrush area. The planned treatment approach and areas involved are not viewed by the Ely Field Office as conflicting with the referenced statement in Appendix J of the Draft RMP and EIS since large tracts of such habitat would remain available at any given time.

Letter S3 Continued

If you have any questions or comments regarding this input, please contact me in Elko.

Sincerely,

Rory E. Lamp
Biologist III
60 Youth Center Road
Elko, NV 89801
775-777-2368

RL/rl,sf

cc: Habitat Bureau
Eastern Regional Office, NDOW
Southern Regional Office, NDOW
Ely Field Office, NDOW
Tonopah Field Office, NDOW
John Hutchins, NDOW
Mike Scott, NDOW
Mike Podborny, NDOW

Letter S3 Continued

Addendum to NDOW's Comments

J. Sjöberg – 28 November 2005

S3-127 3.7-7 Fish: State and BLM sensitive fish species which occur on public lands should be specifically identified in this section other than just a passing non-specific reference. In particular White River desert sucker, Meadow Valley Wash desert sucker, Meadow Valley Wash speckled dace and relict dace may be specifically affected and impacted by proposed actions under the various alternatives, and adequate information on life history, distribution and status is available for these fishes from BLM and NDOW files to address them more specifically in this section of the document. Although the majority of the native fish species are associated with spring and springbrook/outflow habitats, fragmentation and desiccation of perennial stream systems on public and private lands are a factor in restricting some of these fishes to only those spring habitat systems as opposed to a specific affinity for those habitats in comparison to historic distribution and occurrence. The White River desert sucker (*Catostomus clarki intermedius*) is a distinct, recognized sub-species and should not be lumped together with the Meadow Valley Wash desert sucker for purposes of this section. Given that an emphasis of the preferred alternative E is to insure implementation of management actions which would benefit and enhance sensitive aquatic species and assist in precluding future status declines and potential Federal listing, the narrative in this section is inadequate.

S3-128 3.7-7 Aquatic invertebrates and amphibians: Amphibian habitats and distributions of those species in the planning area are associated with permanent and ephemeral wetland and seep habitats as well as specific, flowing and open water spring habitats as implied here. Limited distribution information for both northern leopard frog and southwestern toad is available from NDOW and others. Extensive location and status information on spring snail species is available from Don Sada and others.

S3-129 3.7-7 Trends: NDOW has conducted annual or semi-annual status monitoring for Meadow Valley Wash sensitive fish species in both Clover Creek and Meadow Valley Wash below Caliente since at least 1999. This data is available.

S3-130 4.1-11 4.1.4.5 Special Status Species – Incomplete information: It is unclear if this section references aquatic species but extensive information is available on sensitive fishes and invertebrates as referenced elsewhere in the RMP documents. The statement that detailed inventory level information on location, status and trend, etc for ***any*** (emphasis added) of the sensitive animal species occurring within the plan area is not available is simply not true. Space precludes detailing that availability here but adequate inventory information is available for numerous important sensitive animal species on the Ely District sufficient to direct and assist with these planning efforts, from NDOW and other sources.

S3-131 4.7-13 Recreation; White River springfish: For this and other alternatives, effects from recreational activities at Ash Spring on springfish and springfish habitat additionally

Responses to Letter S3

S3-127 This section refers to Appendix E in the Proposed RMP and Final EIS, which lists the special status species and identifies the types of habitat that they use. New information was added that identifies the geographical occurrence and habitat used by these special status fish species. NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP/EIS for the Ely planning area.

S3-128 In response to your comment, the discussions regarding aquatic invertebrates and amphibians in Section 3.7.2 of the Proposed RMP and Final EIS have been revised and expanded to clarify the general distributions and habitat relations of these species. In addition, a management action has been added to Section 2.4.7.1 for the protection of spring snails. NEPA regulations direct federal agencies during their preparation of an EIS to reduce the accumulation of extraneous background data [40 CFR 1500.2(b)]. Thus, the Ely Field Office assembled the information that was necessary to formulate management actions and make a reasoned choice among alternatives. Where data that is important in making a decision is incomplete or unavailable, this must be disclosed in the EIS [40 CFR 1502.22]. Please refer to Section 4.1.4 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Incomplete and Unavailable Information. The data that is requested in this comment, while potentially of interest, is more detailed than that required to prepare an RMP/EIS for the Ely planning area.

S3-129 In response to your comment, Section 3.7.2 and Table 3.7-2 in the Proposed RMP and Final EIS has been modified to more clearly present the results of the most recent NDOW surveys conducted in 2003 and 2004.

S3-130 In response to your comment, the text in Section 3.7.2 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of species populations. In addition, a statement has been added to Section 4.1.4.5 to refer the reader to that section. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-131 In response to your comment, the text in Section 4.7 of the Proposed RMP and Final EIS has been expanded to include a discussion of impacts from shoreline disturbance. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

Letter S3 Continued

S3-131 include direct disturbance and harassment of the fish, and direct disturbance and alteration to aquatic habitats through modification of banks and spring sources from access and access development.

S3-132 4.7-13 Recreation; Other Sensitive species on BLM-administered lands: Here and throughout the document, distribution for Meadow Valley Wash desert sucker and speckled dace is indicated as "Upper and Lower Meadow Valley Wash". Distribution of these species includes extensive areas of the Clover Creek drainage in Lincoln County where there are substantial potential effects from recreation use, as well as in management of transportation corridors including maintenance of UPRR right-of-ways adjacent to occupied habitats for these species (previous section on this page).

S3-133 4.7-17 Noxious and Invasive Weed management; Big Spring spinedace: The reference to Upper Meadow Valley Wash is presumed to describe occupied habitats within the Condor Canyon reach of this drainage. While invasive weed control may have some negative impacts from short-term sedimentation, these aquatic habitats are already severely impacted by sediment deposition as a result of inadequate restoration efforts following the 1999 fire events in the canyon and adjacent drainages which left much of the adjacent upland habitat denuded and unstable. Tamarisk in this reach represents a relatively minor cover attribute as the majority of large native structural cover which provided shade and structure was lost in that fire event and has not been replaced. Actions to control noxious vegetation and establish suitable native vegetation including a riparian cover component are critical recovery actions for Big Spring spinedace and need to be prioritized in this and all other alternatives.

Responses to Letter S3

S3-132 In response to your comment, the text in Section 4.7 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of potential impacts to Meadow Valley Wash desert sucker and Meadow Valley Wash speckled dace in the Clover Creek drainage. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S3-133 In response to your comment, the text in Section 4.7 of the Proposed RMP and Final EIS has been expanded to clarify the discussion of impacts from the 1999 fire in Condor Canyon. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

Letter S4

KENNY C. GUINN
Governor

STATE OF NEVADA

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November 21, 2005

Gene Drais, RMP Project Manager
Bureau of Land Management
Ely Field Office, HC 33
Box 33500
Ely, Nevada 89301

Re: Comments on BLM's Draft Resource Management Plan/Environmental Impact Statement for the Ely District

Dear Mr. Drais:

The State of Nevada Agency for Nuclear Projects has reviewed the Draft RMP/EIS for BLM's Ely District and offers the following comments:

General Comment

S4-1 The manner in which the proposed rail spur for the U.S. Department of Energy's high-level radioactive waste repository at Yucca Mountain is dealt with in the draft RMP/EIS is wholly inadequate. Despite the fact that the proposed rail line transects the Ely District, the only reference made to Yucca Mountain or the proposed rail corridor is in the cumulative impacts section of the draft document, and there the project is treated in a superficial manner with little or no analysis of potential impacts.

At the time the draft RMP/EIS was prepared, DOE had already formally selected the Caliente alternative, which passes through a portion of the Ely District, as the preferred corridor for a rail spur to Yucca Mountain. The State of Nevada and others had provided extensive comments on the potential impacts of such a rail line in response to DOE and BLM Federal Register Notices regarding the proposed Caliente rail corridor and the land withdrawal associated with it. Those comments can be found at the following internet addresses and are incorporated by reference into these comments:

Responses to Letter S4

S4-1 Analysis of the impacts of the construction and operation of the Yucca Mountain rail spur will be conducted by the Department of Energy and presented in an EIS prepared by that agency. The Ely Field Office has treated the rail line as an interrelated project in the cumulative impact section (4.28) of the Draft RMP and EIS and Proposed RMP and Final EIS at an appropriate level of detail, according to Council on Environmental Quality Regulations and BLM NEPA guidelines. It is noted that the Department of Energy is investigating an alternative rail spur alignment (the Mina corridor) that would not cross the Ely RMP planning area.

Letter S4 Continued

(1) State of Nevada Comments on the U.S. Department of Energy's Draft Environmental Assessment for the Proposed Withdrawal of Public Lands Within and Surrounding the Caliente Rail Corridor (http://www.state.nv.us/nucwaste/news2005/pdf/nv050923doe.pdf);

(2) BLM's Notice of Public Meetings: Notice of Intent to Amend the Caliente Management Framework Plan, Schell Management Framework Plan, Tonopah Resource Management Plan, and the Las Vegas Resource Management Plan (http://www.state.nv.us/nucwaste/news2004/pdf/nv040629blm.pdf)

(3) State of Nevada Comments on DOE's Notice of Intent to Prepare and Environmental Impact Statement for Alignment, Construction, and Operation of a Rail Line to a Geologic Repository at Yucca Mountain, Nye County, Nevada (http://www.state.nv.us/nucwaste/news2004/pdf/nv040525ocrwm.pdf)

S4-2 None of these comments or the analyses they represent are reflected in the draft RMP/EIS.

S4-3 The proposed Yucca Mountain rail spur should not be treated as simply another coincidental land use or incidental cumulative impact. The proposed rail corridor bisects the Ely RMP, and its very existence has the potential to cause impacts across the board. Such impacts range from serious economic disruptions, to potentially major effects on wildlife, to effects on Native American and cultural resources, to conflicts with other land uses and land users, to impacts on water resources, to sustained, long-term impacts on human heath, safety and environment. As such, the Yucca Mountain rail spur should have been treated in the draft RMP/EIS as a major, stand-alone impact category. The proposed rail spur should have been thoroughly analyzed in relation to each of the major impact categories (i.e., air quality, water resources, etc.). Treating the Yucca Mountain rail corridor as simply one impact in a laundry list of cumulative impacts obscures the very real potential this project has for significant long-term impacts to the District and to BLM's ability to manage the public lands within the District.

Specific Comments

S4-4 4.28.2 - Air Quality: The draft RMP/EIS does not address the proposed Yucca Mountain rail spur in terms of potential impacts to air quality. The draft make blanket statements about cumulative air quality impacts, but fails to address the air quality impacts associated with large scale surface disruption associated with rail construction; the potential air quality impacts of re-suspension of radionuclides persisting in the soils from above-ground nuclear testing at the NTS in the 1950s and 1960s; and impacts to air quality of 30 or more years of railroad operations involving thousands of train movements on a daily basis.

Responses to Letter S4

S4-2 Please refer to Response to Comment S4-1 for a discussion of the analysis of impacts from the Yucca Mountain rail spur.

S4-3 Please refer to Response to Comment S4-1 for a discussion of the analysis of impacts from the Yucca Mountain rail spur.

S4-4 In response to your comment, the text in Section 4.28 (Air Quality) of the Proposed RMP and Final EIS has been revised to clarify the potential for increased fugitive dust associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

Letter S4 Continued

S4-5 4.28.3 - Water Resources: Construction, maintenance and operation of the proposed Yucca Mountain rail spur will require significant water resources. Because such a rail line represents, in effect, a 300+ mile wall that will be elevated anywhere from 2 feet to 30 feet above the surrounding terrain, it represents a potential barrier limiting access to existing water resources for ranchers, livestock, and wildlife, and it has the potential to alter water flows, water storage, and water movement within the District. The draft RMP/EIS does not specifically address how the proposed rail spur will impact water resources within the District.

S4-6 4.28.4 - Soils: The draft RMP/EIS does not specifically address potential impacts of the proposed rail spur and rail corridor on soil resources in the District. The proposed rail spur is likely to be the single largest construction project within the District, and it will unavoidable impact soils all along its length. By affecting water flows, run-off, etc., the rail spur also has the potential to impact soils at some distance from the rail line itself. Such impacts should be evaluated thoroughly in the RMP/EIS.

S4-7 4.28.5 - Vegetation: The proposed rail spur will impact vegetation during construction of the rail line, both in terms of direct impacts to land that is disturbed and indirect impacts resulting from disruptions in water flows, run-off, etc. caused by the existence of the rail spur. These impacts are not addressed in the draft RMP/EIS.

S4-8 4.28.6 - Fish and Wildlife: The proposed Yucca Mountain rail spur would bisect the Ely District, creating a 100+ mile raised barrier that would unavoidable impact wildlife. There is also the possibility that the rail line would be fenced, further exacerbating impacts on the movement of animals, affecting traditional migration routes, access to water sources, etc. None of these impacts is addressed in the draft RMP/EIS.

S4-9 4.28.7 - Special Status Species: It is possible that construction and operation of the proposed Yucca Mountain rail spur through the Ely District could have significant impacts on special status species. Such impacts need to be identified and assessed in the RMP/EIS.

S4-10 4.28.8 - Wild Horses: The RMP/EIS should specifically address how the proposed Yucca Mountain rail spur would impact current and future populations of wild horses in the District. It is difficult to imagine that a raised barrier cutting the District in two would not have significant impacts on wild horse populations, including access to water sources, foraging, migration patterns, etc.

S4-11 4.28.9 - Cultural Resources: The proposed rail spur should have been specifically evaluated with respect to impacts on historical and Native American spiritual sites/resources that would be affected by construction and ongoing operations. Instead, the Yucca rail spur is not even mentioned in this regard.

S4-12 While it is not referenced in the text of the draft RMP/EIS or identified in any of the maps contained in the Map Volume, a major land art sculpture of national and international stature is located in Garden Valley, just west of Water Gap. The project

Responses to Letter S4

S4-5 In response to your comment, the text in Section 4.28 (Water Resources) of the Proposed RMP and Final EIS has been revised to clarify the potential alterations in surface drainage patterns and accelerated erosion and sedimentation associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-6 In response to your comment, the text in Section 4.28 (Soils) of the Proposed RMP and Final EIS has been revised to clarify the potential surface disturbances, loss of soil productivity, and increased erosion and sedimentation associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-7 In response to your comment, the text in Section 4.28 (Vegetation) of the Proposed RMP and Final EIS has been revised to clarify the potential surface disturbances and loss of vegetation associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-8 In response to your comment, the text in Section 4.28 (Wildlife) of the Proposed RMP and Final EIS has been revised to clarify the potential surface disturbances, loss of habitat, habitat fragmentation, and creation of wildlife migration barriers associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-9 In response to your comment, the text in Section 4.28 (Special Status Species) of the Proposed RMP and Final EIS describes the potential surface disturbances, loss of habitat, and habitat fragmentation associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-10 In response to your comment, the text in Section 4.28 (Wild Horses) of the Proposed RMP and Final EIS has been revised to clarify the potential surface disturbances, loss of vegetation, and creation of migration barriers associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-11 In response to your comment, the text in Section 4.28 (Cultural) of the Proposed RMP and Final EIS describes the types of impacts associated with potential surface disturbing activities such as those listed as reasonably foreseeable future actions, including additional rights-of-way, in Table 4.28-1. Also please see Response to Comment S4-1.

S4-12 The Ely Field Office does not manage resources on private land. The Proposed RMP does not propose the Garden Valley special recreation management area for scenic qualities. However, the Garden Valley area continues to be identified for visual resource management Class II and Class III objectives. Impacts to the scenic qualities of Garden Valley from the proposed Yucca Mountain rail line would be analyzed and mitigation would be considered in the Department of Energy EIS.

Letter S4 Continued

S4-12 entitled "City" is one of the largest outdoor sculpture projects in the world, and has been several decades in the making. The location for the project was chosen specifically for its isolation and its topographical, visual, and environmental characteristics. The proposed Yucca Mountain rail line would, if constructed in its current proposed location, have significant negative and unmitigable impacts on this unique, one-of-a-kind cultural resource. The RMP/EIS should thoroughly examine such impacts and address how BLM proposes to manage competing interests and land uses within the Ely District so as to protect this unique resource.

S4-13 4.28.10 - Paleontology: Railroad construction will unavoidably have impacts on paleontological resources comparable to or greater than those attendant to mining and other surface and subsurface disturbing activities. However, the Yucca Mountain rail spur is not even mentioned in this section.

S4-14 4.28.11 - Visual Resources: This section references transmission lines, utility rights of way, cross country vehicle use, and other activities as presenting cumulative visual impacts, but does not even mention the implications of what is likely the largest single visual impact proposed for the District – 100+ miles of the proposed Yucca rail line.

S4-15 4.28.12 – Lands and Realty: The proposed Caliente rail corridor could have major impacts on land, especially private and developable lands within the District by virtue of the radiological uses to which the line would be put. Studies by the State of Nevada and DOE and a major court case in New Mexico (Komis v. the City of Santa Fe) have demonstrated that property along highways and rail lines used for shipments of spent nuclear fuel and high-level radioactive waste can experience significant reductions in value. Such impacts must be assessed and appropriate mitigation measures developed. Likewise, the impacts to existing land holders/land users along a rail line that cuts the district in half and segments property, lands, and realty need to be thoroughly assessed.

S4-16 4.28.13 – Renewable Energy: The draft RMP/EIS does not contain enough information to determine if the proposed Yucca rail spur will conflict with existing or future wind, solar, or geothermal energy development in the district. If, as the draft states, "interrelated power plants, water development, and residential development projects could impact renewal energy development" in the District, it is logical to assume that there could be significant impacts from something as extensive and intrusive as construction and operation of a rail line that runs the length of the entire District.

S4-17 4.28.14 – Travel Management and Off-Highway Vehicle Use: A rail line that represents a raised barrier for the entire length of the District is bound to impact roads, trails, and off-road activities/resources in a significant way. Yet the rail line is not mentioned in this regard.

S4-18 4.28.15 – Recreation: See comment for 4.28.14 above.

S4-19 4.28.16 – Livestock Grazing: The draft notes that various "interrelated projects would reduce the area available for grazing" in the District. In the case of the Yucca Mountain

Responses to Letter S4

S4-13 In response to your comment, the text in Section 4.28.10 of the Proposed RMP and Final EIS has been revised to clarify the potential loss of paleontological resources associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-14 Please refer to Section 4.28 Impacts of the Interrelated Projects of the Proposed RMP and Final EIS where the proposed development of the Department of Energy rail line is specifically mentioned as one of the reasonably foreseeable future actions potentially contributing to cumulative impacts to visual resources. Also please see Response to Comment S4-1.

S4-15 Please refer to Response to Comment S4-1. Analysis of the potential development of private land is beyond the scope of the Ely RMP.

S4-16 In response to your comment, the text in Section 4.28 (Renewable Energy) of the Proposed RMP and Final EIS has been revised to clarify the interaction between the reasonably foreseeable future actions, including the rail spur, and renewable energy development. Also please see Response to Comment S4-1.

S4-17 In response to your comment, the text in Section 4.28 (Transportation) of the Proposed RMP and Final EIS has been revised to clarify the potential impact of the proposed rail line on travel management and off-highway vehicle use. Also please see Response to Comment S4-1.

S4-18 Please refer to Response to Comment S4-17.

S4-19 In response to your comment, the text in Section 4.28 (Livestock and Range Management) of the Proposed RMP and Final EIS has been revised to clarify the potential surface disturbances, loss of vegetation, and creation of movement barriers associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

Letter S4 Continued

S4-19 rail line, impacts could be far more significant, because the rail spur would unavoidably alter grazing patterns, cutting livestock off from traditional forage areas, separating them from water sources, and otherwise act as a wall or fence running the entire length of the District. These impacts must be thoroughly assessed in the RMP/EIS.

S4-20 4.28.17 – Woodland and Native Plant Products: This section makes no mention of the proposed Yucca rail spur, even though construction, maintenance and operations of such a rail line would likely have impacts on woodlands and native plants.

S4-21 4.28.18 – Geology and Mineral Extraction: Same comment as for 4.28.17 above.

S4-22 4.28.19 – Watershed Management: The existence of a raised barrier such as the proposed rail spur bisecting the District could have significant impacts on watersheds by altering natural drainage areas, water flows, etc.

S4-23 4.28.20 – Fire Management: No mention is made of potential impacts of the proposed rail spur in this section. Possible issues here include the potential for increased fire hazards in remote areas due to rail line construction, maintenance, and operations; the effect of the physical characteristics of the rail line on fire response planning, access to fire events, etc. In addition, the RMP/EIS should look at rail line's effects on vegetation (i.e., by altering water flows, etc.) and whether such effects increase fire risks.

S4-24 4.28.21 – Noxious and Invasive Weed Management: A massive construction project of the type required to construct a rail line the length of the District would appear to pose significant risks/opportunities for the disruption of native flora and the introduction noxious and invasive weed species. Likewise, the operation of the line, with hundreds of trains back and forth over the rail corridor each year for 30 or more years – something that would be entirely new to the remote areas in the District that currently see little in the way of human activity and disruption – would seem to provide prime opportunities for the transport of non-native seeds into the area.

S4-25 4.28.22 – Special Designations: The RMP/EIS should contain information and maps showing ACECs and their relationship to the proposed Yucca Mountain rail line.

S4-26 4.28.23 – Economic Conditions: The draft RMP/EIS is seriously deficient in its overall treatment of impacts on economic conditions in general and of the economic impacts of the proposed Yucca Mountain rail spur in particular. While noting that "a decision to proceed with the Yucca Mountain Nuclear Repository could increase demand for land disposal, water development, and recreation and commodity use on the District," the draft document completely ignore the potential for major and sustained economic impacts resulting from the construction and operations of the proposed rail spur. While there could be some positive economic impacts associated with construction activities occurring within the District, State research has convincingly demonstrated that the existence of a rail line designated as a corridor for shipment of spent nuclear fuel and high-level waste could have significant negative consequences throughout the District and even the State. Stigmatizing effects from accidents or incidents could be devastating

Responses to Letter S4

S4-20 In response to your comment, the text in Section 4.28 (Forestry and Woodlands) of the Proposed RMP and Final EIS has been revised to clarify the potential surface disturbances and loss of woodlands associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-21 In response to your comment, the text in Section 4.28 (Geology and Minerals) of the Proposed RMP and Final EIS has been revised to clarify the potential contribution of the proposed Department of Energy rail line and other interrelated projects to increased local demand for sand, gravel, and ballast rock. Also please see Response to Comment S4-1.

S4-22 In response to your comment, the text in Section 4.28 (Water Resources) of the Proposed RMP and Final EIS has been revised to clarify the potential alterations in surface drainage patterns and accelerated erosion and sedimentation associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-23 In response to your comment, the text in Section 4.28 (Fire Management) of the Proposed RMP and Final EIS has been revised to clarify the potential for increased fire ignition sources associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-24 In response to your comment, the text in Section 4.28 (Cumulative) of the Proposed RMP and Final EIS has been revised to clarify the potential for increased weed seed introduction and dispersal mechanisms associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

S4-25 In response to your comment, the text in Section 4.28 (Special Designations) of the Proposed RMP and Final EIS has been revised to clarify the potential contribution of the proposed Department of Energy rail line to cumulative impacts affecting desert tortoise habitat in the existing ACECs. Also please see Response to Comment S4-1.

S4-26 In response to your comment, the text in Section 4.28 (Social and Economic Resources) of the Proposed RMP and Final EIS has been revised to clarify the potential negative as well as positive impacts to economic and social conditions associated with the reasonably foreseeable future actions, including the rail spur. Also please see Response to Comment S4-1.

Letter S4 Continued

S4-26 economically, and the simple existence of such a rail line could impact property values, depress other economic activities, etc. Such potential impacts should be addressed in the RMP/EIS.

S4-27 4.28.24 – Social Conditions: See comments for 4.28.23 above.

S4-28 4.28.25 – American Indian Issues: See comments on Cultural Resources (4.28.9) above.

S4-29 4.28.27 – Health and Safety: A major potential health impact associated with the construction (and to a lesser degree the operation) of the proposed Caliente rail spur is the potential for increased radiological exposures due to re-suspension of radionuclides from nuclear tests in the 1950s and 1960s. Many long-lived radioisotopes created by the tests were widely disbursed as fallout over large areas of central and eastern Nevada and Utah. Over the years, these radionuclides were covered over by soils and vegetation and/or migrated deeper underground. However, new surface disturbing activities, as required for rail construction, have the potential to uncover these radionuclides and re-suspend then as dust, which can be inhaled by workers or people in the vicinity of the construction work or re-introduced into the food chain. Given the extensive nature of the proposed rail construction project, the potential for health effects (both radiological and non-radiological) from construction activities should be assessed in the RMP/EIS. In addition, potential health and safety impacts associated with radiological shipment incidents and accidents along the rail corridor should be assessed.

S4-30 Table 4.28.3 – The Yucca Mountain rail spur should have been addressed in this table as a discrete impact area since the project has the potential to be one of the singles greatest impact generators within the District over the long term. As such, it needs to be carefully and thoroughly addressed within the context of the entire RMP/EIS, not dismissed as a minor contributor with respect to cumulative impacts.

S4-31 Cooperating Agencies: Given the considerable importance of U.S. Department of Energy activities in general to BLM's Ely District management plans, especially the potentially major and pervasive impacts of DOE's proposed Yucca Mountain rail line, BLM should have included DOE as a cooperating agency in preparing the draft RMP/EIS. The fact that DOE is not a cooperating agency is indicative of BLM's failure to acknowledge the importance of the proposed rail corridor to the entire array of BLM resource management responsibilities within the District.

Additional Information: For the record, I am providing you with internet links to two additional documents that address issues pertinent to the proposed Yucca Mountain rail spur, its impacts, and implications for the RMP and EIS. Those documents are incorporated by reference into these comments:

(1) "Railroading Nevada," a journal article in the October 25, 2005 issue of *Nuclear Engineering International*, by Robert Halstead and Dr. Fred Dilger (http://www.state.nv.us/nucwaste/news2005/pdf/nei05oct_caliente.pdf)

Responses to Letter S4

S4-27 Please refer to Response to Comment S4-26.

S4-28 Please refer to Response to Comment S4-11.

S4-29 Please refer to Response to Comment S4-1. Analysis of the potential health effects from the construction and operation of the rail spur is beyond the scope of the Ely RMP.

S4-30 Please refer to Response to Comment S4-1 for a discussion of the analysis of impacts from the Yucca Mountain rail spur.

S4-31 Please refer to Section 5.1.5 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of Cooperating Agencies. As indicated, the Department of Energy was invited to be a cooperating agency on the Ely RMP but declined.

Letter S4 Continued

(2) "State of Nevada Views on the Proposed Caliente Rail Corridor," a presentation to the U.S. Nuclear Waste Technical Review Board on February 10, 2005. (http://www.state.nv.us/nucwaste/news2005/pdf/nv050210halstead.pdf)

Should you have questions regarding these comments or if you would like to discuss these matters further, please do not hesitate to contact me or Mr. Joe Strolin, the Agency for Nuclear Projects' Planning Division Administrator at 775-687-3744.

Sincerely,

Robert R. Loux
Executive Director

RRL/cs
cc Nevada State Clearinghouse
Affected Local Governments and Tribes Representatives
Marta Adams, Deputy Attorney General

Letter S5

Comments on the BLM Resource Management Plan/Environmental Impact Statement for the Ely District

By James Potts, Natural Resource Conservation Service
Holly Rask, University of Nevada Cooperative Extension

S5-1 Comments on the BLM RMP/EIS will follow table 2.4-1 in section 2.4 Summary of Management Direction by Alternative. As a whole, the majority of actions for resource management are agreed with. There are some areas for suggested changes and in need of clarity which are listed below:

S5-2 Under the VEGETATION:
Parameter – Pinyon-juniper Woodland
Alternative C or a combination between B and C would be preferred.
In the first row alternative B could use rewording to "...achieve a variety of phases capable of recuperating after disturbance and provide essential wildlife". This avoids saying resistant which is not achievable and simplifies the statement to the goal outcome. The terms resilient and resistant need to be defined in the glossary and then used appropriately.

S5-3 Second row – Where are we going with 77% of the woodland – what is the treatment and how can this much be treated? Commercial uses (mentioned in Alt C) could help drive treatment of 77% of the woodland.

S5-4 Parameter – Aspen
We agree with the choice of alternative B. It is recommended to add 'more' in front of "resistant to disturbance" because it will never be totally resistant. The terms resilient and resistant need to be defined in the glossary.

S5-5 Parameter – High Elevation Conifer Species
We agree with alternative C but wonder why the same didn't apply for pinyon-juniper woodland.

S5-6 Parameter – Salt Desert Shrub
We agree with proposed action.

S5-7 Parameter – Sagebrush
We agree with the choice of alternative B. Two questions come up: "How can such a large area be treated? And what kind of impact will the treatment activity have on current livestock operations. Flexibility for management of livestock and grazing allotments will be required.

S5-8 Parameter – Mountain Mahogany
We agree with proposed action.

S5-9 Parameter – Mojave Desert Vegetation
More work will be required on fire prevention and rehabilitation.

Responses to Letter S5

S5-1 Comment noted.

S5-2 In response to your comment, the text related to Alternative B in Table 2.9-1 has been revised to incorporate the wording you suggest. Please refer to the Glossary in the Draft RMP and EIS and Proposed RMP and Final EIS for definitions of resilient and resistant.

S5-3 The 77 percent of existing woodland would be treated to achieve the desired future conditions presented in the Proposed RMP for pinyon and / or juniper. Treatments would utilize all tools available, individually or in combination. Please see Appendix H in the Proposed RMP and Final EIS for a listing of Tools and Techniques.

S5-4 Section 2.6.5.2 of the Proposed RMP and Final EIS has been revised to incorporate the wording you suggest. Please refer to the Glossary in the Draft RMP and EIS and Proposed RMP and Final EIS for definitions of resilient and resistant.

S5-5 The management direction in Alternative C has been incorporated into the Proposed RMP. Pinyon and /or juniper communities as a whole are generally more accessible, whereas most of the High Elevation Conifer areas are not.

S5-6 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-7 The management direction in Alternative B has been incorporated into the Proposed RMP. The vegetation treatment would be implemented over a long period of time, as determined appropriate through watershed analyses. Areas of treatment would require exclusion of livestock per BLM policy; however, there would be a balance of treatment acres among watersheds and allotments to lessen the effect on current livestock operations.

S5-8 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-9 Fire prevention and rehabilitation are important components of the Proposed RMP.

Letter S5 Continued

S5-10 Parameter – Riparian/Wetlands
Hydrologic function should be first consideration and then plant community structure and composition.

S5-11 Parameter – Nonnative Seedlings
We agree with proposed action.

S5-12 FISH and WILDLIFE
We agree with proposed action.

S5-13 TERRESTRIAL WILDLIFE
We agree with proposed action.

S5-14 SPECIAL STATUS SPECIES
We agree with proposed action. Under Parameter – Great Basin, sage grouse row 4, what is the definition of occupied source habitat and occupied isolated habitats?

S5-15 WILD HORSES
We agree with proposed action.

S5-16 CULTURAL RESOURCES
We agree with proposed action.

S5-17 VISUAL RESOURCES
We agree with proposed action.

S5-18 LANDS AND REALTY
Parameter – Disposal of public lands
What was the basis on how the locations were decided? Did it consider impact on economics, lifestyle, etc.? Is the land meant for farming, residential, industry? More thought and effort needs to go into the selection of lands for disposal.
Other parameters - We agree with proposed action.

S5-19 RENEWABLE ENERGY
We agree with proposed action.

S5-20 TRAVEL MANAGEMENT AND OFF-HIGHWAY VEHICLE USE
Parameter – Off highway Vehicles
The "0 acres – open to cross county off-highway vehicle use" is too restrictive and does not appear to allow access for emergency, research, and ranchers to service needs or retrieve cattle.

S5-21 RECREATION
The question of who will mitigate damages to roads caused by events and under what conditions will events be cancelled (e.g. drought) is left unanswered.

Responses to Letter S5

S5-10 Hydrologic function is tied to plant community structure and composition, and the two are not separable and would be considered together on a watershed basis. Riparian/wetlands are part of a watershed system and would exhibit ecological site integrity.

S5-11 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-12 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-13 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-14 In response to your comment, the Glossary in the Proposed RMP and Final EIS has been updated to include clarification of the terms identified in Table 2.9-1.

S5-15 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-16 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-17 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-18 The lands proposed for disposal were selected in coordination with county officials. The counties held public meetings to get input on where the Ely Field Office should dispose of public lands and then provided their choice of lands to be available for disposal that would best meet the county's future needs. The proposed lands are concentrated around the communities in the planning area to provide for community expansion for residential, commercial, and public purpose uses.

S5-19 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-20 In response to your comment, the text in Section 2.5.14.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion of Off Highway Vehicle Designations. Please refer to Section 2.5.14.1 in the transportation plan in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of emergency motorized vehicle access.

S5-21 Thank you for expressing your concern. Special Recreation Permits for off-highway vehicle events are issued following site-specific environmental analysis and may contain special stipulations, such as a requirement to notify other permittees or a requirement to rehabilitate damaged roads in a timely manner.

Letter S5 Continued

S5-22 LIVESTOCK GRAZING
Parameter – Lands Available for Livestock Grazing
We agree with proposed action.

S5-23 Parameter – Permit administration
We support alternative E in achieving greater flexibility from administration on adjusting grazing according to the plant population response to grazing and the year's climate.

S5-24 Parameter – Kind of Livestock
We agree with proposed action.

S5-25 Parameter – Livestock Management in Bighorn Sheep Ranges
We agree with proposed action.

S5-26 Parameter – Non-use Relinquished Permits
We agree with proposed action.

S5-27 Parameter – Temporary Nonrenewable
What is "temporary non-renewable grazing"?

S5-28 Parameter – Water Hauling
We agree with proposed action.

S5-29 WOODLAND AND NATIVE PLANT PRODUCTS
Parameter – Fuelwood collection
It is not clear whether this is live or dead trees. This section should be linked to vegetation management plan and treatment of woodlands.

S5-30 Parameter – Pinyon Pine Nut Harvesting
We agree with proposed action.

S5-31 Parameter - Christmas Tree Harvest
We agree with proposed action.

S5-32 Parameter – Post and Pole Harvesting
We agree with proposed action.

S5-33 Parameter – Seed Collection
Collection permission should remain on a case-by-case basis. It is important to prevent over-harvesting.

S5-34 Parameter – Cactus and Yucca Collection
We agree with proposed action.

S5-35 Parameter – Other Vegetation Product Collection

Responses to Letter S5

S5-22 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-23 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-24 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-25 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-26 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-27 Please refer to Section 2.5.16.2 in the Draft RMP and EIS and Proposed RMP and Final EIS for an explanation of "temporary non-renewable" grazing. This explanation has been repeated in Section 2.5.16.6 of the Proposed RMP and Final EIS.

S5-28 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-29 In response to your comment, the text in Section 2.5.17.2 of the Proposed RMP and Final EIS has been revised to clarify the discussion that fuelwood collection would include both live and dead trees.

S5-30 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-31 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-32 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-33 In response to your comment, the Proposed RMP in Section 2.5.17.6 of the Proposed RMP and Final EIS has been changed to allow commercial use on a case-by-case basis. Please refer to Section 2.4.17.6 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of how BLM would prevent over-harvesting.

S5-34 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-35 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

Letter S5 Continued

S5-35 We agree with proposed action.

S5-36 GEOLOGY AND MINERAL EXTRACTION
We agree with proposed action.

S5-37 WATERSHED MANAGEMENT
We agree with proposed action.

S5-38 FIRE MANAGEMENT
We agree with proposed action.

S5-39 INVASIVE AND NONNATIVE PLANT SPECIES, INCLUDING NOXIOUS WEEDS
We agree with proposed action.

S5-40 SPECIAL DESIGNATIONS
Parameter - Areas of Critical Environmental Concern
How do these affect livestock grazing?

S5-41 Parameter – Back Country Byways
We agree with proposed action.

S5-42 Parameter – Designated Wilderness (Section 2.5.22.3) is missing from table 2.4-1
We agree with proposed action.

S5-43 Parameters - Wilderness Study Areas
Table 2.4-1 references the wrong Section (2.5.22.3 instead of 2.5.22.4)
It is unclear what management will happen in Wilderness Study Areas. What are wilderness characteristics?

S5-44 Parameters - Other special designations
Table 2.4-1 references the wrong Section (2.5.22.4 instead of 2.5.22.5)
We agree with proposed action.

Responses to Letter S5

S5-36 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-37 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-38 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-39 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-40 Please refer to Section 4.16 in the Draft RMP and EIS and Proposed RMP and Final EIS for a discussion of the acreage that would be lost to livestock grazing with the designation of ACECs under each alternative.

S5-41 The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-42 Since the management related to wilderness is common to all alternatives, a parameter related to this topic is not needed in Table 2.9-1. The table heading has been corrected in the Proposed RMP and Final EIS to eliminate this erroneous reference to Section 2.5.22.3. The management direction in Alternative E has been incorporated into the Proposed RMP presented in this document.

S5-43 Section references have been eliminated from Table 2.9-1. Please see Section 2.5.22.4 for discussion of the management for Wilderness Study Areas and to Section 2.5.22.5 for the management of Other Special Designations. Wilderness characteristics are defined by wilderness regulations. (Please also see Section 1.6.2.1 for further discussion of these areas).

S5-44 Please refer to Response to Comment F1-43.

Letter S6

KENNY C. GUINN
Governor

STATE OF NEVADA

DON HENDERSON
Director

DEPARTMENT OF AGRICULTURE

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December 12, 2005

Gene Drais , Project Manager
Bureau of land Management
Ely Field Office
HC33 Box 33500
Ely, Nevada, 89301

Dear Mr. Drais

The following comments are submitted by the Nevada Department of Agriculture (Department) in response to the solicitation for public response to the Draft Resource Management Plan/ Environmental Impact Statement (DRMP) for the Ely BLM District. The Department would like to take this opportunity to thank Mr. Gene Kolkman for his vision and sustained efforts in developing this DRMP with a new and unique watershed approach. It is both scientifically and gistically reasonable to use this approach for general planning, administration, and management.

S6-1 Nonetheless, any new management approach, especially on this large scale, is fraught with unknowns, incomplete data, and interdisciplinary conflicts and biases. Having served on the Eastern Nevada Landscape Coalitions Science Review Team and being privy to several preliminary drafts in addition to the final draft, it is apparent that BLM is struggling with both understanding and communicating this complex management concept. In particular, the interdisciplinary conflicts and biases have been an obstacle in producing an unbiased Resource Management Plan (RMP) based on sound science.

S6-2 Though much improved over the preliminary drafts, the Final DRMP still contains many of these biases. Throughout the document, livestock grazing is often the only multiple use that is scrutinized for determination as a causal factor in not meeting resource or watershed objectives or standards.

S6-3 This is unfair to the livestock industry and is the potential "Achilles Heel" of this RMP in the implementation phase. It would be unfortunate to have this ecologically sound approach not achieve its true potential because of myopic analysis, implementation, and management of livestock only to achieve watershed health.

S6-4 Ecological functions have very complex interactions that are often subtle over time but have significant implications and consequences at some future time. This necessitates objective observation, evaluation, and management to avoid potentially disastrous.

In general overview of the DRMP I would like to make the following additional observations and comments:

S6-5
- Because of the huge scope of the document in physical geographic coverage, variety of natural systems and ecological concepts, management and administration, and conformance to NEPA requirements the document is large and cumbersome. Therefore, the DRMP is difficult to follow and understand, and contains internally conflicting statements, subsequently making it easy to misunderstand and or misinterpret.

S6-6
- It seems watershed analysis is the underpinning of the "ecological systems approach to management". The phases of watershed analysis are defined in Appendix C, however, description of the phases of analysis do not adequately convey what watershed analysis is or how it is to be accomplished with decreasing federal budgets.

Responses to Letter S6

S6-1 Thank you for expressing your concerns. While statements of opinion (including agreement or opposition) do not require specific responses or text revisions under the NEPA regulations, they have been considered by the Ely Field Office and Nevada State Office and documented in the administrative record associated with the Ely RMP.

S6-2 In response to your comment and similar comments, the text in several locations in the Proposed RMP and Final EIS has been revised to discuss the array of potential causal factors potentially associated with failure to meet Resource Advisory Council Standards and Guidelines.

S6-3 In response to your comment, the text in several locations throughout the Proposed RMP and Final EIS has been revised to clarify that watershed assessments and monitoring programs will examine a wide array of potential causal factors in not meeting objectives and standards, rather than emphasizing livestock grazing as the primary factor.

S6-4 In response to your comment and similar comments, the discussion of adaptive management and monitoring incorporating these aspects has been revised and expanded in the Proposed RMP and Final EIS (see Section 1.7 and Section 2.4.23).

S6-5 The format for the Draft RMP and EIS was developed to meet CEQ requirements for EISs, BLM Land Use Planning Handbook guidelines for RMPs, and the Ely Field Office's need to have the RMP organized by resource program. Consistency concerns were raised by a number of commenters. Chapters 2 and 4 in the Proposed RMP and Final EIS, in particular, have been revised to correct inconsistencies among resource programs.

S6-6 Thank you for your comment. The approach to watershed analysis is addressed in the Draft RMP and EIS and Proposed RMP and Final EIS at a level of detail that BLM considers appropriate for the land use planning process. A variety of editorial revisions have been made to the Proposed RMP and Final EIS to better explain the relationships between watershed analysis, the monitoring program, and adaptive management.

Letter S6 Continued

Page 2 of 5

S6-7 • Adaptive Management is crucial to effective implementation of this plan. The best data and information we have, or ever will have, will never be complete or adequate to provide us perfect knowledge or understanding. Thus, understanding what adaptive management is and how to use it gives us the ability to work with imperfect knowledge and mange effectively. It is often referenced in the DRMP but the only definition of this process is provided in the glossary and is very cursory. It is my hope that the Final RMP and Record of Decision will include a much more definitive explanation of the process. I suggest contacting Ron Wiley, Team Lead for the National Riparian Service team at the Prineville BLM District office[1]. Ron has been working with adaptive management and refining its definition and use for many years, and is currently working with USFWS to define adaptive management for use with T&E species and define how to apply this concept in regards to the regulatory framework established for the Endangered Species Act.

S6-8 • Monitoring is a critical component of the DRMP and adaptive management. Monitoring for implementation effectiveness of a project as a component of the plan down to monitoring a use such as grazing at the allotment level is critical to understanding what is being done, if anything, where we are at the current point in time, and where we are going and how to get there. Given the ever decreasing federal budgets for natural resource management and the historical deficiency of land management agencies to fund monitoring, The DRMP should identify use of University, NRCS, ARS, state agencies and other qualified private industry consultants and the ability to contract and compensate these entities to accomplish necessary monitoring.

S6-9

S6-10 Effectiveness monitoring on large landscape vegetation projects as implied in the DRMP is crucial to understanding the impact and value of the project and management of the project post treatment. Objective third party contractors should be employed to perform landscape scale photographic point and appropriate quantitative monitoring on a five year basis. Additionally, maintenance of existing exclosures and identification and implementation of new exclosures should be instituted to provide comparison reference areas to aid in evaluation of qualitative and quantitative monitoring data. Existing exclosures have contributed invaluable information to aid understanding of ecological functions and determination of causal factors, and have been the basis for many research papers for UNR Masters and PhD. theses.

S6-11

S6-12 The Nevada Rangeland Monitoring Handbook update team has been working with the State office of the BLM to define and incorporate cooperative monitoring between the permittees and BLM as agreed to in the BLM/PLC MOU on cooperative monitoring. Use of cooperative monitoring with permittees for collection of annual data will free up BLM personnel for trend monitoring. The Nevada Rangeland Monitoring Handbook was developed to provide consistency and suggest appropriate methods and definitions for agency and permittee monitoring of livestock grazing. The update of the Handbook will provide definition of monitoring for such topics as riparian area monitoring, competitive species grazing and producer monitoring. This Monitoring Handbook and update should be recognized in the DRMP as an accepted document and recommended for monitoring livestock grazing.

Comments addressing specific issues in the DRMP area as follows:

S6-13 1) Pg 2.4-9 Table 2.4-1, Alt. E Great Basin Big Game Habitat: Habitat should be managed for resiliency and healthy animal populations, not just to provide more animals for hunting.

[1] See attachment derived from Ron Wiley's power point presentation on adaptive management.

Responses to Letter S6

S6-7 Please refer to Response to Comment S6-4.

S6-8 In response to your comment, the text in Sections 1.7 and 2.4.23 of the Proposed RMP and Final EIS has been revised to clarify the discussion of adaptive management and monitoring.

S6-9 The Ely Field Office works on landscape management and monitoring in partnership with the Eastern Nevada Landscape Coalition, which includes University professors, federal and non-federal agency specialists, and nation-wide environmental groups.

S6-10 Please refer to Response to Comment S4-4.

S6-11 In response to your comment, exclosures have been added to the Research Tools section of Appendix H (Tools and Techniques) in the Proposed RMP and Final EIS.

S6-12 In response to your comment and similar comments, the discussion of adaptive management and monitoring incorporating these aspects has been revised and expanded in the Proposed RMP and Final EIS (see Section 1.7 and Section 2.4.23). The Nevada Rangeland Monitoring Handbook has been included as a reference in this section.

S6-13 The Ely Field Office agrees with your comment. The management actions in the Proposed RMP are intended to result in healthy wildlife communities, not just increased numbers of game species.

Letter S6 Continued

S6-14 2) Pg 2.4-10 Table 2.4-1, Alt. A and E. Rocky Mountain Bighorn Sheep. The document says that Rocky Mtn. Bighorns would be maintained only on Mts. Grafton and Moriah. The population in the Snake Range (Great Basin NP) also needs to be considered in relation to domestic sheep grazing. Just because the Bighorns aren't on BLM land doesn't mean that they should be ignored

S6-15 S6-16 3) Pg. 2.5-3 The Nevada Department of Environmental Protection (NDEP) is the regulatory authority for Nevada water quality and the association between water quality and quantity affecting the regulatory status of each stream or water source. Water Quality standards enacted through the Nevada Administrative Code (NAC) should be the basis for determining maintenance of chemical and physical integrity associated with water quality. Further, BLM and NDEP signed a Memorandum of Understanding for Water Quality Management Activities within the state of Nevada. This MOU should guide and be referenced regarding BLM's goal for water in any District and any RMP in the state of Nevada. This MOU identifies 1) the goals and objectives defined by Congress in the Clean Water Act, as amended (P.L. 100-4, 1987), to restore and maintain the chemical, physical and biological integrity of the Nation's waters and to attain water quality which provides for the protection and propagation of fish and wildlife and provides for recreation in and on the waters of the State of Nevada, 2) to respond to the goals and policies of the State of Nevada as defined in the Nevada Water Pollution Control Statutes Chapter 445A.300 through 445A730 and, 3) to identify the responsibilities and activities to be performed by each agency in carrying out water quality and non point source pollution control programs as related to activities on BLM lands.

S6-17 S6-18 4) Pg 2.5-19 Alternatives B and C briefly cover protection of aspen regeneration from grazing. Alternative C mentions protecting aspen by limiting grazing to periods outside the grazing season. Alternative B only mentions protection methods with no examples given. For both alternatives, protection from grazing should be limited to areas where site potential allows for regeneration to occur, and should be considered on a site-by-site basis. AUM reductions and allotment closures should not be utilized as protection measures unless other measures have been tried unsuccessfully, and it is clearly a problem with overstocking. Also, limiting grazing to periods outside the growing season (Alternative C) may completely eliminate livestock grazing in more alpine areas where the growing season begins once the snow melts and ends when the snow flies again. During winters with heavy snow packs, livestock grazing would be completely eliminated. Elimination of livestock grazing may not be necessary for protecting or managing for aspen regeneration. Site by site (not District wide) analysis of livestock grazing prescriptions, livestock management practices, and any protection measures should occur and be written into the individual allotment management plans.

S6-19 5) Pg. 2.5-45 The preferred alternative should include mention of adaptive management and recognition of site specific management based on goals and objectives specific to the site and not left open for supposition that that is the case.

S6-20 S6-21 6) Pg. 2.5-52 Use of the Rangeland Health Standard worksheets does not provide adequate information to determine if livestock is a causal factor for non-attainment of standards. "Interpreting and measuring Indicators of Rangeland Health has some major limitations for use as set forth in this document. In the front of each version of Interpreting Indicators of Rangeland Health there is a page titled *Intended Applications* which delineates what this method is and is not to be used for.

Responses to Letter S6

S6-14 In response to your comment, the text in Table 2.9-1 and in Section 2.4.6.4 of the Proposed RMP and Final EIS has been revised to include the entire Snake Range.

S6-15 The Memorandum of Understanding between NDEP and BLM is already discussed in Section 1.8.2 and Section 2.4.3, and additional references to it and the Clean Water Act have been made in Section 4.3.

S6-16 Please refer to the Response to Comment S6-15.

S6-17 In response to your comment, the text in Section 2.4.5.3 of the Proposed RMP and Final EIS has been revised to clarify that the protection methods for encouraging aspen regeneration would be applied on a site-specific basis.

S6-18 Evaluation of livestock grazing use relative to achievement of the standards and guidelines for rangeland health is a continual and on-going process. Grazing use will be evaluated during the term permit renewal process, during watershed analysis, and during grazing use monitoring, all of which will occur. Evaluations will be allotment-specific, and if it is determined that grazing is a causal factor for not meeting standards for rangeland health, appropriate adjustments to grazing practices will be made to address the specific problem. This could include elimination of livestock grazing to promote aspen regeneration.

S6-19 Please refer to Response to Comment S6-4.

S6-20 In response to your comment and similar comments, the text related to the Proposed RMP in Section 2.4.16 and Section 2.5.16 has been revised to delete this reference to Rangeland Health Standards Assessments. The discussion of adaptive management and monitoring incorporating these aspects has been revised and expanded in the Proposed RMP and Final EIS (see Section 1.7 and Section 2.4.23).

S6-21 Please refer to Response to Comment S6-20.

Letter S6 Continued

S6-21

Additionally, accurate assessments using this method are **highly** dependent upon identifying the proper ecological site and local technical people personnel with in-depth ecological, soils, climatological and management experience in order to derive accurate useful information to prioritize resource management and personnel.

*The approach is **NOT** to be used to:*

- Identify the cause(s) of resource problems.
- Make grazing and other management decisions.
- Monitor land or determine trend.
- Independently generate national or regional assessments of rangeland health.

S6-22

7) Pg 4.1-11, section 4.1.4.4

Bighorn sheep and domestic sheep interactions. The 4th point "approach to evaluate impacts" relate that the science about bighorn/domestic sheep is unclear, it conflicts somewhat with the information on page 2.5-146. This document needs a clear planning direction on bighorn sheep and domestic sheep conflict that does not prohibit their interaction. There is no science that documents Big horn sheep contracting Pasturella Hemolytica from domestic sheep in the wild, only questionable studies done in captivity. A programmatic document should allow for future adaptive management and change of direction without the development of a completely new planning document of the size and scope of the RMP/EIS.

S6-23

8) Pg 4.16-4 Using livestock for watershed, fire, and weed management is proactive watershed management. This document should encourage active adaptive management, rather than being restrictive.

S6-24

The Department remains concerned that other inconsistencies as pointed out in our previous comments to preliminary drafts remain in the document. We also support the comments provided by the Eastern Nevada Landscape Coalition Science review team, which we are a participant.

Thank you,

Gary McCuin

Gary McCuin
Rangeland specialist

Responses to Letter S6

S6-22 In response to your comment, the text in Section 4.1.4.4 of the Proposed RMP and Final EIS has been revised to clarify the discussion of interactions among bighorn sheep and domestic sheep and goats. The basic impact conclusions presented in the Draft RMP and EIS have not changed.

S6-23 Please refer to Sections 4.19, 4.20, and 4.21 in the Proposed RMP and Final EIS for discussions of livestock grazing as a tool in the management of watersheds, fire, and weeds, respectively.

S6-24 Please refer to Response to Comment S6-5 for a discussion of the format of and inconsistencies in the Draft RMP and EIS.

Letter T1

ELY SHOSHONE TRIBE

16 SHOSHONE CIRCLE FAX (775) 289-3156 ELY, NEVADA 89301
(775) 289-3013

November 22, 2005

Ely Field Office
Bureau of Land Management
HC 33 Box 33500
Ely, Nevada 89301

NOV 2005

Attn: RMP/EIS Project Manager

Dear Project Manager:

T1-1 As a Federally recognized Tribe with Cooperating Agency Status, Ely Shoshone Tribe is formerly requesting that the lands identified in the Ely Shoshone Tribal Land Expansion Proposal be included as an alternative in the Resource Management Plan.

Attached is the legal description of the land the Tribe in requesting to be transferred from the Bureau of Land Management to the Bureau of Indian Affairs into Trust on behalf of the Ely Shoshone Tribe.

The Ely Shoshone Tribe has had representatives attend the RMP meetings and provide input. We understand that the Duckwater and Ely Shoshone Tribes land expansion proposals were considered in the preliminary draft Resource Management Plan.

T1-2 Since the RMP is for long-term resource management activities including leasing minerals such as oil and gas; construction of electrical transmission lines, gas pipelines, and roads; grazing management; recreation and outfitting; preserving and restoring wildlife habitat; selling or exchanging lands for the benefit of local communities; military use of the planning areas; and conducting other activities that require land use planning decisions, it is essential to include the Tribe's Land Expansion Proposal as an alternative.

The Tribe understand modifying the RMP can be timely and costly, this is why we are requesting the Tribe's proposal to be included in the RMP.

Thank you for you consideration. If you should have any questions, please contact me or Christine Stones, Tribal Planner/Grants Writer.

Sincerely,

Diana Buckner

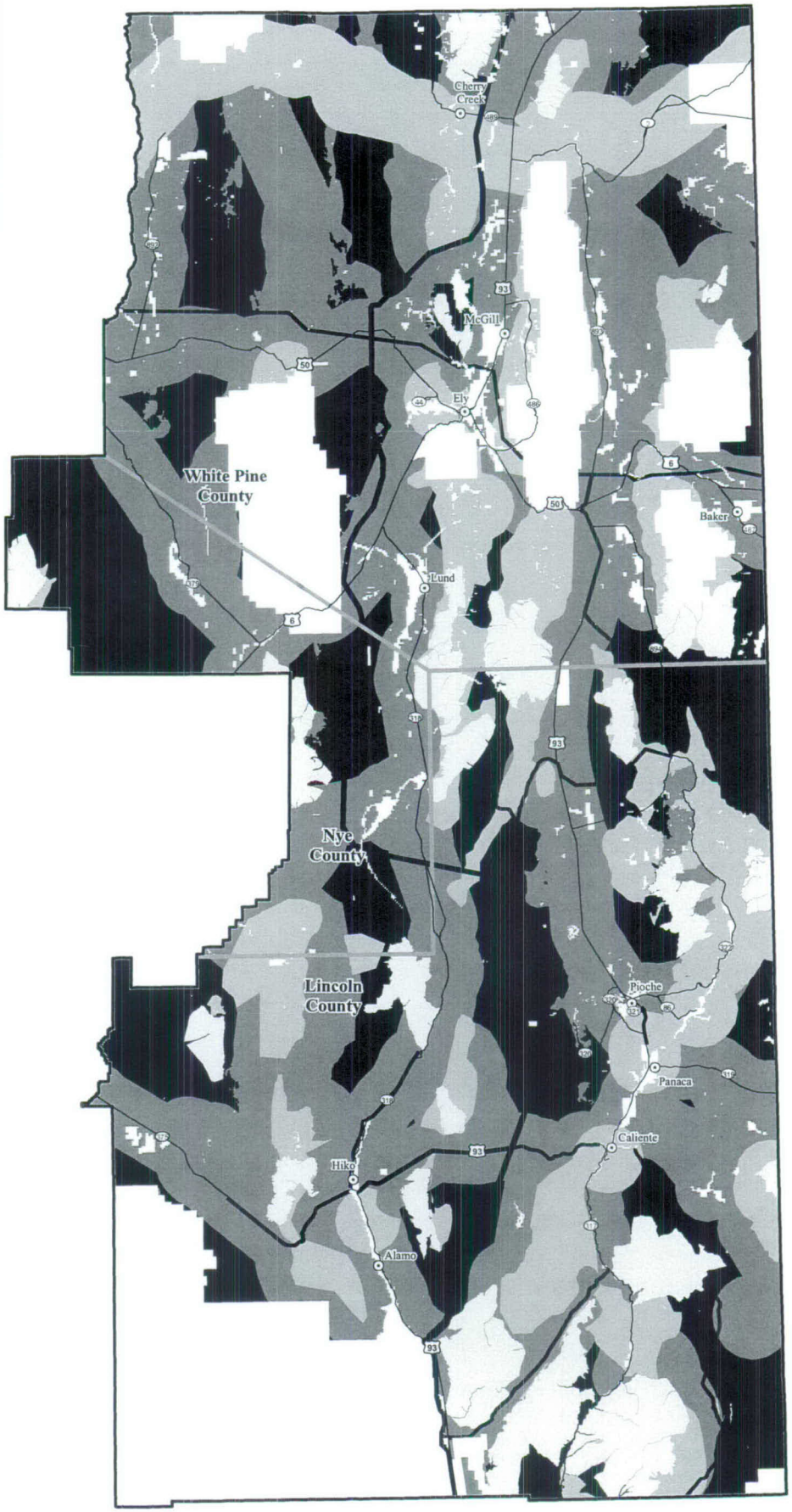
Diana Buckner
Tribal Chairwoman

Enclosure

Responses to Letter T1

T1-1 Congress has the responsibility to convey this land, and the transfer was completed in the White Pine County Conservation, Recreation, and Development Act of 2006. Please refer to Section 1.3.3.4 in the Proposed RMP and Final EIS for a discussion of this act.

T1-2 Please refer to Response to Comment T1-1.


Cherry Creek
McGill
Ely
White Pine County
Baker
Lund
Nye County
Lincoln County
Pioche
Panaca
Caliente
Hiko
Alamo
93
50
6
487
44
486
487
487
487

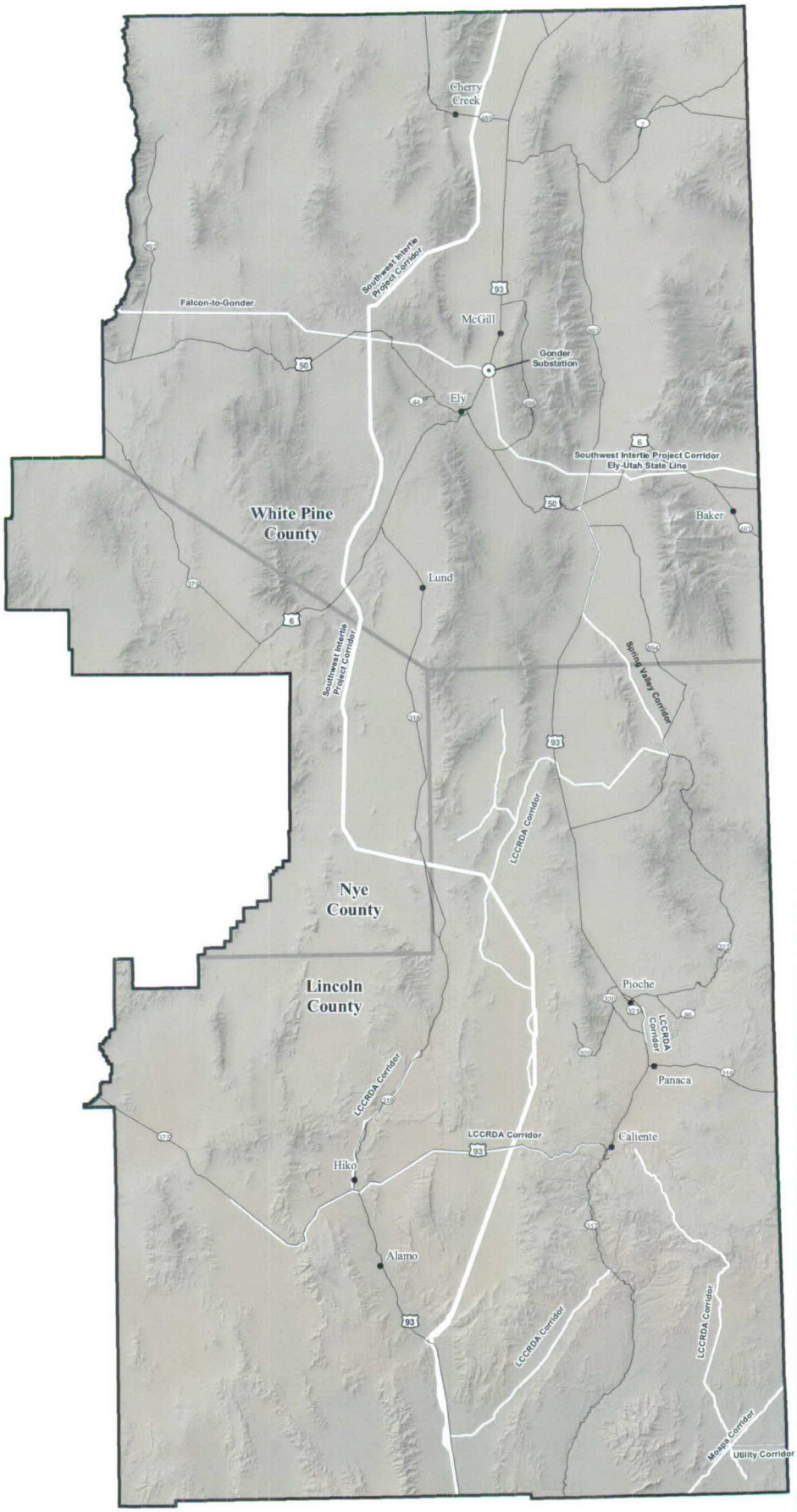
Regional View

0 100 200 Miles

Legend

- Cities and towns
- Roads
- County boundary
- Proposed utility corridor

Note:
LCCRDA - Lincoln County Conservation, Recreation, and Development Act



N

0 8 16 Miles

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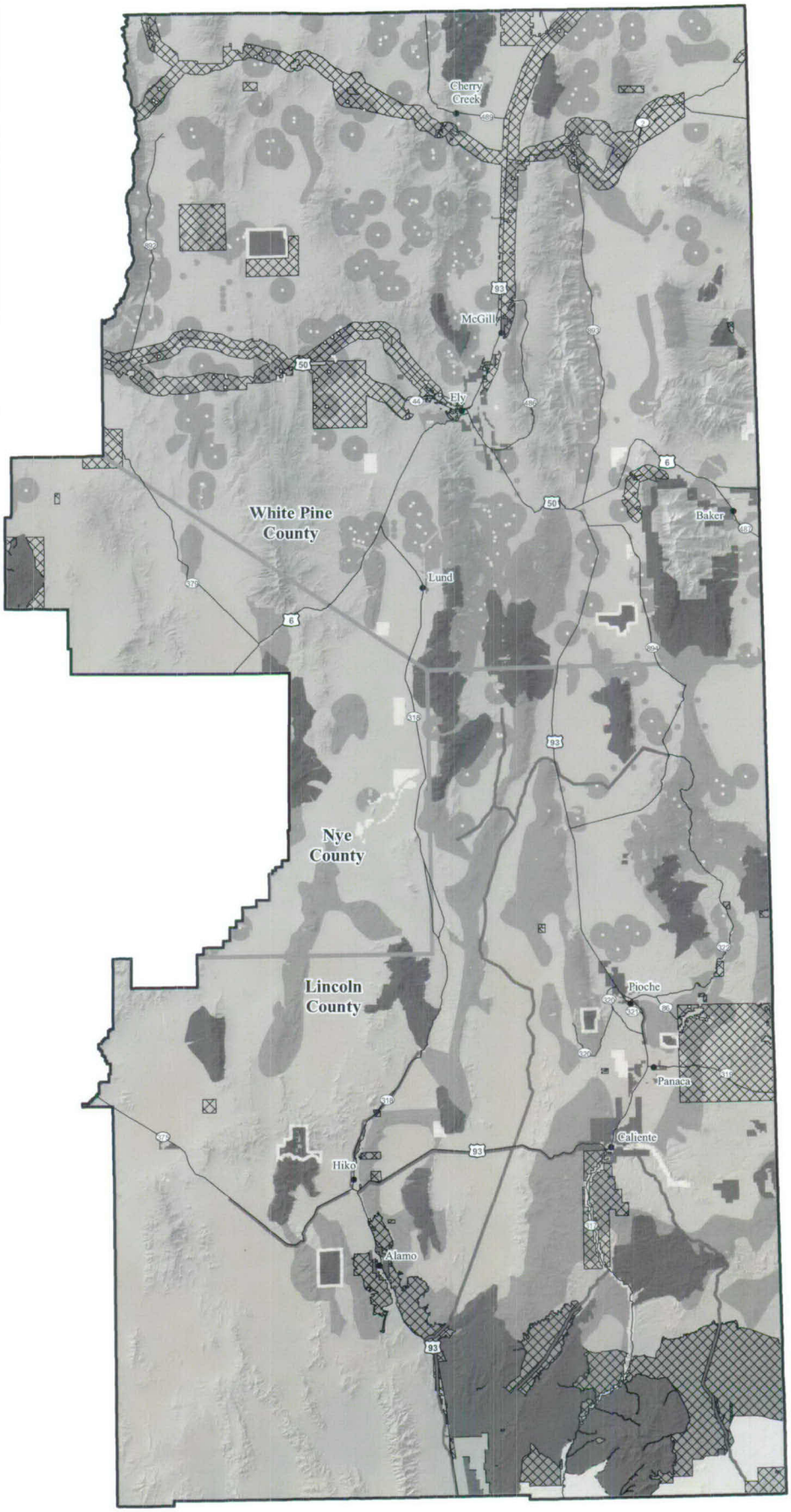
Ely RMP/EIS

Map 2.4.12-5

Proposed Utility Corridors Proposed RMP and Alternative B


Cherry Creek
McGill
Ely
White Pine County
Lund
Baker
Nye County
Lincoln County
Pioche
Panaca
Caliente
Hiko
Alamo
93
50
6
8
318
487
487
487

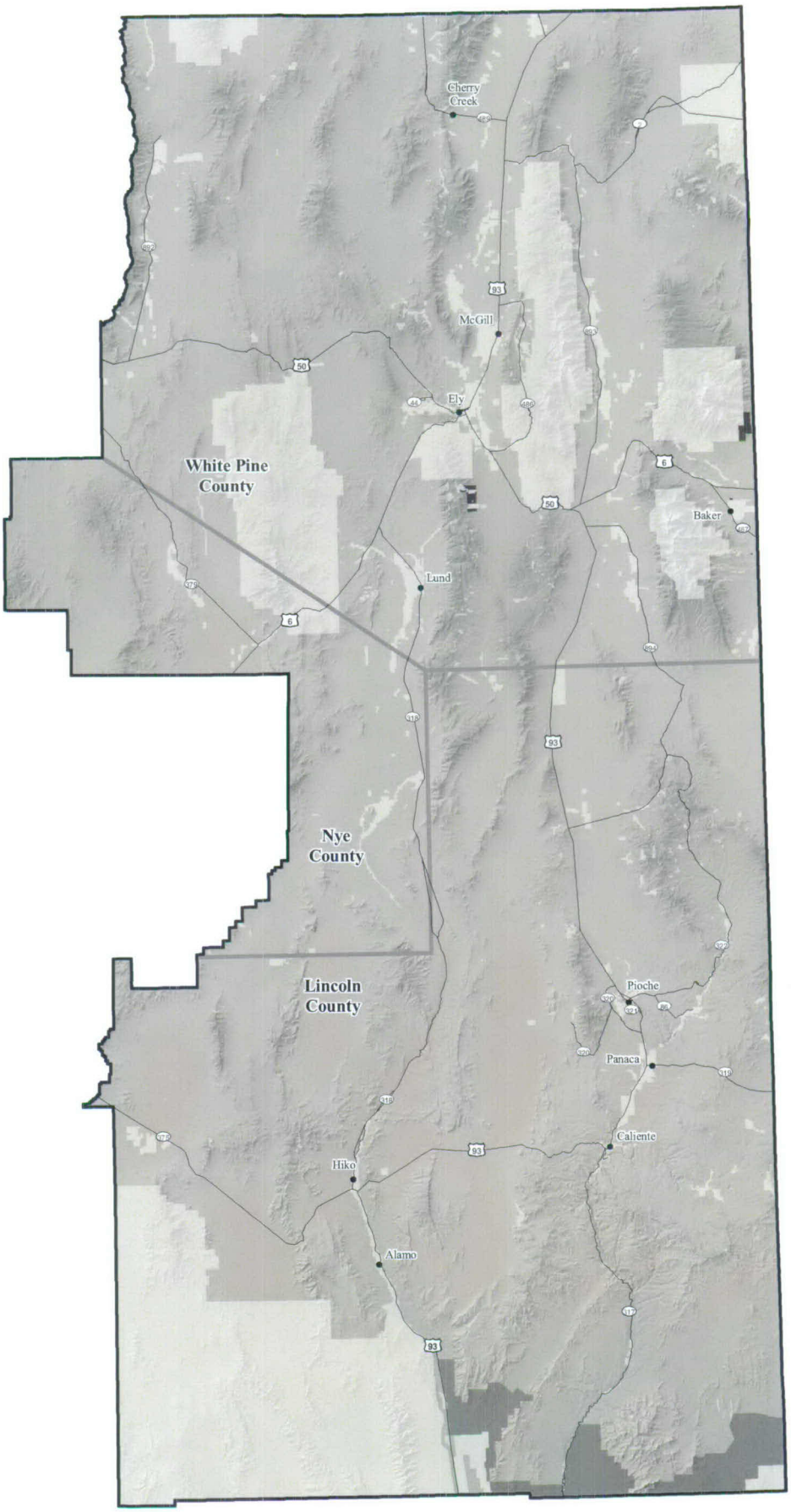
Regional View

0 100 200 Miles

Legend

- Cities and towns
- Roads
- County boundary
- Non-BLM-administered land*
- Areas unavailable for livestock grazing associated with desert tortoise ACECs
- Areas unavailable for grazing associated with new ACECs Alternative C

Note:
* All land not shown as non-BLM-administered land is BLM-administered land.



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Ely RMP/EIS

Map 2.5.16-1

Lands Unavailable for Livestock Grazing Alternatives A and C

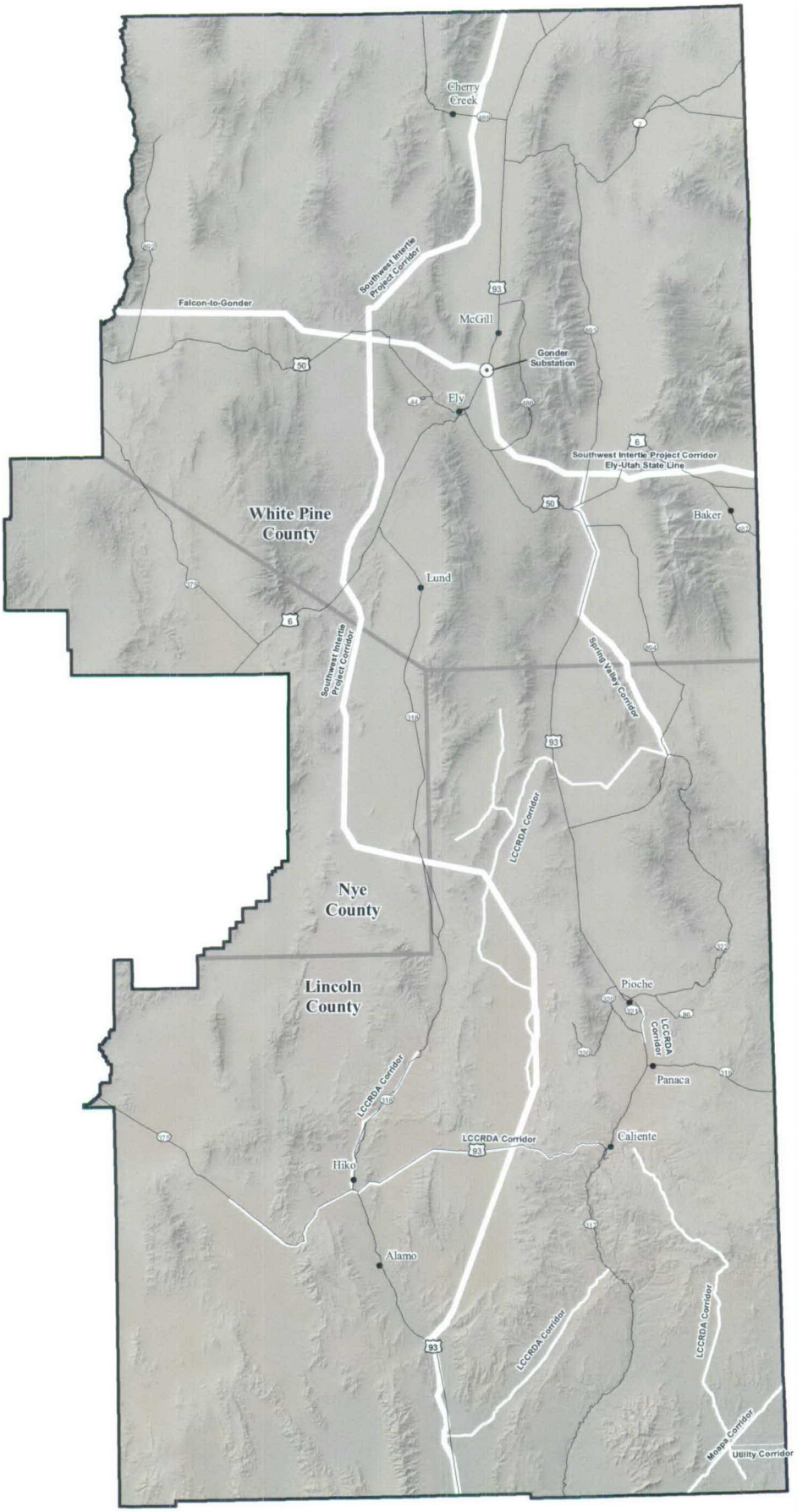
Regional View

0 100 200 Miles

Legend

- Cities and towns
- Roads
- County boundary
- Proposed utility corridor

Note:
LCCRDA - Lincoln County Conservation, Recreation, and Development Act



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Ely RMP/EIS

Map 2.6.12-5

Existing and Proposed Designated Utility Corridors Alternative B

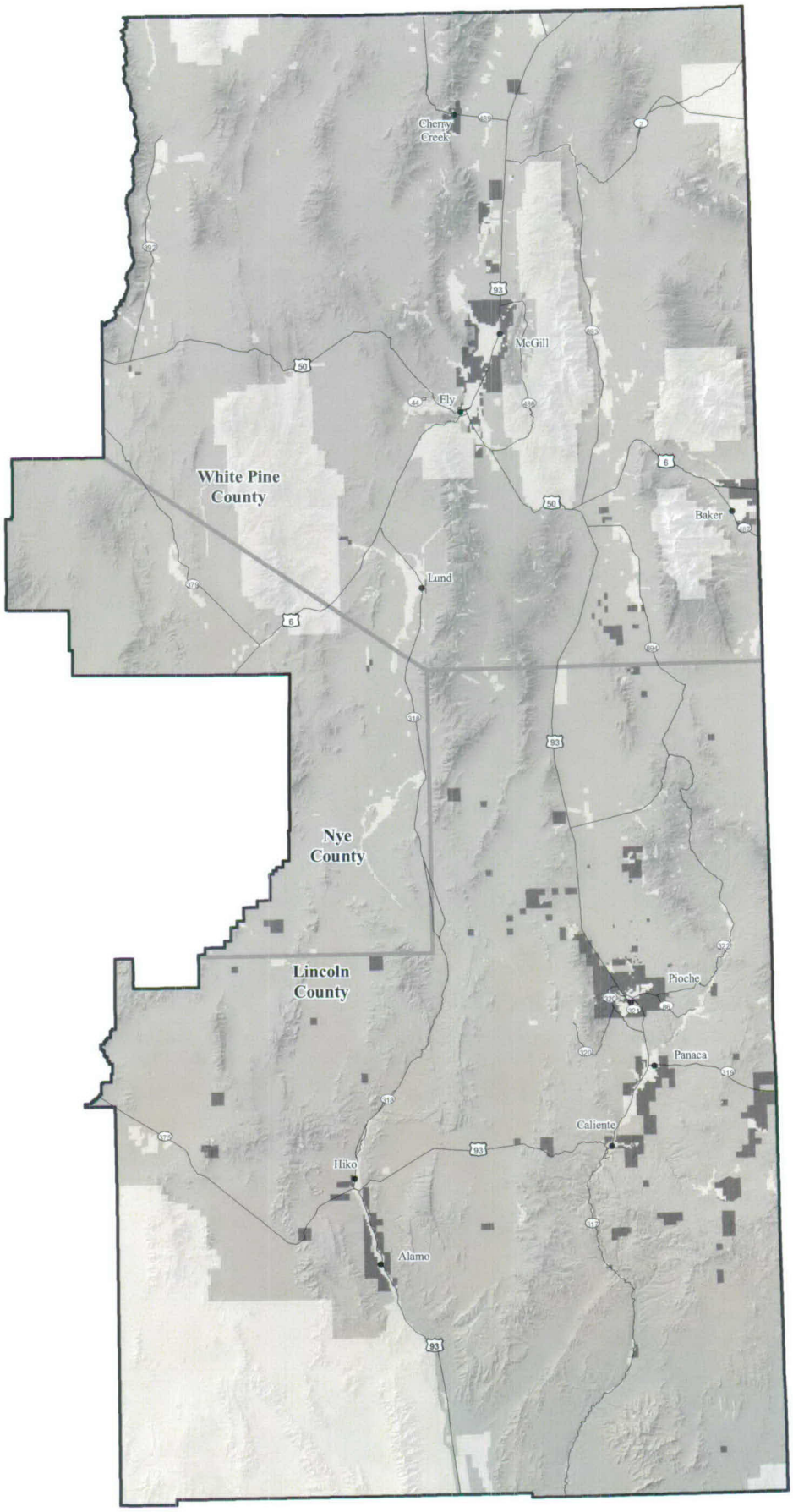
Regional View

0 100 200 Miles

Legend

- Cities and towns
- Roads
- County boundary
- Non-BLM-administered land*
- Lands available for disposal

Note:
* All land not shown as non-BLM-administered land is BLM-administered land.



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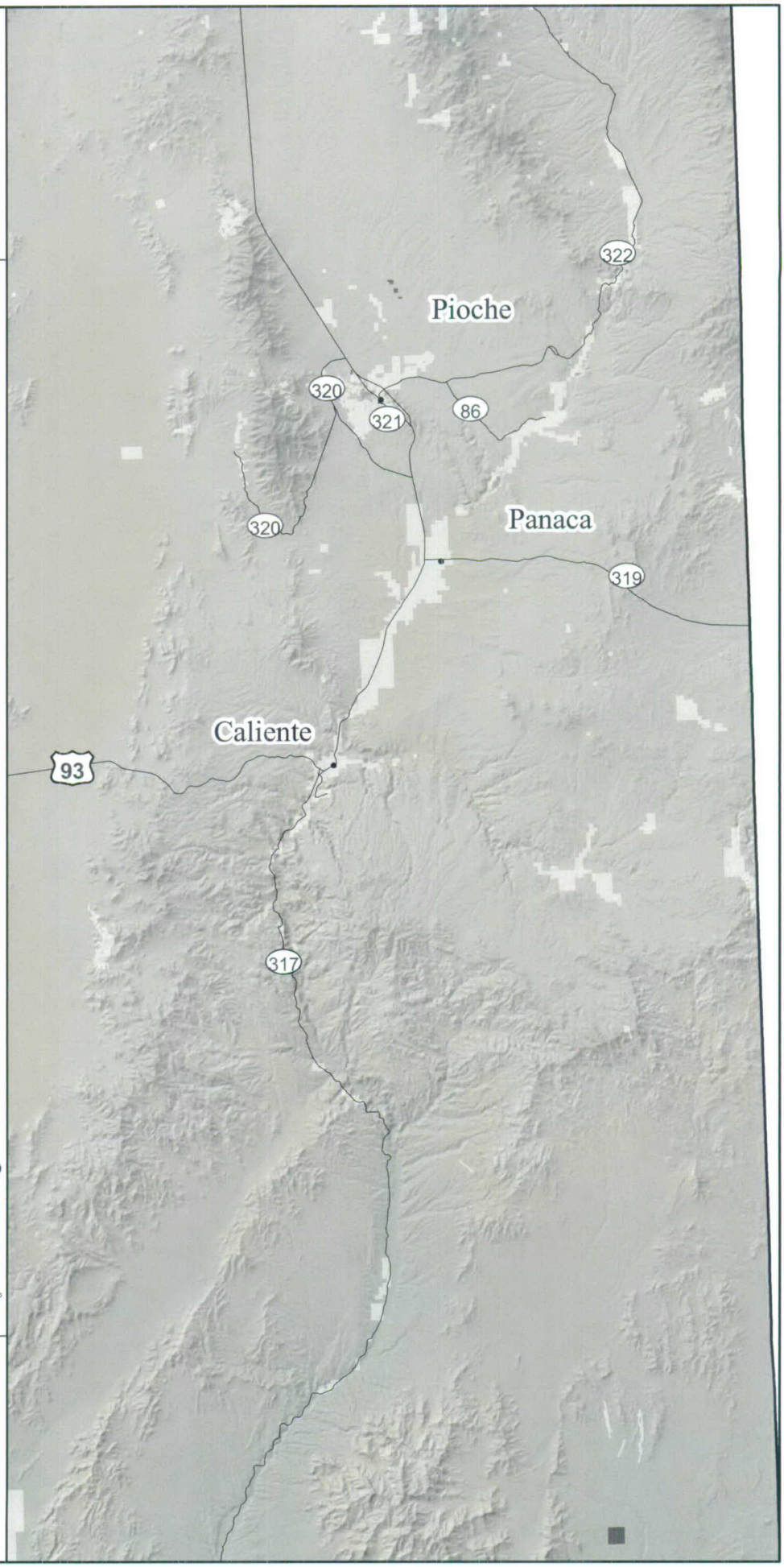
Ely RMP/EIS

Map 2.7.12-1

Lands Available for Disposal Alternative C



Regional View

0 100 200 Miles

Legend

- Cities and towns
- Roads
- Non-BLM-administered land*
- Lands available for disposal

Note:
* All land not shown as non-BLM-administered land is BLM-administered land.

N

0 3 6 Miles

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Ely RMP/EIS

Map 2.8.12-4

Lands Available for Disposal near Caliente, Panaca, and Pioche

Alternative D

Regional View

0 100 200 Miles

Legend

- Cities and towns
- Roads
- County boundary
- Non-BLM-administered land*
- Sagebrush

Note:
* All land not shown as non-BLM-administered land is BLM-administered land.

N

0 8 16 Miles

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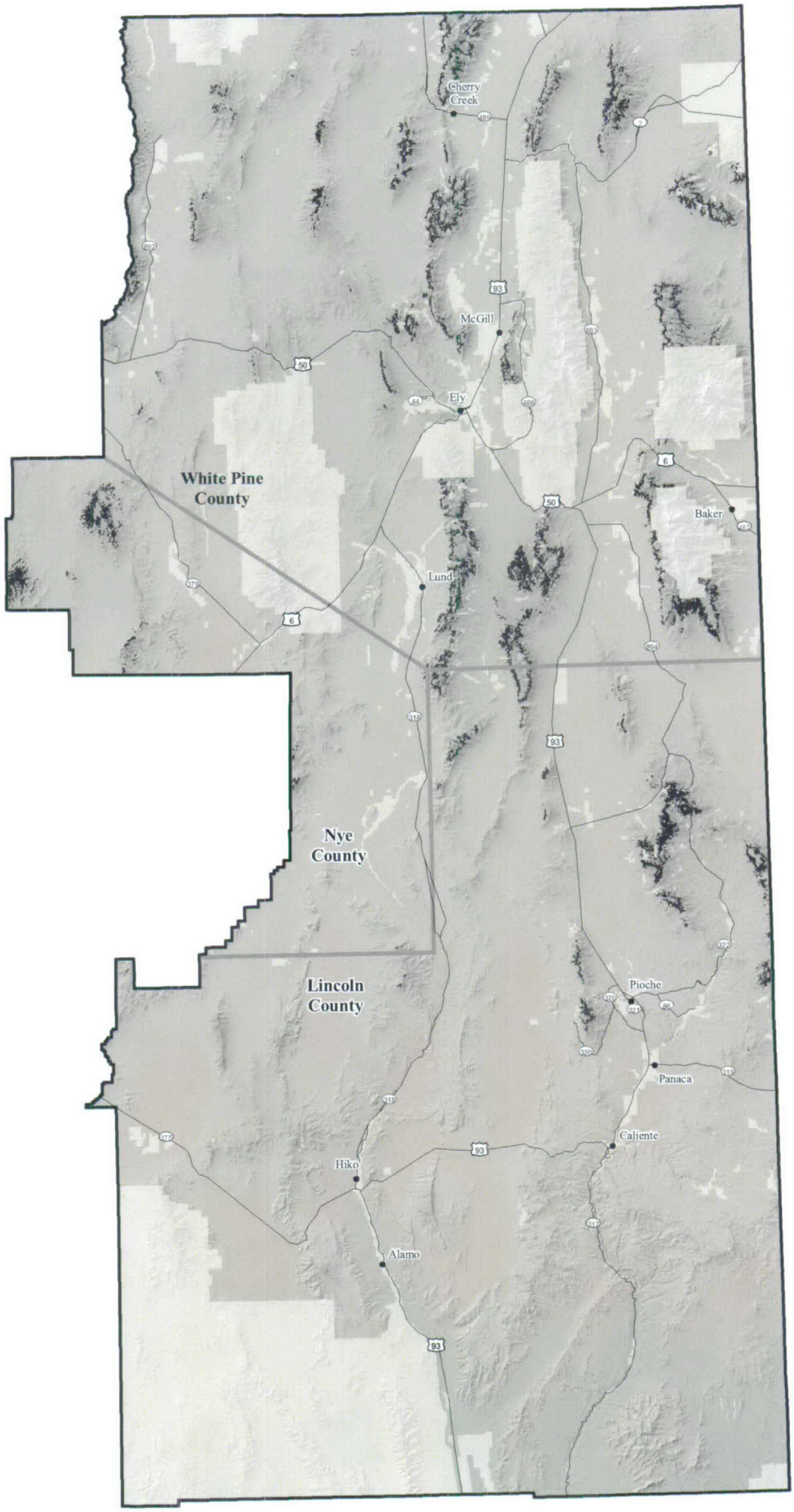
Ely RMP/EIS

Map 3.5-4

Sagebrush Vegetation on BLM-administered Land



Regional View

Legend

- Cities and towns
- Roads
- County boundary
- Non-BLM-administered land*
- Mountain mahogany

Note:
* All land not shown as non-BLM-administered land is BLM-administered land.

N

0 8 16
Miles

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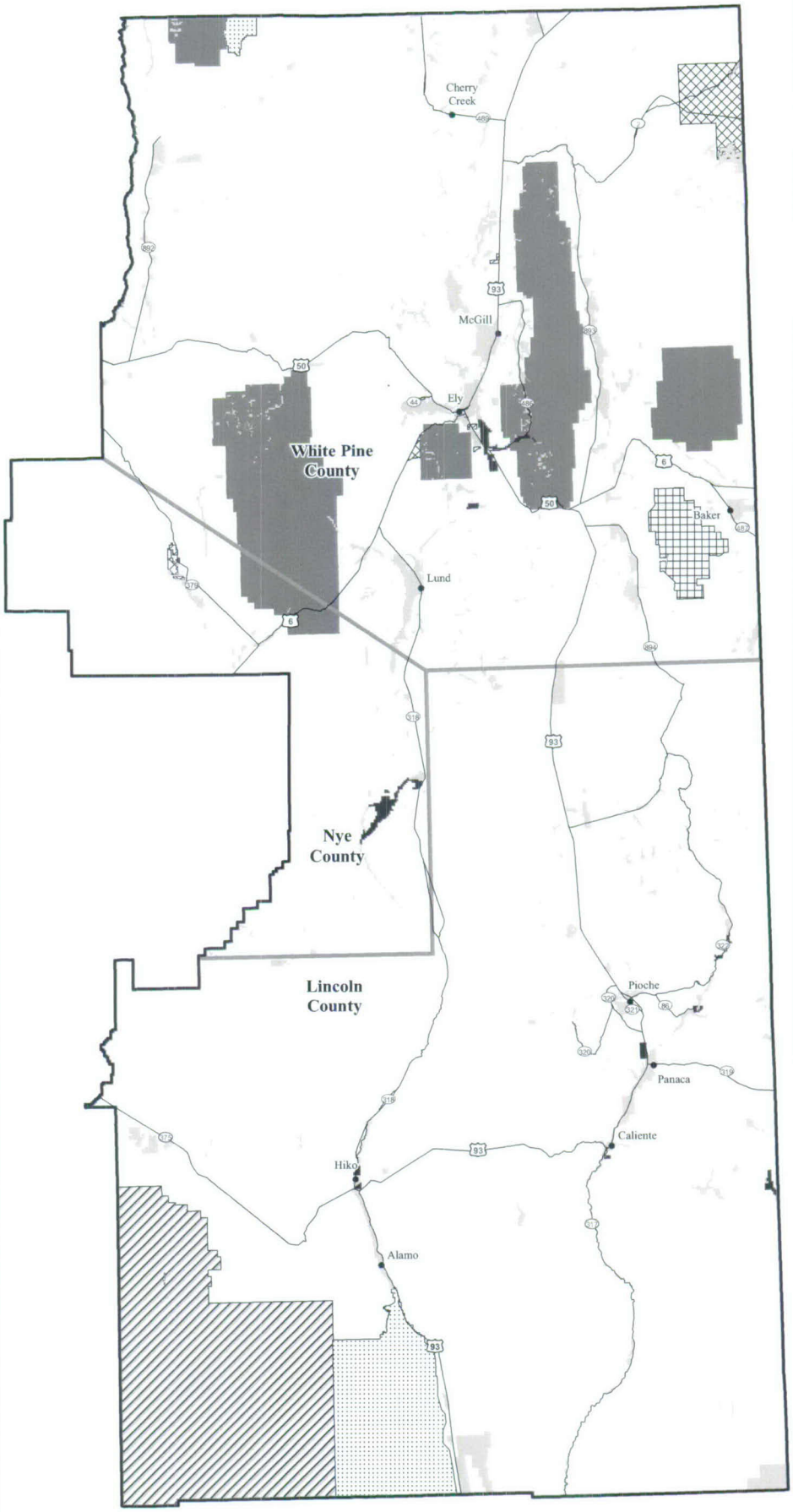
Ely RMP/EIS

Map 3.5-5

Mountain Mahogany Vegetation on BLM-administered Land



Regional View

Legend

- Cities and towns
- Roads
- County boundary

Land Status

- BLM
- Bureau of Indian Affairs
- Department of Defense
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- National Park Service
- State of Nevada
- Private

N

0 8 16 Miles

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Map 3.12-1
Land Status within the Planning Area

Ely RMP/EIS

Regional View

0 100 200 Miles

Legend

- Cities and towns
- Roads
- County boundary
- Non-BLM-administered land*
- Sagebrush vegetation where brush composition and/or invasive species could be treated

Note:
* All land not shown as non-BLM-administered land is BLM-administered land.

N

0 8 16 Miles

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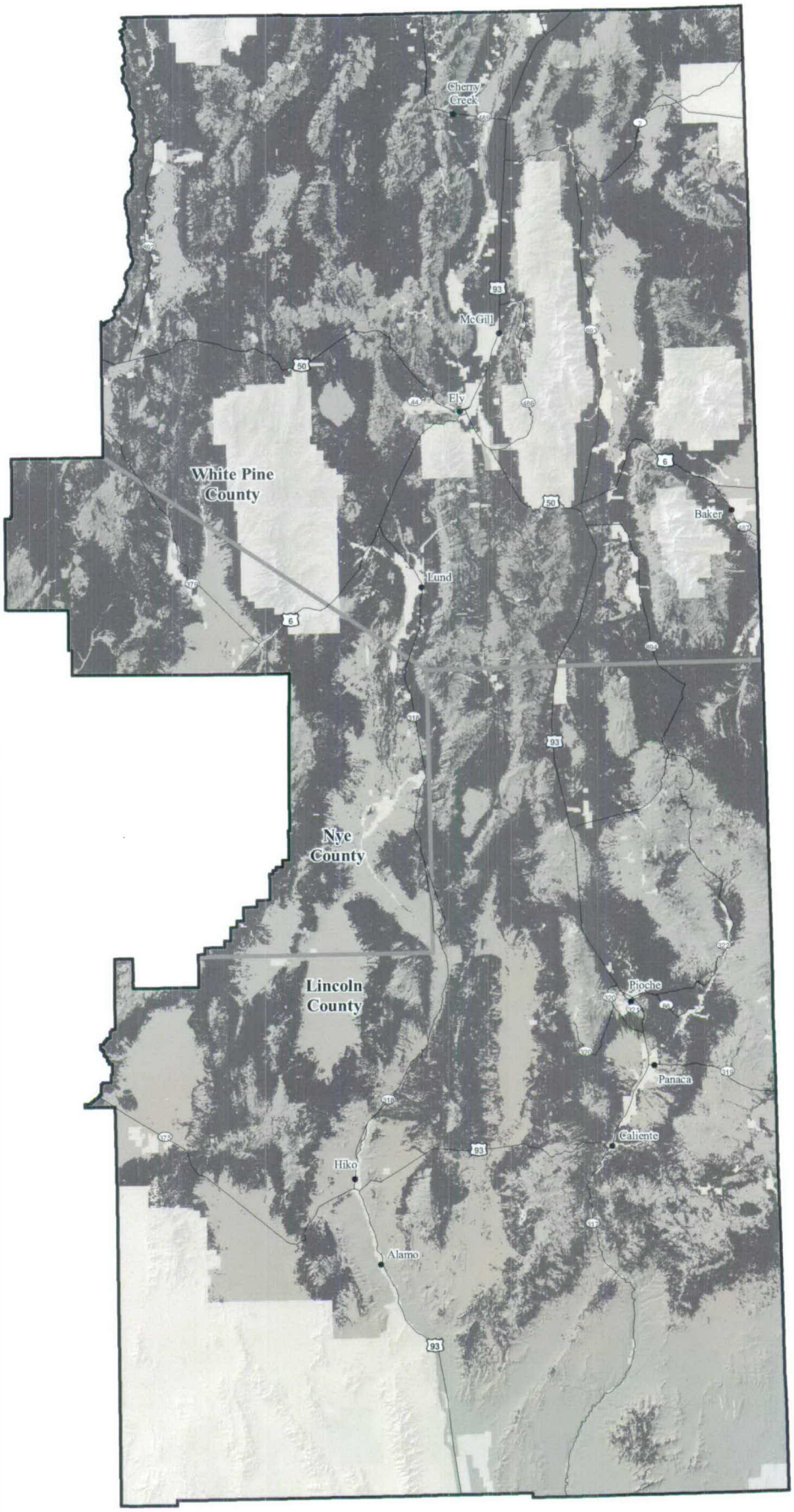

Ely RMP/EIS

Map 4.5-1

Sagebrush Vegetation where Brush Composition and/or Invasive Species Could be Treated

Regional View

0 100 200 Miles

Legend

- Cities and towns
- Roads
- County boundary

1. Atlanta mining district
2. Mt. Hamilton / White Pine mining district
3. Pioche mining district
4. Robinson mining district
5. Tempiute mining district
6. McGill tailings disposal area
7. Nevada test site
8. Road and railroad development
9. Bald Mtn. mining district
10. Reid Gardner power plant
11. Department of Defense activities
12. Falcon to Gonder 345-kV transmission line
13. Lincoln County Land Act development
14. Coyote Springs residential deveopment
15. Paving Kane Springs road
16. Road from Caliente to Mesquite
17. Toquop energy project
18. White Pine energy station
19. Southwest Intertie Project (SWIP)
20. Expansion of the Panaca pozzolana mine
21. Bassett Lake dam rebuild and expansion
22. Cave Lake dam rebuild
23. Comins Lake expansion
24. Department of Energy rail line (preliminary)
25. Holly Energy Pipeline
26. Ely Energy Center
27. Potential wind energy development
28. Southern Nevada Water Authority pipeline
29. Lincoln County Water District Pipeline

N

0 8 16 Miles

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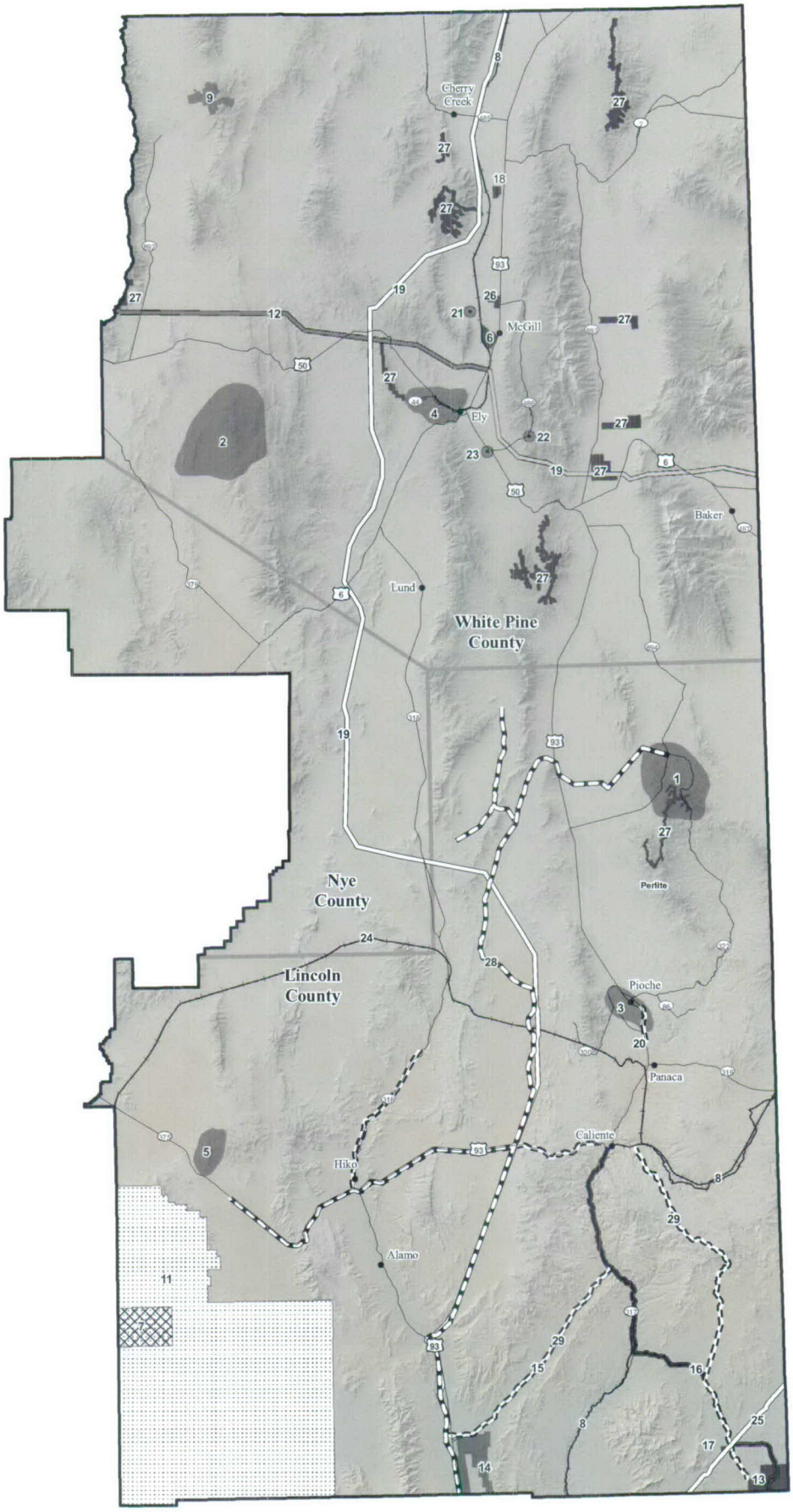

Ely RMP/EIS

Map 4.28-1

Interrelated Projects