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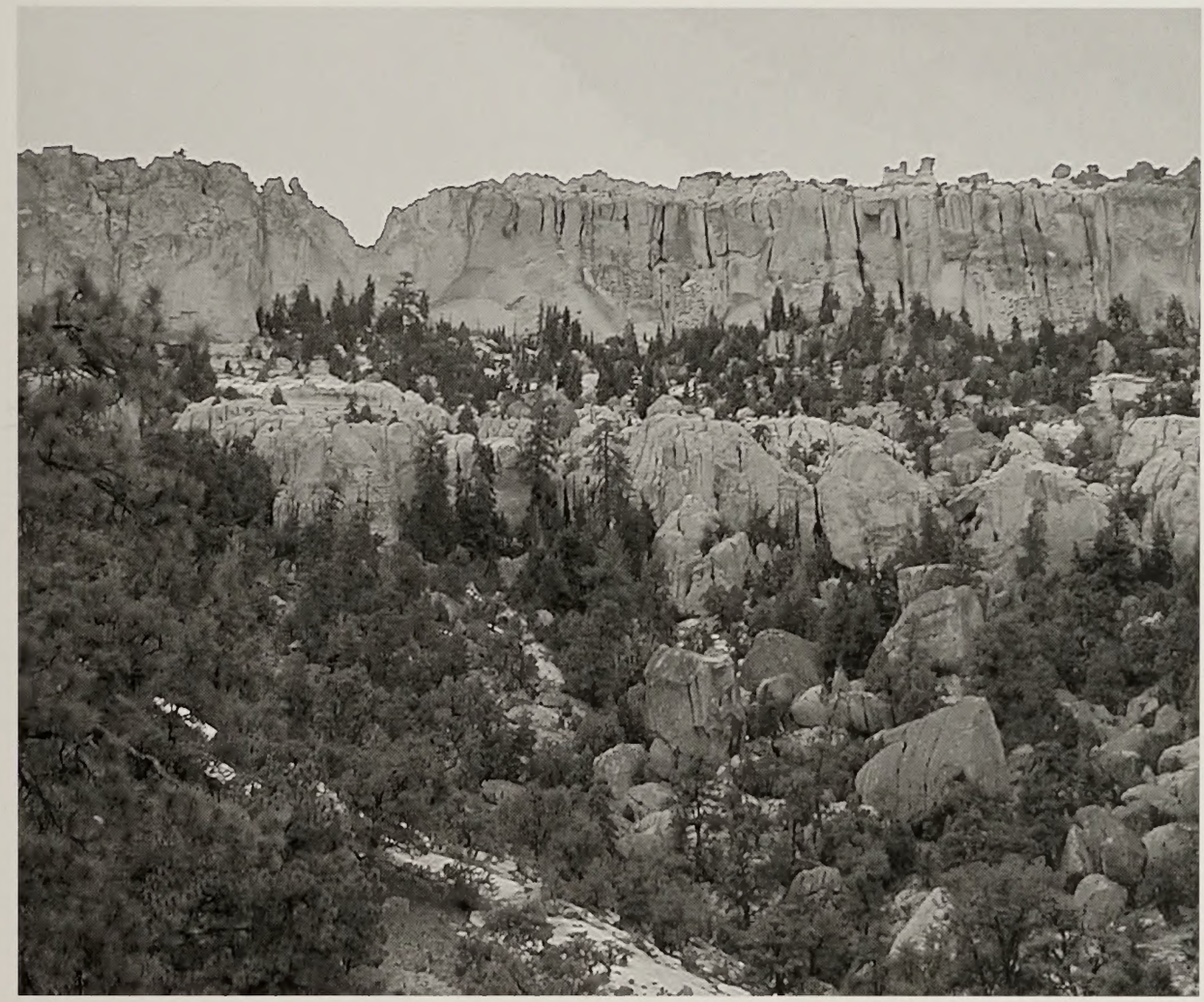
Ely Proposed Resource Management Plan/Final Environmental Impact Statement



Volume I (Chapters 1, 2, and 3) November 2007

BLM

Ely Field Office / Nevada

COOPERATING AGENCIES:

Great Basin National Park
Humboldt-Toiyabe National Forest
Nellis Air Force Base
Nevada Department of Transportation
Nevada Division of Minerals
Nevada Department of Wildlife
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. FES 07-40

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

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Nevada State Office
P.O. Box 12000 (1340 Financial Blvd.)
Reno, Nevada 89520-0006
http://www.nv.blm.gov

TAKE PRIDE IN AMERICA

In Reply Refer To:
1610/1790 (NV910/040)

Dear Reader:

Enclosed for your review are the Proposed Resource Management Plan (PRMP) and Final Environmental Impact Statement (FEIS) for the Ely Field Office. The PRMP was prepared by the Bureau of Land Management (BLM) in collaboration with cooperating agencies and stakeholders, taking into account public comment received during this planning effort. This PRMP provides the framework for the future management of BLM-administered public lands located in White Pine, Lincoln, and a portion of Nye counties, Nevada. The document contains both land use planning and implementation level decisions for management of public lands by the Ely Field Office. The PRMP is available for a 30-day protest period beginning the date the Environmental Protection Agency publishes the Notice of Availability of the FEIS in the *Federal Register.*

This PRMP and FEIS has been developed in accordance with the Federal Land Policy and Management Act of 1976 and the National Environmental Policy Act of 1969 (NEPA). The PRMP is largely based on Alternative E, the preferred alternative in the Draft Resource Management Plan/Environmental Impact Statement (DRMP/DEIS), which was released on July 29, 2005. This document contains the proposed plan, summary of changes made between the Draft RMP/EIS and PRMP, analysis of impacts of the proposed plan, summary of the written and verbal comments received during the public review period of the Draft RMP/EIS, and responses to the comments received.

Any person who participated in the planning process for this PRMP, and has an interest which is or may be adversely affected, may protest approval of this PRMP and land use planning decisions contained within it (see 43 Code of Federal Regulations 1610.5-2) during this 30-day period. Only those persons or organizations who participated in the planning process leading to the PRMP may protest. The protesting party may raise only those issues submitted for the record during the planning process leading up to the publication of this PRMP. These issues may have been raised by the protesting party or others. New issues may not be brought into the record at the protest stage. Instructions for filing protests are provided in the following attachment.

Upon resolution of any protests, an Approved Plan and Record of Decision (ROD) will be issued. The Approved Plan will be mailed to all who participated in the planning process and will be available to on the BLM national website (*http://www.blm.gov*), or by mail upon request. The Approved RMP and ROD will include the instructions for the appeals process for implementation decisions that may be appealed to the Office of Hearing and Appeals following publication of the Approved Plan and Record of Decision.

Sincerely,

Amy Lueders
Acting State Director, Nevada

Enclosure
Proposed Ely RMP and Final EIS

Instructions for Filing Protests

Protests must be filed with the BLM Director in writing. Regular mail protests should be sent to: Director (210), Attention – Brenda Williams, PO Box 66538, Washington DC 20035. Overnight mail should be sent to: Director (210), Attention – Brenda Williams, 1620 L Street, NW, Suite 1075, Washington DC 20036. E-mail and fax protests will not be accepted as valid protests unless the protesting party also provides the original letter by either regular or overnight mail postmarked by the close of the protest period. Under these conditions, BLM will consider the E-mail or fax protest as an advance copy and it will receive full consideration. If you wish to provide BLM with such advance notification, please direct E-mails to *Brenda_Hudgens-Williams@blm.gov* and faxes to (202) 452-5112 (Attn: BLM Protest Coordinator).

All protests must be postmarked on or before 30 days after the notice is printed in the Federal Register.

IMPORTANT: In accordance with 43 CFR 1610.5-2 the protest must contain the information described in the following critical elements checklist:

☐ **The name, mailing address, and telephone number of the person filing the protest.**

☐ **The "interest" of the person filing the protest (how will you be adversely affected by the approval or amendment of the resource management plan?)**

☐ **A statement of the part(s) of the PRMP, and the issue(s) being protested. (To the extent possible, this should reference specific pages, paragraphs, sections, tables, maps, etc., which are believed to be incorrect or incomplete.)**

☐ **A copy of all documents addressing the issue(s) that the protesting party submitted during the planning process OR a statement of the date they were discussed for the record.**

☐ **A concise statement explaining why the protestor believes the BLM State Director's proposed decision is incorrect.**

All of these elements are critical parts of your protest. Take care to document all relevant facts. As much as possible, reference or cite the planning documents, or available planning records (e.g., meeting minutes or summaries, correspondence, etc.) To aid in ensuring the completeness of your protest, a printable protest checklist is available online at http://www.blm.gov/nv/st/en/fo/ely_field_office.html.

The BLM Director will make every attempt to promptly render a decision on the protest. The decision will be in writing and will be sent to the protesting party by certified mail, return receipt requested. The decision of the BLM Director shall be the final decision of the Department of the Interior.

Before including your phone number, e-mail address, or other personal identifying information in your protest, you should be aware that your entire protest – including your personal identifying information – may be made publicly available at any time. While you can ask us in your protest to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Resource Management Plan Protest
Critical Item Checklist

The following items *must* be included to constitute a valid protest whether using this optional format, or a narrative letter.
(43 CFR 1610.5-2)

BLM's practice is to make comments, including names and home addresses of respondents, available for public review. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment--including your personal identifying information--may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so. All submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations and businesses, will be available for public inspection in their entirety.

Resource Management Plan (RMP) or Amendment (RMPA) being protested:

Name:
Address:
Phone Number: ( )

Your interest in filing this protest (how will you be adversely affected by the approval or amendment of this plan?):

Issue or issues being protested:

Statement of the part or parts of the plan being protested:

Chapter:
Section:
Page:
(or) Map:

Attach copies of all documents addressing the issue(s) that were submitted during the planning process by the protesting party, <u>OR an indication of the date the issue(s) were discussed for the record</u>.
Date(s):

A concise statement explaining why the State Director's decision(s) are believed to be wrong:

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PROPOSED RESOURCE MANAGEMENT PLAN AND FINAL ENVIRONMENTAL IMPACT STATEMENT

Lead Agency:
U.S. Department of the Interior
Bureau of Land Management
Ely Field Office

Cooperating Agencies:

Great Basin National Park	Lincoln County
Humboldt-Toiyabe National Forest	Nye County
Nellis Air Force Base	White Pine County
Nevada Department of Transportation	Duckwater Shoshone Tribe
Nevada Division of Minerals	Ely Shoshone Tribe
Nevada Department of Wildlife	Moapa Band of Paiutes
Nevada State Historic Preservation Office	Yomba Shoshone Tribe

Project Location:
Lincoln and White Pine counties and a portion of Nye County in east-central Nevada

Questions on this Proposed RMP Should be Directed to:
Jeff Weeks, Project Manager
U.S. Department of the Interior
Bureau of Land Management
Ely Field Office
HC33 Box 33500
Ely, Nevada 89301

Date Final EIS Filed with USEPA:
Same as the date of publication in the Federal Register

Date by Which Protests Must be Received by the BLM:
30 days after publication in the Federal Register

ABSTRACT

This Proposed Resource Management Plan and Final Environmental Impact Statement (Proposed RMP/Final EIS) provides direction and guidance for the management of approximately 11.5 million acres of public land and minerals located in Lincoln, White Pine, and a portion of Nye counties in eastern Nevada that are administered by the BLM Ely Field Office. The Ely RMP will consolidate the Schell and Caliente Management Framework Plans approved in 1983 and 1981, respectively, the Egan Resource Management Plan approved in 1987, the Egan Resource Management Plan Oil and Gas Leasing Amendment and Record of Decision, May 1994, and the Approved Caliente Management Framework Plan Amendment and Record of Decision for the Management of Desert Tortoise Habitat, September 2000. The Proposed RMP/Final EIS focuses on the principles of multiple use and sustained yield as prescribed by Section 202 of the Federal Land Policy and Management Act of 1976.

The Proposed RMP/Final EIS considers and analyzes five (5) alternatives, including the Proposed RMP, a No Action Alternative (Alternative A), and three additional action alternatives (B through D). These alternatives were developed based on public input including scoping (February through July 2003); numerous meetings with local, state, tribal, and federal agencies (Cooperating Agencies); and informal meetings with interested organizations upon their request. The issues addressed in the formulation of alternatives include maintenance and restoration of resiliency to disturbed ecological systems within the portion of the Great Basin administered by the Ely Field Office, protection and management of habitats for special status species, upland and riparian habitat management, noxious weeds, commercial uses (including livestock grazing, mineral development, oil and gas leasing, rights-of-way and communication use areas), Areas of Critical Environmental Concern, travel management, land disposal, and wild horses. The alternatives provide for an array of alternative land use allocations and variable levels of commodity production and resource protection and restoration.

The Proposed RMP primarily is based on Alternative E presented in the Draft RMP/EIS (July 2005), and changes in response to public and internal comments received. The management actions that are presented in the Proposed RMP were developed through consideration of the planning criteria, public scoping comments, 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 believes will best meet its obligations for multiple use management of the resources found within the planning area.

The Proposed RMP is not a final agency decision. The management direction may change based on protests that are received on the Proposed RMP/Final EIS. Following resolution of any protests, the final BLM decision will be documented in the Approved RMP and Record of Decision.

Responsible Official for EIS:

Ron Wenker
State Director, Nevada
Bureau of Land Management, Nevada State Office
1340 Financial Blvd.
Reno, NV 89502

READER'S GUIDE

Preparation of this document was guided by the Bureau of Land Management (BLM) planning regulations issued under the authority of the Federal Land Policy and Management Act of 1976 and federal environmental policy under the National Environmental Policy Act of 1969. The Proposed Resource Management Plan/Final Environmental Impact Statement (Proposed RMP/Final EIS) primarily focuses on planning issues and the decisions needed to resolve them. The issues of greatest concern are listed below in alphabetical order.

- Areas of Critical Environmental Concern (ACECs) (see **Table 2.9-1**, Section 2.4.22, Section 3.22, and Section 4.22)
- Land Disposal (see **Table 2.9-1**, Section 2.4.12, Section 3.12, and Section 4.12)
- Livestock Grazing (see **Table 2.9-1**, Section 2.4.16, Section 3.16, and Section 4.16)
- Mineral Extraction (see **Table 2.9-1**, Section 2.4.18, Section 3.18, and Section 4.18)
- Noxious and Invasive Weed Management (see **Table 2.9-1**, Section 2.4.21, Section 3.21, and Section 4.21)
- Recreation (see **Table 2.9-1**, Section 2.4.15, Section 3.15, and Section 4.15)
- Special Status Species (see **Table 2.9-1**, Section 2.4.7, Section 3.7, and Section 4.7)
- Travel Management and Off-highway Vehicle Use (see **Table 2.9-1**, Section 2.4.14, Section 3.14, and Section 4.14)
- Vegetation Treatment (see **Table 2.9-1**, Section 2.4.5, Section 3.5, and Section 4.5)
- Watershed Management (see **Table 2.9-1**, Section 2.4.19, Section 3.19, and Section 4.19)
- Wild Horses (see **Table 2.9-1**, Section 2.4.8, Section 3.8, and Section 4.8)
- Wildlife (see **Table 2.9-1**, Section 2.4.6, Section 3.6, and Section 4.6)

Other management concerns are addressed in the Proposed RMP/Final EIS, but did not drive the formulation of the alternatives. To assist agency decision-makers and the general public in choosing appropriate solutions to the planning issues, five alternatives or combinations of management options are presented and their impacts evaluated. The alternatives were limited to those that span a reasonable range of implementable means for managing public lands, while offering a broad range of options.

Document Format

The format of the Proposed RMP/Final EIS is based on BLM guidance issued in 2005. The guidance document was meant to provide a common look and feel to all RMP planning documents being prepared by BLM across the west.

The Proposed RMP/Final EIS is organized around 26 topical headings that cover the range of resources, resource uses, and program areas managed by the Ely Field Office. Each topic retains the same last digit section number throughout the document from Chapter 2.0 through Chapter 4.0. For example, Air Quality has the final digit of 2, while Health and Safety has the final digit of 27. Introductions have the final digit of 1.

Three terms are used throughout the document that the reader should understand clearly before proceeding with review:

Ely RMP planning area refers to the geographic area in White Pine, Lincoln, and a portion of Nye counties that contains BLM-administered lands (see **Map 1.2-1**). The planning area totals approximately 13.9 million acres.

Ely RMP decision area – the planning area for the Ely RMP/EIS consists of the entire geographic area within which the BLM would make decisions during this planning effort. The planning area includes all lands regardless of jurisdiction; however, the BLM would only make decisions on lands that fall under BLM's jurisdiction. **Map 1.2-2** shows the land status within the "planning area." The "decision area" consists of public lands administered by the Ely Field Office in White Pine, Lincoln, and a portion of Nye County in east-central Nevada. The decision area totals approximately 11.5 million acres. The decision area also includes those private lands on which there is "split estate", and the BLM continues to manage subsurface mineral commodities.

Ely Field Office refers to the BLM's administrative unit that manages the public lands in the Ely RMP decision area. BLM staff members are part of the Ely Field Office.

Summary

The Summary provides an overview of discussions detailed in the full document and serves as a synopsis of the planning process and the alternative proposals and potential environmental consequences resulting for that process.

Chapter 1.0 (Introduction)

This chapter contains background information on the planning process and prepares the reader for the information that is presented in the rest of the document. The nine main sections in Chapter 1 include the Purpose of and Need for Action, Planning Area and Map, Ely RMP/EIS Overview, BLM Planning Process, Planning Criteria, Scoping Issues, Management Framework and Implementation, Relationships that are Key to the Ely RMP/EIS, and Consistency with Other Programs, Plans, and Policies.

Chapter 2.0 (Alternatives)

This chapter provides the description of management scenarios analyzed by the Ely Field Office. The chapter includes the detailed management actions for each resource program followed by a large table that summarizes the alternative proposals.

Chapter 3.0 (Affected Environment)

This chapter provides background information on the various resources, resource uses, and resource programs administered by the Ely Field Office that could be impacted by planning decisions, and describes their conditions, trends, and current management. The chapter is organized with the same topical structure as Chapter 2.0.

Chapter 4.0 (Environmental Consequences)

This chapter describes the projected impacts and changes that would result from implementation of each of the alternatives. The chapter is organized by the same topic section format as Chapter 2.0 and Chapter 3.0; topics are then subdivided by alternative. A table that compares (in summary form) the impacts of implementing the alternatives is found at the beginning of Chapter 4.0.

Chapter 5.0 (Consultation and Coordination)

This chapter includes a description of public involvement opportunities and collaborative processes and provides lists of agencies and organizations that commented on the Draft RMP/EIS and received a copy of the Proposed RMP/Final EIS.

Chapter 6.0 (List of Preparers and Reviewers)

This chapter identifies the preparers of the Proposed RMP/Final EIS along with the Cooperating Agencies that reviewed and provided comments on draft sections and documents as the Draft and Final RMP/EIS were being prepared.

Other Information

Tables, Maps, and Figures have been included throughout the document 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.

Appendices are lettered sequentially based on their first reference within the document and are contained on the CD-ROM you received individually or included as part of the printed copy of the Proposed RMP/Final EIS. Each appendix may contain several pieces of information related to the appendix topic.

All maps have been included in the separate map volume for easy reference and are numbered sequentially based on their first reference within the section they support. Maps related to appendix material are included and referenced within each appendix and are not numbered with the Proposed RMP/Final EIS document maps.

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.

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. 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.

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

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 S-1** summarizes the type of entity that submitted comments. A complete list of commenters can be found in Appendix I.

Table S-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 S-2** provides the meeting locations, dates, and attendance.

Table S-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 S-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 S-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 S-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 S-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 S-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 S-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 S-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 S-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 S-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 S-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.

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ABBREVIATIONS/ACRONYMS

ACEC	Area of Critical Environmental Concern
BLM	Bureau of Land Management
EIS	Environmental Impact Statement
MFP	Management Framework Plan
NEPA	National Environmental Policy Act
PM_{10}	Particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$	Particulate matter with an aerodynamic diameter of 2.5 microns or less
RMP	Resource Management Plan
U.S.	United States

1.0 INTRODUCTION

Chapter 1.0 contains background information on the planning process and sets the stage for the information that is presented in the rest of the document. There are nine main sections in Chapter 1.0. They are:

- Purpose of and Need for Action
- Planning Area and Maps
- Ely Resource Management Plan (RMP)/Environmental Impact Statement (EIS) Overview
- Bureau of Land Management (BLM) Planning Process
- Planning Criteria
- Scoping Issues
- Resource Management Plan Implementation
- Relationships that are Key to the Ely RMP/EIS
- Consistency with Other Programs, Plans, and Policies

Section 102 of the Federal Land Policy and Management Act directs the BLM 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."

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. Even with periodic amendments, these three 15- to 20-year-old plans no longer meet the management needs of the Ely Field Office. This RMP is expected to serve the management direction needs of the Ely Field Office for the foreseeable future. The Approved Ely RMP would remain in effect as long as the management direction contained in the Plan is valid in light of scientific understanding and current management needs. It is BLM policy to evaluate RMPs every 5 years to determine if a plan revision or amendment is needed in response to changing conditions over time. The Plan would be 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.

1.1 Purpose of and Need for Action

This Proposed RMP and Final EIS was prepared to provide the Ely Field Office with a comprehensive framework for managing lands in the planning area under the jurisdiction of the BLM. The Proposed RMP provides a public document that specifies management policies and actions on these lands. Implementation-level planning and site-specific projects would then be completed in conformance with the broad provisions of the RMP. To address these management responsibilities, the Ely Field Office has undertaken a planning effort that emphasizes a collaborative approach where local, state, federal, and tribal

governments; the public; local user groups; and industry work with the Field Office to identify appropriate multiple uses of the public lands.

The purpose of the Proposed Ely RMP is to provide direction for management of renewable and nonrenewable resources found on public lands within the Ely planning area and to guide decision-making for future site-specific actions. 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, 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 area; and conducting other activities that require land use planning decisions.

RMP Management Focus

The restoration and maintenance of healthy ecological systems within watersheds is a focus for the future management of the 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.

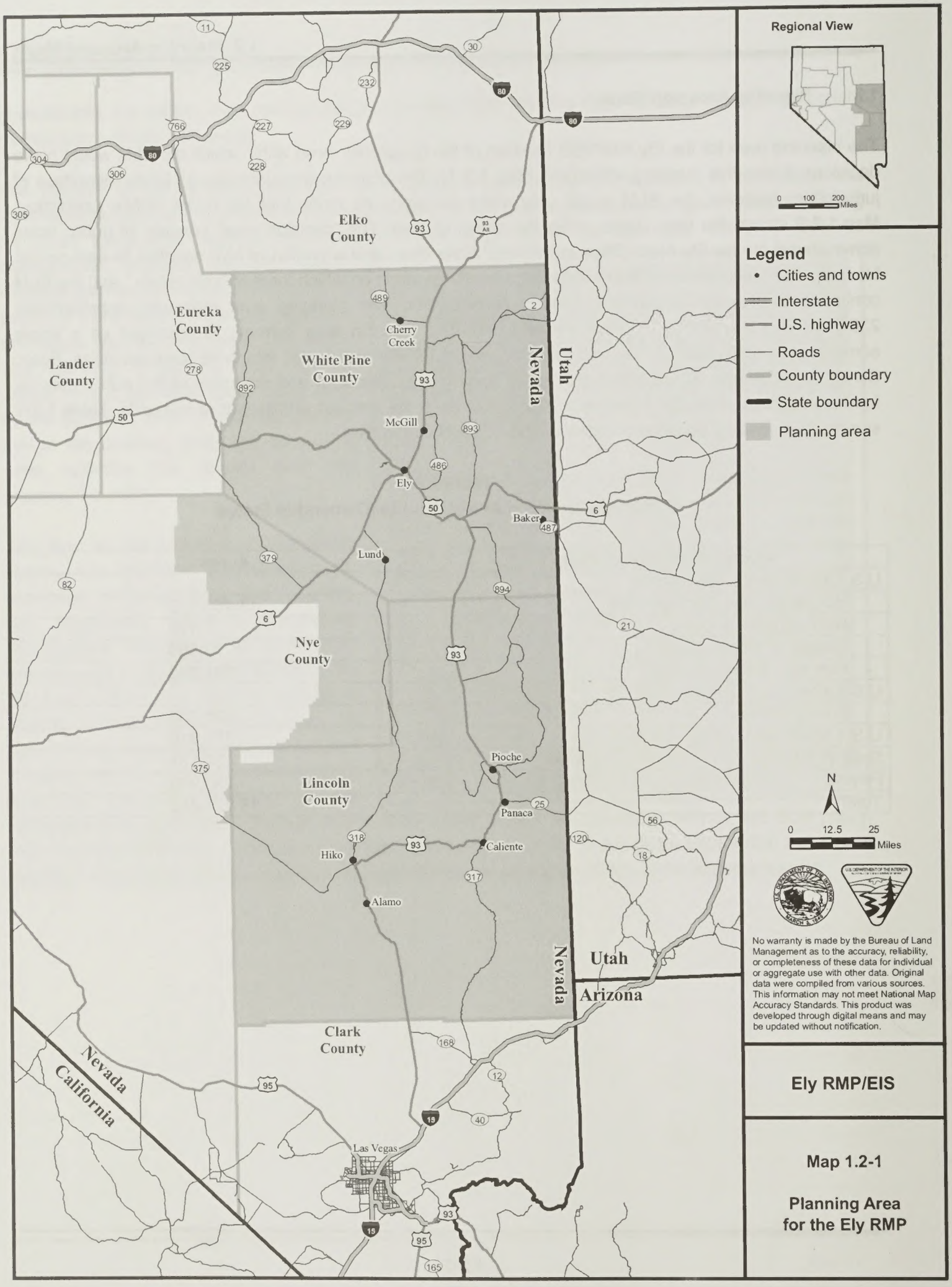
The need for the action is to consolidate, update, and establish appropriate goals, objectives, management actions, priorities, and procedures, within a multiple-use management context, for all BLM public land resource programs administered by the Ely Field Office. The RMP is needed to provide a land use plan consistent with current laws, regulations, and policies, and to update resource management direction to allow Ely Field Office managers to meet nationwide BLM goals and objectives and to ensure their actions are consistent with current BLM policy. The Proposed 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.

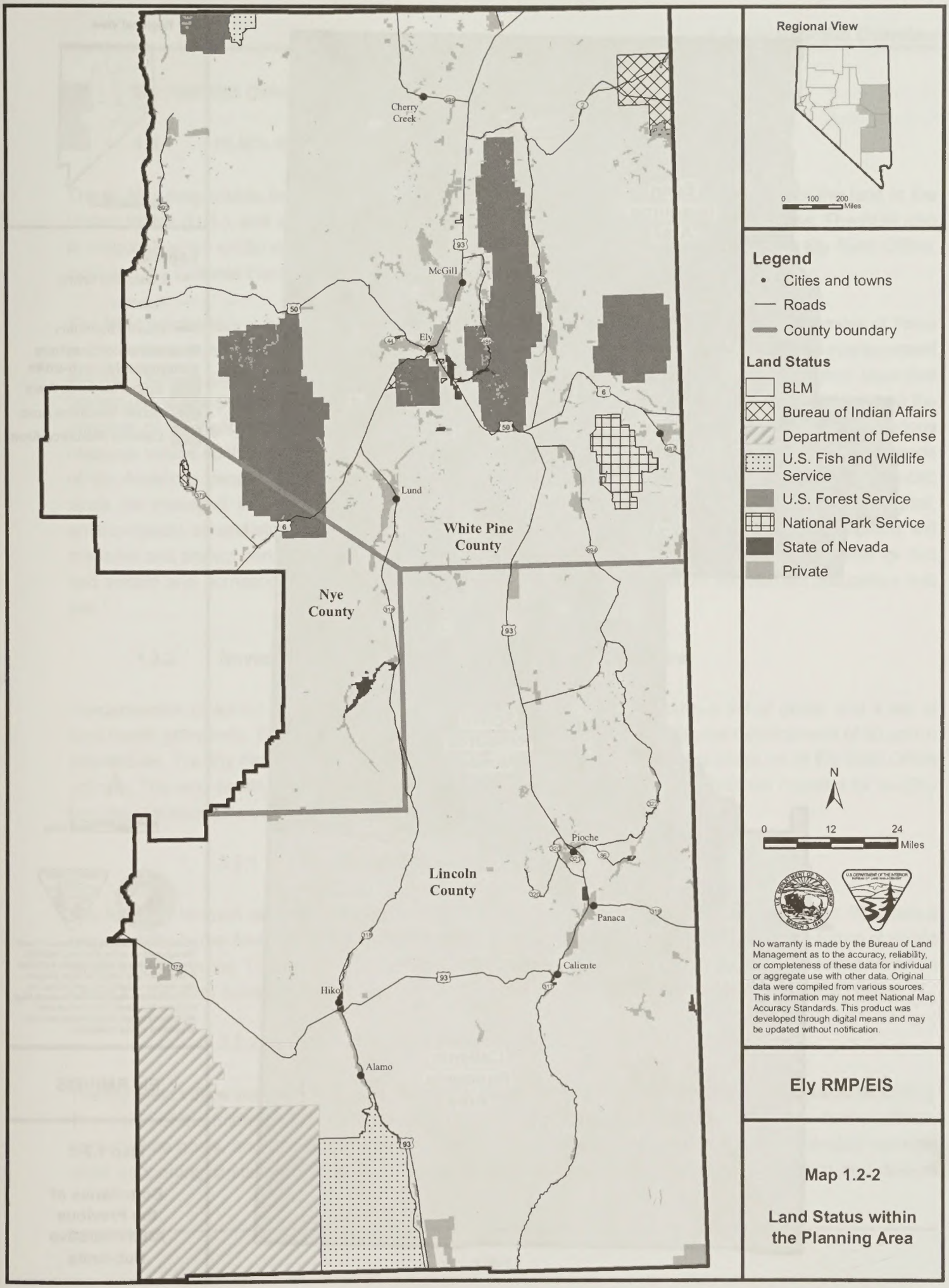
1.2 Planning Area and Maps

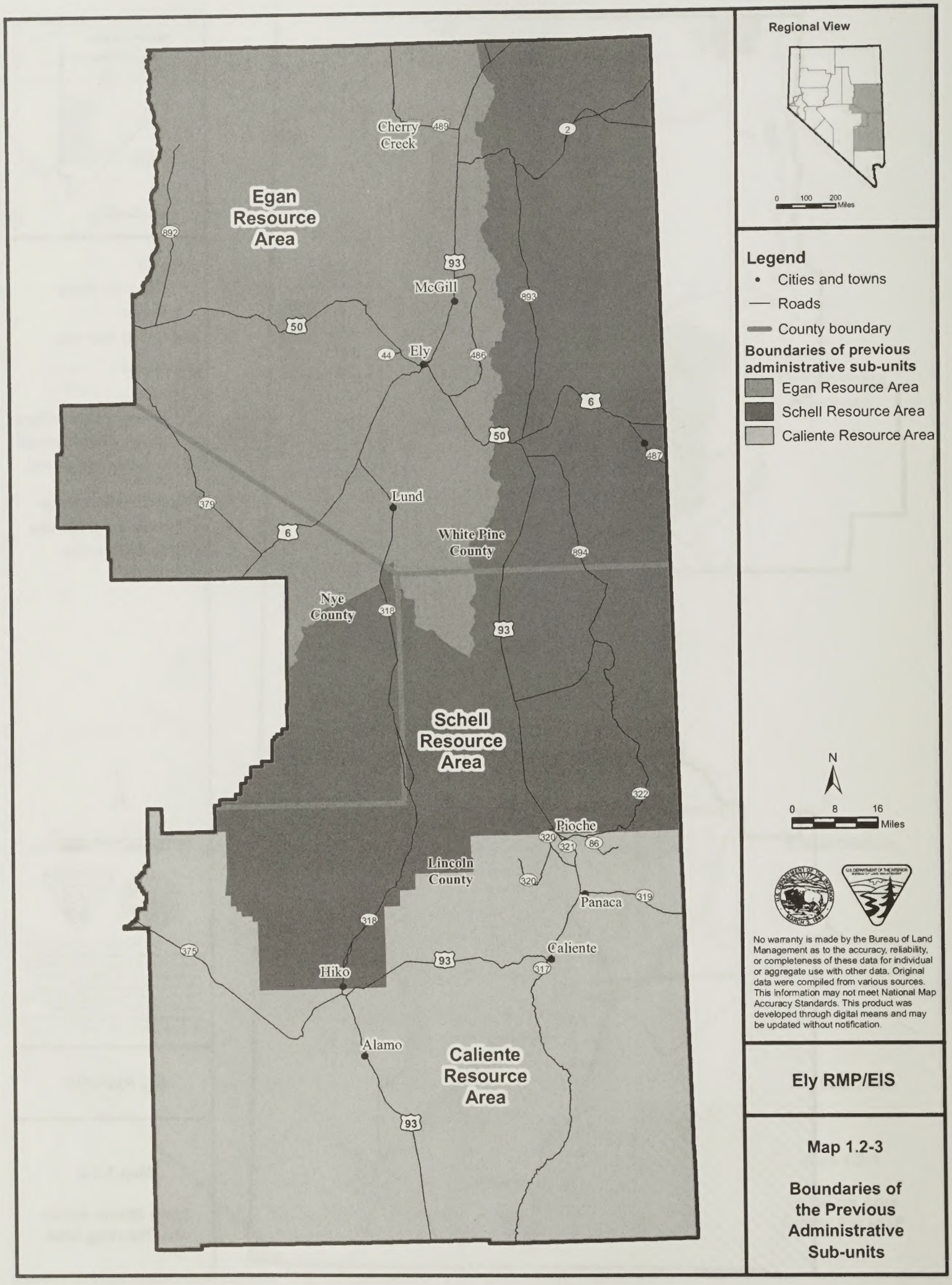
The planning area for the Ely RMP/EIS consists of the geographic area within which the BLM would make decisions during this planning effort (see **Map 1.2-1**). The planning area includes all lands regardless of jurisdiction; however, the BLM would only make decisions on lands that fall under BLM's jurisdiction. **Map 1.2-2** shows the land status within the planning area. 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 "split estate," and the BLM continues to manage subsurface mineral commodities. The planning area measures approximately 230 miles (north-south) by 115 miles (east-west). The decision area currently is managed as a single administrative unit; however, the decision area previously was subdivided into three resource areas, Egan, Schell, and Caliente. Since these names still appear in publications and members of the public may be familiar with them, **Map 1.2-3** presents the boundaries of the previous administrative sub-units. **Table 1.2-1** summarizes the land administration/ownership in the planning area.

Table 1.2-1
Planning Area Land Administration/Ownership Status

Administration/Ownership	Acres
U.S. Department of the Interior	
Bureau of Land Management	11,463,419
National Park Service	77,128
Bureau of Indian Affairs	73,555
Fish and Wildlife Service	282,995
U.S. Department of Agriculture	
Forest Service	825,136
U.S. Department of Defense	778,010
State of Nevada	34,131
Private	392,978
Total	13,927,352


Regional View
0 100 200 Miles
Legend
Cities and towns
Interstate
U.S. highway
Roads
County boundary
State boundary
Planning area
Elko County
Eureka County
Lander County
White Pine County
Nye County
Lincoln County
Clark County
Nevada
Utah
Arizona
California
Cherry Creek
McGill
Ely
Baker
Lund
Pioche
Panaca
Caliente
Hiko
Alamo
Las Vegas
N
0 12.5 25 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 1.2-1
Planning Area for the Ely RMP


Regional View
0 100 200 Miles
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
Cherry Creek
McGill
Ely
Lund
White Pine County
Nye County
Lincoln County
Pioche
Panaca
Caliente
Hiko
Alamo
N
0 12 24 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 1.2-2
Land Status within the Planning Area


Regional View
0 100 200 Miles
Legend
Cities and towns
Roads
County boundary
Boundaries of previous administrative sub-units
Egan Resource Area
Schell Resource Area
Caliente Resource Area
Cherry Creek
Egan Resource Area
McGill
Ely
Lund
White Pine County
Nye County
Schell Resource Area
Pioche
Lincoln County
Panaca
Caliente
Hiko
Alamo
Caliente Resource Area
N
0 8 16 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 1.2-3
Boundaries of the Previous Administrative Sub-units

1.3 Ely RMP/EIS Overview

1.3.1 BLM's Role

The BLM is responsible for managing nearly 261 million acres of land, about one-eighth of the land in the United States (U.S.), and about 300 million additional acres of subsurface mineral resources. The BLM also is responsible for wildland fire management and suppression on 388 million acres. The Ely Field Office, including the Caliente Field Station, manages 11.5 million acres in east-central Nevada.

The BLM administers public lands within a framework of numerous laws. The most comprehensive of these is the Federal Land Policy and Management Act of 1976. All BLM policies, procedures, and management actions must be consistent with the Federal Land Policy and Management Act and the other laws that govern use of the public lands. In the Federal Land Policy and Management Act, Congress established the principle of "multiple use" management, defined as "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." The Federal Land Policy and Management Act further specified that "the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use."

1.3.2 Nevada BLM and Ely Field Office Visions of the Future

Fundamentals of sound resource management include a vision of the future, a set of goals, and a set of land health standards. These components are essential as a basis for guiding the development of all action alternatives. The Ely Field Office vision for the future and the RMP goals set the stage for all Ely Field Office actions. The land health standards express levels of physical and biological conditions required for healthy lands and sustainable uses.

1.3.2.1 Nevada BLM Vision of the Future

The future of Nevada would to a large part be shaped by the future of public land management. BLM has a responsibility to the American people and the citizens of Nevada to conscientiously chart the future of public lands and resources. To that end, the Nevada BLM has undertaken an effort to describe a desired common future for the state based on citizen input, predictions of the future, and known state and national trends.

1.3.2.2 Ely Field Office Vision of the Future

The Ely Field Office vision of the future reflects the statewide BLM vision and applies this to the local setting. The vision of the future provides a context for development of management objectives, standard practices, performance goals, and priorities in the Ely RMP to reach the long-term goal of healthy ecological systems while supporting sustained economic uses and local community needs. A future of resilient and diverse

landscapes is one that Ely Field Office employees would strive to achieve together with our neighbors in eastern Nevada and the American people.

1.3.3 Ely Field Office Land Use Planning

The Proposed RMP is primarily programmatic in its management direction. It should be noted, however, that the Proposed RMP includes a few implementation-level decisions. Plan maintenance would be conducted on an as-needed basis to reflect minor changes, refinements, or clarifications without changing the terms, conditions, or decisions of the Approved RMP. "An amendment shall be initiated by the need to consider monitoring and evaluation findings, new data, new or revised policy, a change in circumstances or a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions and decisions of the approved plan" (43 Code of Federal Regulations 1610.5-5).

In addition to the legislative and procedural agency guidance for the preparation of the Proposed RMP, other initiatives and programs have contributed to the scope and management direction for this document. The ecological system function emphasis of the Great Basin Restoration Initiative and Healthy Forest Restoration Act of 2003; land management direction from the Lincoln County Conservation, Recreation, and Development Act of 2004 and White Pine County Conservation, Recreation, and Development Act of 2006; greater sage-grouse management recommendations; and ongoing input from the Resource Advisory Councils have shaped BLM's analytical approach to the resource issues.

1.3.3.1 Great Basin Restoration Initiative/Eastern Nevada Landscape Restoration Project

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.

The Ely RMP would guide future implementation of the Eastern Nevada Landscape Restoration Project, a key element of BLM's multi-state Great Basin Restoration Initiative in eastern Nevada. The Eastern Nevada Landscape Restoration Project has developed the following guiding principles for restoration projects, which are consistent with goals and management actions contained in the Proposed RMP.

- Develop strategies and implement actions to restore the landscape to an ecologically functioning condition.

- Initiate a comprehensive landscape/watershed restoration initiative using the adaptive management model and best available science.

- Involve local communities and tribes in decisions about restoration activities.

- Address all vegetation communities within the landscape with respect to age, structure, species diversity, and composition.

- Use fire as a restoration treatment, either alone or following a thinning.

- Control noxious weeds and invasive plants within the landscape.

- Develop local watershed assessments based on ecological site potential. The watershed analysis process is described in Appendix A.

1.3.3.2 Healthy Forests Restoration Act of 2003

On December 3, 2003, President George W. Bush signed the Healthy Forests Restoration Act of 2003. This legislation provides new tools and additional authorities to the BLM and U.S. Forest Service to restore more acres of forestland and associated rangeland more quickly. Specifically, the Act provides for:

- Emphasis on fire reduction through fuels reduction projects;
- Streamlining the National Environmental Policy Act of 1969 (NEPA) review;
- A more effective appeals process;
- Expedited court review; and
- Project funding.

1.3.3.3 Lincoln County Conservation, Recreation, and Development Act of 2004

On November 30, 2004, the Lincoln County Conservation, Recreation, and Development Act of 2004 was signed into law. This legislation implements a comprehensive plan that balances the needs for infrastructure development, recreation opportunities, and conservation of natural resources and public lands in Lincoln County, Nevada. Specifically, the Act provides for:

- Disposal of public lands in Lincoln County. Not more than 90,000 acres of BLM-administered public land that is identified in the Ely RMP would be available for disposal by public auction.

- Designation and release of areas being considered for wilderness status. The Act designates 14 areas as wilderness, totaling 768,294 acres, all of which are under the purview of the BLM Ely and Las Vegas Field Offices. The Act releases some wilderness study areas from further wilderness study, but does not limit areas from future consideration.

- Establishment of multi-purpose utility corridors. The Act directs the Secretary of Interior to grant non-exclusive rights-of-way for the Southern Nevada Water Authority and the Lincoln County Water District.

- Establishment of the Silver State Off-highway Vehicle Trail. The Silver State Trail is a 260-mile combination of existing back-country roads that are currently open and being used by off-highway vehicle enthusiasts in central Lincoln County.

- Conveyance of state and county parks. The Act includes a title dedicated to the creation of parks for Lincoln County and the State of Nevada. In the case of Lincoln County, the Act provides for the conveyance of approximately 15,000 acres for use as open space and public parks. In the case of Nevada State Parks, the bill provides for the conveyance of three parcels of land, totaling 4,785 acres, to the State of Nevada by the BLM.

- Jurisdiction transfer to the BLM. The Act enacts a transfer of the administrative jurisdiction for 8,382 acres associated with the utility corridor from the U.S. Fish and Wildlife Service to the BLM. The bill further transfers jurisdiction for 8,503 acres of land from the BLM to the U.S. Fish and Wildlife Service at the northeast boundary of the Desert National Wildlife Range.

1.3.3.4 White Pine County Conservation, Recreation, and Development Act of 2006

On December 20, 2006, the White Pine County Conservation, Recreation, and Development Act of 2006 was signed into law. This legislation implements a comprehensive plan that balances the needs for infrastructure development, recreation opportunities, and conservation of natural resources and public lands in White Pine County, Nevada. The White Pine Act is modeled after the Southern Nevada Public Land Management Act, the Clark County Lands Act, and the Lincoln County Conservation, Recreation, and Development Act. Specifically, the Act provides for:

- Disposal of public lands in White Pine County. Currently more than 94 percent of White Pine County land is managed by federal agencies. The Act sets up an account to dispose of up to 45,000 acres of public lands out of BLM administration and into private ownership.

- Designation and release of areas being considered for wilderness status. The Act designates 558,133 acres of wilderness in 12 new wilderness areas and expands the Mount Moriah Wilderness and Currant Mountain Wilderness. Eight of those areas are managed by the BLM Ely Field Office. The Act releases (removes from further consideration) approximately 51,000 acres from wilderness study area status.

- Transfer of administrative jurisdictions. The Act simplifies the land management system around the Great Basin National Park by transferring jurisdiction of land from the Forest Service to the BLM. The Act transfers jurisdiction of land from the BLM to the U.S. Fish and Wildlife Service for inclusion in the Ruby Lake National Wildlife Refuge. The Act simplifies management of the Bald Mountain Wilderness by transferring jurisdiction of land from the BLM to the Forest Service.

- Conveyance of lands to state and county parks. The Act conveys land currently managed by the BLM for one existing state park and one state wildlife management area to expand and improve the

management of these areas. The Charcoal Ovens State Park will receive about 658 acres of land and Steptoe Valley Wildlife Management Area will receive 6,281 acres to expand this popular waterfowl and wetlands area. The Act also conveys two small parcels of land near Ely for the expansion of the airport and industrial park to support future economic development in White Pine County.

- Continuation of the Silver State Off-highway Vehicle Trail. The Act directs the Secretary of the Interior to complete a study of routes for the Silver State Off-Highway Vehicle Trail and designate the trail if it is consistent with certain principles set out in the legislation, including that it is a continuation of the Silver State trail previously designated under the Lincoln County Conservation, Recreation, and Development Act and that it will not have significant negative impacts on natural and cultural resources.

- Transfer of lands to be held in trust for the Ely Shoshone Tribe. The Act transfers four parcels of land totaling 3,526 acres to the Ely Shoshone Tribe for traditional, ceremonial, commercial, and residential purposes.

- Implementation of the Eastern Nevada Landscape Restoration Project. The Act provides for the implementation and enhancement of the Eastern Nevada Landscape Restoration Project. The mission of the Project is to restore the dynamic and diverse landscapes of the Great Basin for present and future generations through collaborative efforts.

1.3.3.5 Resource Advisory Councils

The Ely Field Office receives input from two of the three Resource Advisory Councils in Nevada. The Northeastern Great Basin Resource Advisory Council helps advise the Ely Field Office on public lands issues in White Pine County, while the Mojave/Southern Great Basin Resource Advisory Council provides input for Lincoln and Nye counties. The Secretary of the Interior has approved standards and guidelines for rangeland health, off-highway vehicle use, and wild horses that were developed with the involvement of these two Resource Advisory Councils. The standards and guidelines are written to accomplish four fundamentals of rangeland health. The fundamentals are that:

- Watersheds are functioning properly;
- Ecological processes are functioning properly to support healthy biotic populations and communities;
- Water quality complies with state water quality requirements; and
- Habitats of protected species are functioning properly.

The terms and conditions of grazing permits and leases must result in meeting or making progress toward meeting these Resource Advisory Council standards. Thus, these Resource Advisory Council standards and guidelines constitute existing policy that would be incorporated into the Proposed RMP without modification. The Resource Advisory Council standards and guidelines that apply to the decision area are presented in their entirety in Appendix B. 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 in the Proposed RMP were developed to be consistent with both sets of standards.

1.4 BLM Planning Process

1.4.1 Land Use Planning Steps

Land use plans are prepared utilizing the guidance contained in the BLM Land Use Planning Handbook (H 1601-1) (BLM 2005a). The BLM uses a multi-step process when developing an RMP. Some of the steps may occur concurrently. Some situations may require the manager to supplement information used in the preparation of the RMP as additional information becomes available. The following steps have been fully integrated with the requirement for the preparation of an EIS on the RMP and the Council on Environmental Quality guidelines. The steps are:

Identify Issues*: Identify issues or land use problems that need to be resolved. This is an ongoing process that ties to the NEPA scoping process.

Develop Planning Criteria*: Planning criteria establish constraints and guides for the planning process; streamline the process; establish standards, rules, and measures; set the scope of inventory and data collection; identify the range of alternatives; and estimate the extent of analysis. Preliminary planning criteria developed by BLM can be modified through public comment.

Issue Notice of Intent/Scoping*: Publish the Notice of Intent in the Federal Register, notify local media, send mailings, etc. The Notice of Intent identifies the preliminary issues and planning criteria and provides for a minimum 30-day public review and comment period. This also is the start of the formal NEPA scoping process inviting the public to identify issues or land use problems that need to be resolved. In addition to the Federal Register notice, solicit ideas through mailings, newspaper articles, public meetings, and workshops. Gather, screen, and evaluate ideas from public, private, and internal sources. Summarize the issues to guide the planning process.

Collect Inventory Data*: Collect inventory data based on the planning criteria. Data generally are collected from existing sources. New data collection is limited to what is needed to resolve the planning issues identified.

Analyze the Management Situation*: Gather information on the current management situation, describe pertinent physical and biological characteristics, and evaluate the capability and condition of the resources. This analysis provides a reference for developing and evaluating alternatives.

Formulate Alternatives*: Identify a range of reasonable combinations of resource uses and management practices. Develop reasonable alternatives that address issues identified during scoping and that offer a distinct choice among potential management strategies. Include a no action alternative, which is continuation of current management.

*These steps may be revisited throughout the planning process and may overlap other steps.

Estimate Effects of Alternatives: Estimate the impacts of each alternative on the environment and management situation.

Select the Preferred Alternative: The Field Manager recommends to the State Director a preferred alternative that best resolves planning issues and promotes balanced multiple use objectives. The State Director approves the selection of the preferred alternative along with the other alternatives under consideration.

Issue Draft RMP/EIS: Publish the Notice of Availability in the Federal Register, media, mailings, etc. The Notice of Availability notifies the public of the availability of the Draft RMP/EIS and provides for a 90-day public review and comment period.

Issue Proposed RMP/EIS: Evaluate comments received on the Draft RMP/EIS and make any modifications needed. Publish a second Notice of Availability and file a copy of the Proposed RMP/Final EIS with the U.S. Environmental Protection Agency. This initiates the 30-day protest period under 43 Code of Federal Regulations 1610.5-2.

Governor's Consistency Review: Simultaneously with filing the Proposed RMP/Final EIS, initiate a 60-day Governor's review to identify inconsistencies with state or local plans.

Protests: Any group or person that participated in the Ely RMP process, and has an interest that is or may be adversely affected, may protest approval of this Proposed RMP. See the procedure outlined in the Final EIS. The State Director may sign and implement that portion of the plan not under protest.

Notice of Significant Change: When a protest or consistency review results in significant changes to the proposed plan, issue a Notice of Significant Change providing for an additional 30-day comment period.

Plan Approval: Once protests have been resolved and the Governor's consistency review has been completed, the State Director approves the RMP by signing the Record of Decision.

Monitor and Evaluate the RMP: Ensure that the plan is continually monitored, evaluated, and updated as necessary, until it is replaced.

1.4.2 Land Use Planning Decision Levels

The BLM planning process has been organized into different decision levels that progress from the very general to the very specific. Such an organization is called a step-down process, which is presented below. Decisions at each step build on the previous steps so that in the end, specific management actions are consistent with the overall BLM mission. Not all steps are the subject of the Ely RMP/EIS. The higher-level steps for national, state, and Field Office-wide decisions previously have been established. Annotations in the following outline identify where in the document each step in the outline is presented.

Planning Criteria – Section 1.5

Scoping Issues – Section 1.6

Goals for each Resource Program – Section 2.4

Objectives for each Resource Program – Section 2.4

Management Actions for each Resource Program – Section 2.4

1.4.3 Types of Decisions

The BLM administers programs to manage public resources at the national, state, and local levels. BLM management of public lands is based on a network of decisions made at each of the administrative levels. There are two general types of decisions contained in the Proposed RMP: land use plan and implementation. Both are subject to the requirements of the NEPA.

Land use plan decisions provide general guidance for future site-specific management activities within a defined framework.

Implementation decisions are characterized by having project or activity level detail, a narrow focus, and actions specific to a unique location during a specified time period.

1.4.3.1 Land Use Plan Decisions

This Proposed RMP provides general management guidance in the form of management actions. These actions conform to national laws, agency policies, and BLM-wide or statewide plans that are currently approved.

The Proposed RMP describes how the Ely Field Office would implement the Great Basin Restoration Initiative and other resource uses from a land use plan perspective. In the past, projects and resource actions were proposed on a site-specific basis. These projects and actions were consistent with guidance from current 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. The Approved RMP would implement a policy change that directs the Ely Field Office to integrate the watershed analysis process described in BLM Handbook, H-4180-1 Rangeland Health Standards. This watershed approach would allow the Ely Field Office to focus on integrated management techniques and funding approaches necessary to accommodate the functionality of the watershed. It would allow for a shift from species- and individual-use-driven management to natural systems management that supports watersheds in properly functioning conditions.

1.4.3.2 Implementation Decisions

Site-specific actions that are analyzed in this Proposed RMP/Final EIS could be implemented when the Record of Decision is signed. Actions that need a level of analysis beyond that contained in the RMP/EIS would undergo their own NEPA review before they could be implemented. These actions would be in conformance with the Approved RMP and would be tiered to the NEPA analysis contained in the Proposed RMP/Final EIS.

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.

1.5 Planning Criteria

Planning criteria are the constraints or ground rules that guide and direct the development of the RMP and determine how the planning team approaches the development of alternatives and ultimately the selection of a Proposed RMP. They ensure that the RMP/EIS is tailored to the identified issues and ensure that unnecessary data collection and analyses are avoided. Planning criteria are based upon standards prescribed by applicable laws and regulations, agency guidance, analysis of information pertinent to the planning area, professional judgment of the planning team, and the result of consultation and coordination with the public, other federal, state, and local agencies and government entities, and American Indian tribes.

1.5.1 General Criteria

1. Management direction would comply with the requirements of the Federal Land Policy and Management Act and other applicable laws, regulations, and policies. (Section 1.1 and Chapter 2.0)

2. The Planning Team would use a systematic interdisciplinary approach to integrate physical, biological, economic, and other sciences. (Section 1.7)

3. Present and potential uses of public lands would be identified. (Chapter 3.0)

4. The long-term impacts of resource allocation would be weighed against short-term benefits. (Section 4.32)

5. Natural, social, and institutional factors contributing to the existing situation would be considered in the planning for future resource management actions. (Chapters 2.0 and 3.0)

6. The RMP/EIS would contain a combination of programmatic and implementation level decisions. (Chapter 2.0)

7. The RMP/EIS would be structured so that the Ely Field Office can tier the NEPA compliance for plan implementation activities off of the analysis contained in the RMP/EIS. (Section 1.4.3, Chapter 2.0, and Chapter 4.0)

8. The BLM would ensure that consideration is given to those tribal, state, and local plans, standards, laws, and policies that are germane in the development of land use plans for public lands. A potential conflict with local or federal law does not necessarily render an alternative unreasonable; however, such conflicts must be considered (Council on Environmental Quality 1981). BLM land use plans would be consistent with other approved plans to the maximum extent consistent with federal law. (Section 1.8)

9. The RMP/EIS would be based upon the principles of adaptive management. (Section 2.3.3)

10. The approved Ely RMP would 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 life of an RMP is typically about 20 years. (Section 1.0)

11. Any lands located within the planning area, which are acquired by the BLM, would be managed for the purpose for which they were acquired, subject to any constraints associated with the acquisition. (Section 2.4.12)

12. The RMP/EIS would incorporate valid existing rights and could include management from currently approved BLM land use plans. (Sections 2.3.3.2 and 2.4.12)

13. Federal Geographic Data Committee standards and other applicable BLM data standards would be followed. (RMP/EIS maps)

14. The RMP/EIS would incorporate the established Resource Advisory Council standards and guidelines that are applicable to the Ely planning area. (Appendix B)

15. The RMP/EIS would rely, to the extent available, on an inventory of public lands, their resources, and other values. (Chapter 3.0)

16. Management direction and actions would comply with applicable tribal, federal, and state pollution control laws, standards, and implementation plans. (Section 1.8)

17. The RMP/EIS would establish the management guidance and direction for restoration and management of public lands and minerals within the planning area. (Chapter 2.0)

18. Soil surveys and ecological site descriptions developed by the Natural Resource Conservation Service would be considered and used to determine site potential. (Section 3.19)

19. Watershed analyses would be conducted interdisciplinarily following the Unified Federal Policy for Management by Watershed and the Rangeland Health Standard Handbook, H-4180-1. (Section 1.7.1 and Appendix A)

20. A variety of models would be used to develop and evaluate management direction. (Appendix C)

1.5.2 Cooperation and Consultation

1. The Planning Team would work cooperatively with the Northeastern Great Basin and the Mojave/Southern Great Basin Resource Advisory Councils and interested publics. (Sections 1.3.3.5 and 5.1.4, and Appendix B)

2. Alternatives for resolution of resource management issues would be developed jointly by the BLM, cooperating agencies, and interested members of the public. (Chapter 6.0)

3. The BLM would consult with the Nevada Department of Wildlife during development of the RMP/EIS. (Section 5.1.5)

4. The U.S. Fish and Wildlife Service would be consulted early and throughout the planning process, under existing interagency streamlined consultation procedures, to ensure consistency between the plan and all requirements of the Endangered Species Act of 1973, as amended. (Section 5.3)

5. The planning process would involve coordination with American Indian tribal governments and would provide strategies for the protection of recognized traditional and cultural uses and consider impacts on Indian trust assets. (Sections 3.25, 4.25, and 5.1.4)

6. The State Historic Preservation Officer would be consulted throughout the planning process on any potential effect of this plan on cultural resources under provision of the National Historic Preservation Act of 1966, as amended under the National Programmatic Agreement and under the Nevada State Protocol. (Section 5.1.5)

7. Land disposal proposals would be developed in collaboration with other federal agencies, tribal governments, and state and local governments. (Section 2.4.12)

1.5.3 Renewable Resource Management

1. The RMP/EIS would use and observe the principles of multiple use and sustained yield that recognize the demands for food, woodland and native plant products, fiber, recreation, wildlife habitat, watershed protection, and numerous other values from the public lands. (Section 1.3.1)

2. Priority would be afforded to designating and protecting Areas of Critical Environmental Concern (ACEC). (Section 2.4.22 and Appendix D)

3. Management direction for federally listed threatened or endangered species would follow U.S. Fish and Wildlife Service recovery plans. (Sections 2.4.7 and 3.7)

4. The priority for the application of management actions for special status plant and wildlife species would be: 1) federal endangered species, 2) federal threatened species, 3) federal proposed species, 4) federal candidate species, and 5) BLM sensitive species. (Sections 2.4.7 and 3.7)

5. The U.S. Fish and Wildlife Service has agreed to revise critical habitat designations in the Desert Tortoise Planning Area to be consistent with the boundaries of the three ACECs that have been designated in the Approved Caliente Management Framework Plan Amendment and Record of Decision for the Management of Desert Tortoise Habitat hereafter referred to as the Desert Tortoise Amendment (BLM 2000a) for the tortoise. (Sections 2.4.7 and 3.7)

6. The plan would recognize the State's responsibility to manage wildlife. (Section 3.6)

7. There are no designated wild horse ranges or free-roaming burros in the planning area. (Section 3.8.3)

8. Ecological site inventory or other approved monitoring methods would be used to establish and document current vegetation conditions. (Section 3.5)

9. Fire management strategies would be consistent with the 2001 Federal Wildland Fire Policy, the National Fire Plan, and other applicable policies or their revisions or replacements. (Section 2.3.3.2)

10. The RMP/EIS recognizes the Nevada State Engineer's responsibility to adjudicate water rights, while complying with Nevada state laws and regulations for acquiring and maintaining water rights and permits. (Section 3.3.3)

11. Soils, climate, and weather data would be the basis for determining the possible range of healthy plant communities, appropriate restoration actions, and species to be used in restoration. (Sections 2.4.5 and 3.5)

1.5.4 Nonrenewable Resource Management

1. The mineral development scenario would be based on mineral potential within the planning area, recognition of the nation's need for domestic sources of minerals from public lands, projected demand from the mineral industries, and the National Energy Plan. The planning process would address areas closed to mining, constraints to surface use, and post mining land use. (Sections 2.4.18, 3.18, and 4.18)

2. Reasonably foreseeable development scenarios would be developed according to the Fluid Minerals Handbook H-1624-1. (Section 4.18)

3. The RMP/EIS would address transportation, route management, and access, and identify which areas should be designated as open, limited, or closed to accommodate resource users, recreationists, protection of resource values, and administrative needs. The plan also would address where additional access is needed for administrative and recreational uses of BLM-administered lands. (Section 2.4.14)

4. Lands identified for disposal prior to July 25, 2000, shall be identified for disposal subject to the Federal Land Transaction Facilitation Act ("Baca Bill"). (Section 3.12)

5. Criteria for designating disposal lands would be developed to identify lands that would serve important public objectives, including but not limited to community expansion or economic development, which could not be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values. (Section 2.4.12)

6. The RMP/EIS would consider acquisition (through purchase, exchange, donation, or other means) of lands, easements, or interests in lands that have high resource values and/or lands that improve the management and administration of public lands. (Section 2.4.12)

1.5.5 Social and Economic Considerations

1. The current and projected lifestyles of area residents and valid existing rights would be recognized in the RMP/EIS. (Section 3.24)

2. The analysis of social and economic issues and data would be consistent with Washington Office Instruction Memorandum 2002-167, "Social and Economic Analysis for Land Use Planning." (Sections 4.23 and 4.24)

1.6 Scoping Issues

The formal 60-day public scoping period for the Ely RMP/EIS was held during February, March, and April 2003. Scoping is discussed in more detail in Section 5.1.1, RMP/EIS Scoping Process, of this Final EIS. The Informational Scoping Document (prepared in February 2003) that was distributed at the scoping meetings contained planning questions that were provided to interested parties for their review in assisting the Ely Field Office in identifying issues and concerns to be considered in the EIS process. A Scoping Report containing a complete list of scoping comments was prepared. Comments received during the 60-day scoping period were reviewed and consolidated for use during alternative development and impact analysis. In addition, the Ely Field Office has had ongoing contact with cooperating agencies and other interested parties during which issues relevant to the RMP/EIS were discussed. The following planning issues incorporate input from the public scoping, agency consultation, interested party meetings, and the Ely Field Office team review. In the following sections, issues have been arranged by those that are addressed in this RMP/EIS and those that were considered and judged to be beyond the scope of the Proposed RMP/Final EIS. Following each issue, the locations in the RMP/EIS where the issue is discussed are cross-referenced.

1.6.1 Issues Addressed

Issue No. 1: Vegetation

The vegetation on the Ely RMP planning area is changing. Pinyon and juniper trees are dominating ecological sites previously occupied by a mixture, or mosaic, of herbaceous and woody species. Many sagebrush-dominated sites have lost or nearly lost their perennial herbaceous understory, and invasive, exotic species are increasing and in some instances replacing native vegetation. In some locations, the vegetation community is close to transitioning into an entirely different vegetation community. In other locations, these thresholds have been crossed. Once a threshold is crossed, the re-establishment of the former vegetation state has both a very great cost and a high risk of failure. The change in vegetation state could have the effect of reducing sustainability of the land for wildlife, wild horses and livestock; increasing the potential of catastrophic fire; providing advantageous conditions for invasive, exotic plants; and increasing the likelihood of soil erosion (Perryman et al. 2003). A mix of native plant community states, and phases within those states, is often healthier and more resilient to the same disturbances that can result in negative conditions in less diverse systems. Plant community health is manifested in the ability of native (or introduced transitional) vegetation to be resilient (to recover from disturbance) or resistant (to not change) when disturbed. (See Sections 2.4.5, 3.5, and 4.5.)

Issue No. 2: Air

Relative to other areas of the country, the current condition of air quality in the planning area is good, and there was concern that this high air quality be maintained. Wildland fires and prescribed fires that are managed by the Ely Field Office may have a substantial effect on the air resource. (See Sections 2.4.2, 3.2, and 4.2.)

Issue No. 3: Soil and Water

Soil loss is a concern on the planning area. The primary concerns relate to locations where the reduction or loss of herbaceous vegetation and/or biological soil crusts, especially on steep slopes, has occurred. (See Sections 2.4.4, 3.4, and 4.4.)

The most appropriate use of water resources in the planning area is a topic of controversy. Groundwater and the limited surface water resources currently provide for municipal, industrial, agricultural, wildlife, and domestic livestock uses. Although agricultural uses have been declining, the demand for groundwater to support municipal and industrial uses has been increasing. (See Sections 2.4.3, 3.3, and 4.3.)

Issue No. 4: Cultural and Paleontological Resources

Cultural resources identified to date in the planning area cover a timespan of over 10,000 years. These resources provide for scientific study and visitor enjoyment. The protection of and consideration of impacts to cultural resources are 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 Archeological and Historic Preservation Act of 1974, the Federal Land Policy and Management Act of 1976, and the Nevada State Protocol Agreement. Despite numerous laws for the protection of cultural and paleontological resources, vandalism, theft, visitor impacts, and natural deterioration are diminishing the cultural and scientific values of cultural resources in the planning area. (See Sections 2.4.9, 3.9, and 4.9.)

Paleontological resources are recognized as a fragile and nonrenewable scientific record of the history of life on earth. These resources are 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. (See Sections 2.4.10, 3.10, and 4.10.)

Issue No. 5: Visual Resource Management

Scenic qualities can be affected by a broad range of resource uses and management actions. The Ely Field Office is responsible for ensuring that the scenic values of public lands in the planning area are managed in accordance with the objectives of visual resource management classes. These visual resource management classes are being assigned to the BLM-administered lands in the planning area through the visual resource management inventory process, which evaluated the visual appeal of a tract of land, the scenic sensitivity in the planning area, and the tract's visibility from travel routes or observation points. (See Sections 2.4.11, 3.11, and 4.11.)

Issue No. 6: Special Status Species

Over 150 special status species of plants and animals occur in the planning area. All contribute to the biological diversity of the area. These species may be affected by multiple uses that could result in increased habitat degradation and fragmentation, a reduction in health and resiliency of ecological systems,

a reduction in overall biological diversity, and increased competition for resources on public lands. (See Sections 2.4.7, 3.7, and 4.7, and Appendix E.)

Issue No. 7: Fish and Wildlife

The fish and wildlife species in the planning area (both game and nongame) provide recreation opportunities and contribute to biological diversity. These species may be affected by the multiple uses and management actions that could result in increased habitat degradation and fragmentation, a reduction in health and resiliency of ecological systems, a reduction in overall biological diversity, and increased competition for resources on public lands. (See Sections 2.4.6, 3.6, and 4.6.)

Issue No. 8: Wild Horses

Wild horses within the planning area were viewed negatively by livestock grazing interests and positively by support groups. Since 1971, the BLM has been managing free-roaming horses and burros on public lands in accordance with the Wild Free-Roaming Horse and Burro Act (Public Law 92-195). The Ely Field Office currently manages 24 herd management areas; there is no designated Wild Horse Range and free-roaming burros do not occur in the decision area. (See Sections 2.4.8, 3.8, and 4.8.)

Issue No. 9: Fire Management

Fire management was viewed both positively and negatively by commenters. Fire is an integral part of the evolutionary history of the vegetation communities in the planning area. Planned and unplanned fires in the planning area currently are managed in accordance with the Ely Fire Management Plan. (See Sections 2.4.20, 3.20, and 4.20.)

Issue No. 10: Livestock Grazing

Livestock grazing within the planning area was a highly controversial use, with both supporters and detractors. Grazing within the decision area is conducted in accordance with existing grazing- and rangeland-specific laws (Taylor Grazing Act of 1934 and Public Rangelands Improvement Act of 1978) and the mandates of the Federal Land Policy and Management Act of 1976 that stipulates management of public lands under the principles of sustainability and multiple use. (See Sections 2.4.16, 3.16, and 4.16.)

Issue No. 11: Recreation

Outdoor recreation use in the planning area has been increasing, and many commenters identified the demand for both developed and undeveloped recreation opportunities. Recreational activity in the planning area includes fishing, hunting, hiking, camping, off-highway vehicle use, horseback riding, and cultural tourism. Other less traditional activities (e.g., rock climbing, mountain biking, geocaching, and caving) also are increasing. (See Sections 2.4.15, 3.15, and 4.15.)

Issue No. 12: Lands and Realty

Approximately 82 percent (or 11.5 million acres) of the land within the planning area boundary is public land administered by the BLM. Additional land within the planning area is administered by 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. The disposal of BLM-administered lands for community expansion, state recreational facilities, or tribal needs was requested. Significant demand also exists for a variety of rights-of-way in the planning area. (See Sections 2.4.12, 3.12, and 4.12.)

Issue No. 13: Minerals (Includes Oil and Gas and Geothermal)

Interest was expressed in keeping areas open for mineral and energy development. The planning area contains a wide variety of energy and mineral resources, including locatable minerals (e.g., gold, silver, copper), mineral materials (e.g., sand, gravel, topsoil, clay, and common varieties of limestone and other minerals), and leasable minerals (e.g., oil and gas and geothermal resources). Based on the geologic characteristics of the planning area, there is potential for future oil and natural gas production; however, no commercially producible reserves have been identified in the planning area to date. There is very low or no potential for coalbed natural gas resources in the planning area. (See Sections 2.4.18, 3.18, and 4.18.)

Issue No. 14: Special Designations

Concern was expressed about protection of sensitive areas. Special designation areas on BLM-administered lands within the planning area are managed for unique or significant features or values. The special designations in the decision area include: ACECs; backcountry byways; geologic, rockhounding, scenic, natural, research natural, and historic areas; archaeological sites and districts; national historic trails; and designated wilderness and wilderness study areas. (See Sections 2.4.22, 3.22, and 4.22.)

Issue No. 15: Economic and Social Conditions

The planning area includes land in three of Nevada's counties (Lincoln, Nye, and White Pine). Included in this area are three American Indian reservations (Duckwater Shoshone Tribe, Ely Shoshone Tribe, and Confederated Tribes of the Goshute Reservation) in part or in total. With BLM-administered land comprising approximately 82 percent of the land within the planning area boundary, socioeconomic effects resulting from the interactions between people, their activities and associated public land use, and the management of public lands were of concern. (See Sections 3.23, 3.24, 4.23, and 4.24.)

1.6.2 Issues Considered but Not Further Analyzed

All in-scope issues are addressed in the alternatives. A number of issues were raised during the scoping process that were judged by the Ely Field Office to be outside or beyond the scope of the RMP/EIS. These issues and the reasons for not analyzing them in detail are summarized in the Scoping Report. However,

there were three topical areas that were of great enough interest to commenters that the rationale for not analyzing the issues in detail is presented here.

1.6.2.1 Wilderness Designation/Certain Special Designations

Numerous comments provided specific proposals for the designation of wilderness or the release of current wilderness study areas. The Lincoln County Conservation, Recreation, and Development Act of 2004 and the White Pine County Conservation, Recreation, and Development Act of 2006 designated additional wilderness and released certain wilderness study areas in Lincoln and White Pine counties, Nevada (see Sections 1.3.3.3 and 1.3.3.4). The BLM has no authority or control over the legislative wilderness designation. Until wilderness study areas are designated or released from further wilderness consideration by Congress, they would continue to be managed under the Bureau's Interim Management Policy for Lands Under Wilderness Review (BLM Handbook, H-8550-1).

Other comments requested that BLM reconsider certain areas for designation as wilderness study areas, as the previous inventory of the decision area was conducted over 20 years ago. BLM Instruction Memorandums No. 2003-273 and No. 2003-274, issued on September 29, 2003, direct all BLM Field Offices not to designate new wilderness study areas through the land use planning process. Thus, suggestions for the designation of new wilderness study areas are beyond the scope of the RMP/EIS. However, lands with wilderness characteristics can still be managed through other land use plan decisions. The Ely RMP/EIS also would consider acquisition of private inholdings within designated wilderness and existing wilderness study areas.

Additionally, several comments were received requesting that the Ely Field Office establish new types of special management areas, allowing it to manage exclusively for the benefit of grazing or economic development. Special designation categories were created by the Federal Land Policy and Management Act, other Congressional actions, or Bureau-wide administrative actions. The Ely Field Office does not have the authority to create additional designation categories for grazing or private economic development; however, these uses within the planning area have been considered in the RMP/EIS.

1.6.2.2 Grazing Allotments and Animal Unit Months

Many comments discussed the need to revoke grazing allotment permits and to modify grazing intensity (number of animal unit months and length of the season of use) so as to reduce the impacts of grazing on vegetation, wildlife, and wild horses. Changes to allotments, animal unit months, or length of use can be made outside of the RMP/EIS process on an as-needed basis. Further, a review of the impacts of grazing on associated resources would be conducted at the site-specific level as part of the watershed analyses.

1.6.2.3 Revised Statute 2477

Several comments mentioned the issue of land access in regards to Revised Statute 2477. Revised Statute 2477, contained in the Mining Law of 1866, was intended to facilitate settlement of the West by granting rights-of-way on public lands to create an early transportation network. Although Revised Statute 2477 was

repealed in 1976 when the Federal Land Policy and Management Act was passed, existing claims were grandfathered in, or still honored. Congress has placed a moratorium on BLM recognition, management, or recording of new Revised Statute 2477 claims unless an overriding need can be shown. On March 22, 2006, a Department of the Interior Secretarial Order was issued instructing that BLM Field Managers may make an informal, nonbinding determination of whether a Revised Statute 2477 claim is valid, allowing maintenance or construction on a way. Thus, Revised Statute 2477 issues are outside the scope of this RMP/EIS.

1.7 Relationships that are Key to the Ely RMP/EIS

A multitude of laws, regulations, and policies, as well as land use planning documents, direct how the Ely Field Office manages resources. Further, there are cooperative relationships that have been established with other federal, state, local, and tribal governments that manage lands and resources within the overall boundaries of the planning area. This entire body of relationships is too extensive to treat even in a summary manner in this document; however, certain relationships are key to understanding the management actions proposed in the Ely RMP/EIS, and these are presented below. Fourteen federal, state, local, and tribal entities agreed to be formal Cooperating Agencies assisting in the preparation of the Ely RMP/EIS. These agencies are identified on the cover of this document and in Section 5.1.5, where their role in the RMP/EIS is discussed.

1.7.1 Federal Agencies

Parts of the Humboldt-Toiyabe National Forest and the entire Great Basin National Park are within the planning area. The Ely Field Office, U.S. Forest Service, and National Park Service strive to achieve similar resource management goals on adjoining lands.

The Ely Field Office also coordinates with the U.S. Fish and Wildlife Service on decisions that may affect the National Wildlife Refuge System. All or portions of Ruby Lake National Wildlife Refuge, Pahranagat National Wildlife Refuge, and Desert National Wildlife Range occur within the planning area.

The U.S. Fish and Wildlife Service administers the Endangered Species Act of 1973 (as amended). The BLM consults with the U.S. Fish and Wildlife Service whenever a federal project or action that the BLM 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). The BLM and the U.S. Fish and Wildlife Service have entered into an agreement to conduct programmatic consultations on RMPs. Programmatic consultations can provide the benefit of streamlining the consultation process while leading to a more landscape-based approach to consultations that can minimize the potential "piecemeal" effects that can occur when evaluating individual projects out of the context of the complete agency program. As part of this agreement, the BLM and U.S. Fish and Wildlife Service developed a list of federally listed, proposed, and candidate species and BLM sensitive species that are addressed in the RMP (see Section 2.4.7) and in the biological assessment. Based on information contained in the biological assessment and discussions held during consultation, the U.S. Fish and Wildlife Service will then issue a formal biological opinion that includes terms and conditions to minimize impacts to federally listed, proposed, and candidate species. The biological opinion also will include conservation recommendations for BLM sensitive species. Management actions in the Proposed RMP may be modified to satisfy the requirements of the biological opinion.

Under the programmatic consultation process, once a specific project is developed that may adversely affect listed species, the Ely Field Office will provide project-specific information that describes: 1) the proposed action and a map of the specific areas to be affected; 2) the species and designated critical habitat that may be affected; 3) the anticipated effects to listed species and their designated critical habitat that may result for the proposed actions; and 4) proposed measures to minimize potential effects of the

action. Subsequently, the U.S. Fish and Wildlife Service reviews the information and effects analysis provided for each proposed project and determines the anticipated incidental take for each action, at the project level, which may be a subset of the incidental take anticipated in the programmatic biological opinion.

The U.S. Fish and Wildlife Service completes a response and this documentation is then physically attached (appended) to the programmatic biological opinion. The programmatic biological opinion, together with the appended documentation, fulfills the consultation requirements for implementation of both program-level and project-level actions.

Monitoring will be conducted at least annually by the Ely Field Office and the U.S. Fish and Wildlife Service to assure that the effects analysis in the programmatic biological opinion is accurate including a comprehensive review of how the program-level biological opinion is working, and whether its implementing procedures are in compliance. During this review, the environmental baseline would be reviewed and updated as needed to account for unanticipated effects or the lack of anticipated effects. During this process it may be determined that the program-level biological opinion is functioning as anticipated and, therefore, activities should continue, or that adjustments should be made.

Conservation biology and recovery planning utilizes best available knowledge for the species in its current situation as the basis for hypotheses or models that will best affect the recovery of the species. Although these are usually stable throughout the planning process, new data can become available at any time, and such new data would influence management practices. Thus, recovery plans would be reassessed every 3 to 5 years or at any time it becomes apparent that the plan is not fulfilling its function to guide recovery.

The Ely Field Office and U.S. Department of Agriculture, Animal and Plant Health Inspection Service work jointly under a national memorandum of understanding on animal damage control, including predator and insect control.

The Ely Field Office and U.S. Army Corps of Engineers work together on issues related to wetlands and stream crossings that require Section 404 permits.

The Ely Field Office works with the Natural Resources Conservation Service on soil and water management issues, as well as other resource concerns.

The Ely Field Office consults with the U.S. Geological Survey on mineral and water resources and research.

The Department of Defense utilizes much of the airspace above and has numerous surface activities in the planning area. The Ely Field Office works with the Department of Defense through Nellis and Hill Air Force Bases and Fallon Naval Air Station on military overflights and surface uses.

1.7.2 State Agencies

The Ely Field Office and Nevada Department of Wildlife work closely on site-specific activities including wildlife habitat and population management, introduction or reintroduction of wildlife species, species recovery activities, vegetation monitoring and evaluation, and the installation of range, fish, and wildlife improvements. Coordination also occurs on the management of State Wildlife Management Areas that are adjacent to BLM-administered lands, and on review of mine plans of operation and NEPA compliance documents.

The Department of Conservation and Natural Resources, Nevada Natural Heritage Program works with the Ely Field Office to maintain status and location information for BLM sensitive plant and animal species.

The Ely Field Office and Nevada Division of State Parks consult on management of public land adjacent to state parks. Public lands also can be transferred to the state for park purposes under authority of the Recreation and Public Purposes Act.

The Ely Field Office consults with the Nevada State Historic Preservation Officer prior to any activities that might adversely affect cultural resources. This consultation involves assessing the potential effects of proposed projects on cultural resources and developing appropriate mitigation measures when adverse impacts cannot be avoided.

The Nevada Division of Minerals manages oil and gas and geothermal development at the state level. The Nevada Division of Environmental Protection participates with the Ely Field Office in joint bonding, review, and authorization of mine plans of operation. The Ely Field Office works closely with these two agencies to avoid duplication in regulations, inspections, and approval of reclamation plans and attempts to minimize costs for mine operators, public, and government.

The Nevada BLM and Nevada Division of Environmental Protection work together to meet implementation requirements of the Clean Air Act and Clean Water Act. A Memorandum of Understanding was executed between the agencies in September 2004 to coordinate water quality management efforts.

The Ely Field Office, Nevada Department of Agriculture, and county governments cooperate on inventory, study, and management of noxious weeds, and on insect control.

The Ely Field Office and Nevada Department of Transportation cooperate and coordinate land use activities and/or authorizations such as road rights-of-way, mineral material sources, communications sites, and other issues related to public highway safety.

The Nevada Commission for the Preservation of Wild Horses works with the Ely Field Office to maintain and ensure the proper management of wild horses.

1.7.3 Local Government

The Ely Field Office coordinates with a number of county agencies and organizations on mutual goals for resource management and land disposals for public purposes. Coordination includes county commissions, planning departments, soil and water conservation districts, weed control agencies, coordinated resource management steering committees, road/highway departments, and the Tri-County Group.

1.7.4 Tribal Governments

The Ely Field Office coordinates with affected or interested American Indian groups as required or recommended in the National Historic Preservation Act (1966), National Environmental Policy Act (1969), Archaeological Resources Protection Act (1979), Native American Graves Protection and Repatriation Act (1990), executive orders on sacred sites (Executive Order 13007) and government-to-government consultation (Executive Order 13175), and Nevada BLM Instruction Memorandum on the consultation process (2005-008). The Ely Field Office also would coordinate with appropriate tribal representatives in the early stages of activity planning or projects that may affect tribal interests, treaty rights, or traditional use areas.

1.7.5 Non-governmental Organizations

To maximize restoration capability and success while achieving mutual goals, including implementation of the Great Basin Restoration Initiative, the Ely Field Office has formed an external partnership with the Eastern Nevada Landscape Coalition. This non-profit community-based partnership has approximately 90 members from businesses, organizations, government agencies, and individuals that represent agricultural, conservation, cultural, environmental, scientific, private enterprise, and other interests. The Nevada BLM and other federal agencies work with the Eastern Nevada Landscape Coalition through a cooperative agreement to implement decisions on public land in eastern Nevada. In addition, the Ely Field Office works cooperatively with the Great Basin Cooperative Ecological Systems Study Unit to facilitate the implementation of research to assist in providing both baseline and other studies regarding potential alternative actions to maintain or restore the ecological health and resiliency of Great Basin landscapes within eastern Nevada.

1.8 Consistency with Other Programs, Plans, and Policies

BLM planning regulations (43 Code of Federal Regulations 1610.3.2[a]) require that BLM resource management plans be consistent with officially approved or adopted resource-related plans of other federal, state, local, and tribal governments to the extent those plans are consistent with federal laws and regulations applicable to public lands. Plans formulated by federal, state, local, and tribal governments that relate to management of lands and resources have been reviewed and considered as the Ely RMP/EIS has been developed.

1.8.1 Relationship of the Ely RMP/EIS to Federal, State, Local, and Tribal Plans

Management of federal and state lands immediately adjacent to public land administered by the Ely Field Office was considered in the formulation of alternative management scenarios and land use allocations. The major planning documents of other federal, state, and local governments considered in the RMP/EIS are listed below. The Ely Field Office communicated on a government-to-government basis with five tribal groups (Duckwater Shoshone Tribe, Ely Shoshone Tribe, Moapa Band of Paiutes, Yomba Shoshone Tribe, and Confederated Tribes of the Goshute Reservation), the first four of which are formal cooperating agencies on the RMP/EIS, regarding any plans or policies that should be reviewed for consistency. No planning documents were provided for this review. Also included here are natural resource data bases maintained by other federal and state agencies that were queried, and state program summaries that provide information on infrastructure and economic development.

Department of Energy

- U.S. Department of Energy, Yucca Mountain Final EIS

National Park Service

- Great Basin National Park Final General Management Plan, Development Concept Plans, EIS, Natural Resources Management
- Great Basin National Park RMP, Updated 2000

U.S. Fish and Wildlife Service

- Big Spring Spinedace Recovery Implementation Plan, 1999 (Draft)
- Big Spring Spinedace Recovery Plan, 1993
- Desert Tortoise Recovery Plan, 1994
- Pacific States Bald Eagle Recovery Plan, 1986
- Pahranagat National Wildlife Refuge Wildland Fire Management Plan, 2001
- Railroad Valley Springfish Recovery Plan, 1997
- Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley, 1998
- Ruby Lake Management Plan, September 1986
- Ruby Lake National Wildlife Refuge Fire Management Plan, 2001
- Ruby Lake National Wildlife Refuge Water Management Plan, May 1988
- Southwestern Willow Flycatcher Recovery Plan, 2002
- White River Spinedace Recovery Plan, 1994

U.S. Forest Service, Humboldt National Forest

- Humboldt National Forest Land and RMP, 1986
- Amendment #1 – Humboldt National Forest Land and RMP, December 1989
- Amendment #2 – Humboldt National Forest Land and RMP, July 1990
- Amendment #3 – Humboldt National Forest Land and RMP
- Amendment #4 – Humboldt National Forest Land and RMP
- Amendment #5 – Humboldt National Forest Land and RMP
- Amendment #6 – Humboldt National Forest Land and RMP, August 1996
- Amendment #7 – Humboldt National Forest Land and RMP, November 1998

State of Nevada

- Natural Heritage Program, Lincoln County Rare Species List, 2002
- Natural Heritage Program, Nye County Rare Species List
- Natural Heritage Program, White Pine County Rare Species List, 2002
- Nevada State Parks, Beaver Dam State Park Development Plan, 1992
- Nevada State Parks, Cathedral Gorge State Park Development Plan, No Date
- Nevada State Parks, Cave Lake State Park Development Plan, 1990
- Nevada State Parks, Echo Canyon State Park Development Plan, 1990
- Nevada State Parks, Kershaw-Ryan State Park Development Plan, No Date
- Nevada State Parks, Spring Valley State Park Development Plan, 1992
- Nevada State Parks, Ward Charcoal Ovens State Historic Site Development Plan, 1991
- Nevada State Parks, 2002 SCORP Issues P-1 (Draft)
- State of Nevada, Department of Conservation and Natural Resources, Division of Wildlife, Wayne E. Kirch Wildlife Management Area Conceptual Management Plan, July 2000
- State of Nevada, Department of Conservation and Natural Resources, Division of Wildlife, Steptoe Valley Wildlife Management Area Conceptual Management Plan, January 2002
- State of Nevada, Department of Conservation and Natural Resources, Division of Environmental Protection, Memorandum of Understanding for Water Quality Management Activities within the State of Nevada, September 2004
- State of Nevada, Department of Conservation and Natural Resources, Natural Heritage Program Scorecard, 2000
- State of Nevada, Department of Conservation and Natural Resources, Natural Resource Status Report, August 2002
- State of Nevada, Department of Conservation and Natural Resources, Division of Water Resources, Southern Nevada Surface Water Data Network, 2002
- State of Nevada, Department of Natural Resources, Division of Water Planning, State Water Plan, 1999
- State of Nevada, Department of Transportation, Transportation System Projects 2003-2012 – Lincoln County, 2002
- State of Nevada, Department of Transportation, Transportation System Projects 2003-2012 – Nye County, 2002

- State of Nevada, Department of Transportation, Transportation System Projects 2003-2012, White Pine County, 2002
- State of Nevada, Department of Wildlife, Bighorn Sheep Management Plan, 2001
- State of Nevada, Department of Wildlife, Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats, 2004
- State of Nevada, Department of Wildlife, Greater Sage-grouse Conservation Plan for Nevada and Eastern California, 2004
- State of Nevada, Department of Wildlife, Lincoln County Elk Management Plan, July 1999
- State of Nevada, Department of Wildlife, Nevada Sage-grouse Conservation Strategy, 2004
- State of Nevada, Department of Wildlife, Pahranagat Valley Native Fishes Management Plan, 1999
- State of Nevada, Department of Wildlife, White Pine County Elk Management Plan, March 1999
- State of Nevada, Division of Environmental Protection, Nevada's 2002 303(d.) Impaired Waters List, October 2002
- State of Nevada, Division of Environmental Protection, Nevada Smoke Management Program, July 1999
- State of Nevada, Division of Environmental Protection, Solid Waste Management Program
- State of Nevada, Revised Nevada Bat Conservation Plan, 2006
- State of Nevada, Conservation Agreement and Conservation Strategy for Bonneville Cutthroat Trout, 2006

Mohave County, Arizona

- Mohave County, Arizona, General Plan, March 1995, Revised January 2002

Clark County, Nevada

- Clark County Master Plan, Clark County Federal Lands Element, Adopted July 1, 1997
- Clark County Multiple Species Habitat Conservation Plan and Environmental Impact Statement, September 2000

Eureka County, Nevada

- Eureka County Master Plan, June 2000
- Eureka County Natural Resource Management Ordinance, November 1996

Lincoln County, Nevada

- Alamo Area Land Use Planning Project,1990
- Lincoln County/City of Caliente, Rachel Area Conceptual Development Plan, 1989
- Lincoln County Master Plan, Revision, 2006
- Lincoln County Economic Development Strategy 2005
- Lincoln County Strategic Marketing Plan, 2005
- Lincoln County Capital Improvements Plan and Program, 2001
- Lincoln County Planned Unit Development Ordinance, 2002
- Lincoln County Public Land and Natural Resource Management Plan, 1997
- Lincoln County Hazardous Materials Emergency Response Plan, 2006
- Lincoln County Solid Waste Management Plan, 2000

- Needs Assessment for Lincoln County, 2005
- Water Plan for Lincoln County, 2001

Nye County, Nevada

- Nye County, Policy Plan for Public Lands, 1985

White Pine County, Nevada

- Public Lands Identified for Transfer from the BLM to Local Government for Community Expansion, 1998, Appendix 2, White Pine County Land Use Plan
- White Pine County Annual Comprehensive Economic Development Strategy, August 2005
- White Pine County, Emergency Operations Plan, 1994
- White Pine County, Land Use Plan, 1998
- White Pine County, Marketing Manual, August 1997
- White Pine County, McGill Highway Area Master Plan, August 2000
- White Pine County, Nevada Water Resources Plan, 1999
- White Pine County Open Space Plan, September 2005
- White Pine County, Public Land Use Plan, 1998
- White Pine County, Tourism Master Plan, August 2001
- White Pine County, Water Resources Plan, August 2006

Iron County, Utah

- Iron County Master Plan, Utah – General Plan, Land Use Element, Digital Copy, 1981

Millard County, Utah

- Millard County, Utah – General Plan, Federal and State Lands, No Date

Tooele County, Utah

- Tooele County, Utah – General Plan, November 1995

Washington County, Utah

- New Harmony Valley General Plan, Washington County, Utah, July 1997
- Washington County, Utah – General Plan, October 2002
- Washington County, Utah, Wilderness Recommendation – Cougar Canyon Wilderness Area, October 1991

City of Caliente, Nevada

- City of Caliente Master Plan, 1992
- City of Caliente, Wellhead Protection Plan, October 2002
- Fiscal and Capital Improvement Program, Caliente Public Utilities, 1990

City of Ely, Nevada

- City of Ely Master Plan – Business Plan Element, May 1999
- City of Ely, Wellhead Protection Plan, April 2002
- Ely Master Plan, 1999

Regional Organizations

- North American Waterbird Conservation Plan
- North American Waterfowl Management Plan
- Panaca Farmstead Association
- Partners in Flight, North American Landbird Conservation Plan, 2004
- The Virgin River Communities Area Plan, May 1998
- United States Shorebird Conservation Plan

1.8.2 Relationship of the Ely RMP/EIS to BLM Policies, Plans, and Programs

A number of plans have been developed by the surrounding BLM Field Offices that relate to management in the Ely RMP decision area. These RMPs and plan amendments were considered by the Ely Field Office as the Proposed RMP/Final EIS was developed. These major plans are listed below and were considered relative to the planning area.

- BLM Arizona Strip Field Office, Decision Record, Arizona Strip RMP – Mojave Desert Amendment, December 1998
- BLM Battle Mountain District, Shoshone-Eureka Resource Area Record of Decision, 1986
- BLM Battle Mountain District, Shoshone-Eureka District RMP Amendment Record of Decision, November 1987
- BLM Battle Mountain District, Tonopah RMP and Record of Decision, October 1997
- BLM Cedar, Beaver, Garfield, Antimony Record of Decision – RMP, September 1986
- BLM Elko District, Elko RMP and Record of Decision, 1987
- BLM Elko District, Wells RMP, Record of Decision, 1985
- BLM Elko District, Wells RMP Approved Wild Horse Amendment and Decision Record, August 1993
- BLM Elko District, Wells RMP Approved Elk Amendment and Decision Record, February 1996
- BLM Fillmore District, Utah, Warm Springs Record of Decision, April 1987
- BLM Las Vegas District, Nellis Test and Training Range RMP, 2004
- BLM Record of Decision for the Approved Las Vegas RMP and Final EIS, October 1998
- BLM Richfield District, House Range Record of Decision and RMP, October 1987
- BLM Salt Lake District, Decision Document for the Isolated Tract Planning Analysis: Bear River BLM, Resource Area, Pony Express Resource Area, 1985
- BLM Salt Lake District, Utah, Pony Express Record of Decision - Pony Express RMP, January 1990
- BLM Salt Lake District, Pony Express Resource Plan Amendment Decision Record, 1997
- BLM, Shivwits Resource Area, Arizona Strip District Approved RMP, January 1992
- BLM, St. George Field Office, St. George RMP (Formerly known as Dixie), 1999

1.8.3 Consistency with Other Plans

During the development of the Ely RMP/EIS, the planning documents cited above were consulted and considered as alternatives were developed. Parallel RMP-level decisions currently in place on adjoining state and federal lands, including some in Utah and Arizona, and local agency policies were reviewed for consistency with the alternatives analyzed in the Ely RMP/EIS. Management actions identified in the Proposed RMP and Final EIS are substantially consistent with these federal, state, and local planning documents. Where the Ely RMP/EIS does not contain a management action that corresponds with one contained in another agency's planning document (or vice versa), the Proposed RMP and Final EIS was judged to be consistent with the other document. While there is not uniformity in land management practices or goals across the region (i.e., they are not identical), management actions are compatible with adjoining jurisdictions, and there is no apparent conflict. Key areas of consistency are highlighted in the following sections, and minor inconsistencies also have been noted. Where consistency or inconsistency would vary among alternatives, this has been indicated. All federal, state, and local agencies and tribal councils have been requested to review this document and inform the Ely Field Office of any additional inconsistencies.

1.8.3.1 Federal Plans and Policies

Wildland fire management by the Ely Field Office is directed by the Ely Fire Management Plan. It was found that fire management for adjoining BLM Field Offices may be inconsistent in certain locations. For example, an area in the planning area may be identified as having "few constraints" (requirements) for fire suppression, while the adjoining area in another BLM planning area may be identified as "full suppression." However, the Ely Fire Management Plan has been in effect for several years and has proven to be compatible with fire management on adjoining units overall; therefore, no conflicts are foreseeable.

1.8.3.2 State Plans and Policies

The Nevada Division of State Lands currently is preparing an update to the Statewide Public Lands Policy Plan. The Ely Field Office has reviewed the preliminary public land management goals identified for the state plan and has found them to be consistent with the Proposed RMP and Final EIS. The state goals would be revisited once they are finalized.

The Nevada State Water Plan states: "Since most water supply sources originate on watersheds managed by federal agencies, their participation in watershed planning and management is essential" (Nevada Division of Water Planning 1999). The Ely Field Office intends to involve the Nevada Division of Water Planning in the development of watershed restoration strategies, and thus, the Proposed RMP/Final EIS is consistent with the state water plan. The Proposed RMP also includes a decision to manage designated wellhead protection areas.

The Nevada Smoke Management Program includes the following goal: "Acknowledge the role of fire in Nevada and allow the use of fire under controlled conditions to maintain healthy ecological systems while meeting the requirements of the Clean Air Act" (Nevada Division of Environmental Protection 1999). Wildland fire use requires an annual permit (including an initial or revised burn plan and map), as well as

daily evaluation of the fire to: "determine if the conditions meet the prescription of the permitted burn, and that ambient air quality standards are not being violated." Thus, prescribed and wildland fire use as tools in the restoration of watersheds would require coordination with the state in those areas where the Ely Fire Management Plan allows management options other than full suppression.

1.8.3.3 County Plans and Policies

Overall, the management actions contained in the Proposed RMP and Final EIS are consistent with the planning documents of the three directly affected counties, seven neighboring counties, and two major communities (Ely and Caliente). These jurisdictions have developed a wide range of planning goals addressing topics from recreation to livestock grazing to mineral development. However, the topic that was of greatest interest to the three cooperating counties (White Pine, Lincoln, and Nye) and the City of Caliente during preparation of the RMP/EIS was the future availability of BLM-administered land for economic development and community expansion. These goal statements are presented below. All alternatives with the exception of Alternative D are consistent with each goal.

- White Pine County – "Support the sale or exchange of public land which increases private land holdings in the County available for agriculture, industrial and community development." "Encourage BLM to amend its Resource Management Plan to reflect County goals and implementation strategies for public land and specific parcels identified for transfer to accommodate community expansion needs" (White Pine County 1998).

- Lincoln County – "Lincoln County should help facilitate the exchange of federal (BLM) lands into private ownership for both residential and industrial uses." "The predominance of public lands restricts community expansion and economic development. The county is identifying public lands desired for economic development and/or community expansion" (Lincoln County 2001).

- Nye County – "Increase opportunities for local economic development by selectively increasing the amount of privately owned and locally managed land within the county except for lands with high recreational, wildlife, mineral, and other public values." "Disposal of public lands in a timely fashion to allow the expansion of existing communities, the possible creation of new ones and the construction of needed residential and commercial facilities" (Nye County 1985).

- City of Caliente – "Those lands which could provide needed area for growth adjacent to the city should be identified and pursued for acquisition from the Bureau of Land Management" (City of Caliente 1992).

Two areas where county planning documents are inconsistent with all alternatives in the Proposed RMP and Final EIS also were identified. These are presented below.

- Lincoln County – "No additional wetlands shall be designated in Lincoln County. Any wetlands in existence shall not be used by public agencies managing them to harm or impede agriculture or other economic activities in Lincoln County whatsoever" (Lincoln County 1997). Wetland identification and

management planning would be a component of the watershed analysis process. It is anticipated that wetlands would be managed for resource values other than agriculture or economic development.

- Lincoln County – On June 20, 1994, the Lincoln County Commission passed a resolution stating that it is "adamantly opposed ... to land exchanges or transfers that take land either off of county tax rolls or place land into a tax exempt status" (Lincoln County Commission Resolution #1994-10). The RMP would allow the acquisition of land through exchange, which could result in a decrease in the number of acres of land on the county tax rolls.

1.8.3.4 Recent Programmatic EISs

The BLM recently completed two, and currently is preparing three national programmatic EISs that are described below. These EISs would provide programmatic NEPA analysis for wind energy development, grazing regulations, vegetation treatment, energy corridors, and geothermal development on BLM-administered lands across the country. It would then be possible for a Field Office implementing or approving a site-specific project to tier their NEPA document to the analysis and decisions contained in the programmatic EISs and Records of Decision. These national programmatic EISs will provide additional direction for the Approved Ely RMP.

BLM Wind Energy Development Programmatic EIS

The BLM has prepared a new national programmatic EIS to evaluate wind energy development on BLM-administered lands in the western U.S. (excluding Alaska) and to establish a national wind energy program and policy. This evaluation was conducted in response to recommendations contained in the President's National Energy Policy that encourages the development of renewable energy resources. The resulting national wind energy program and additional related policy replaced BLM's past interim wind energy development policy outlined in Instruction Memorandum No. 2003-020. The primary issues addressed in the EIS include wildlife (including avian) and wildlife habitat impacts; the proximity of future energy development to military activities, designated wilderness, and other special management areas; and visual effects. Appendix F includes the best management practices from the programmatic EIS Record of Decision that will be used nationwide. The Final Wind Energy EIS was released in June 2005, and the Record of Decision was released on January 11, 2006; both can be accessed through the Wind Energy EIS Information Center at http://windeis.anl.gov.

BLM National Grazing Regulations EIS

On July 12, 2006, the BLM published the EIS, Record of Decision, and Notice of Final Rulemaking in the Federal Register for the current amended grazing regulations. On August 11, 2006, the amended grazing regulations (43 Code of Federal Regulations Part 4100) became effective. Immediately after the BLM published the Notice, three motions for a preliminary injunction were filed. As a result of court injunction orders, the BLM is continuing to use the 1995 regulations that govern public participation in grazing matters, title to improvements and implementation of the Fundamentals of Rangeland Health, and Standards and Guidelines for Grazing Administration.

BLM Vegetation Treatments Using Herbicides Programmatic EIS

The BLM has prepared a new national-level programmatic Final EIS to update analyses contained in four existing vegetation management EISs completed by the agency from 1986 to 1992 for 13 western states. The new programmatic EIS expanded the analysis to consider the effects of vegetation treatments, particularly those requiring the use of herbicides, in four additional western states and Alaska with surface administration by BLM. The impetus for the EIS derived from anticipated increased activity within the agency to address hazardous fuels reduction, invasive species and noxious weed control, and restoration of wildlife habitat. The EIS evaluates the potential risks to humans, fish, and wildlife, including sensitive species, from the use of herbicides, including new herbicides not evaluated in the previous EISs. The EIS provides a comprehensive impact assessment of vegetation treatments, human and ecological risk assessments, and recommended best management practices that BLM staff at the field level can use for local project planning. Information on the EIS can be viewed at http://www.blm.gov/weeds/VegEIS/index.htm.

BLM West-wide Energy Corridor Programmatic EIS

Section 368 of the Energy Policy Act of 2005 (designation of West-wide energy corridors) is being implemented through the current development of an interagency programmatic EIS. The Final Programmatic EIS would provide RMP amendment decisions that would address numerous energy corridor related issues, including the utilization of existing corridors (enhancements and upgrades), identification of new corridors, supply and demand considerations, and compatibility with other corridors and project planning efforts. It is likely that the identification of corridors in the programmatic EIS would affect the Ely RMP planning area, and the approved programmatic EIS would subsequently amend the Ely RMP.

BLM/U.S. Forest Service Geothermal Programmatic EIS

In the spring of 2007, the BLM and the U.S. Forest Service initiated a programmatic EIS for geothermal development in the western U.S.

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.

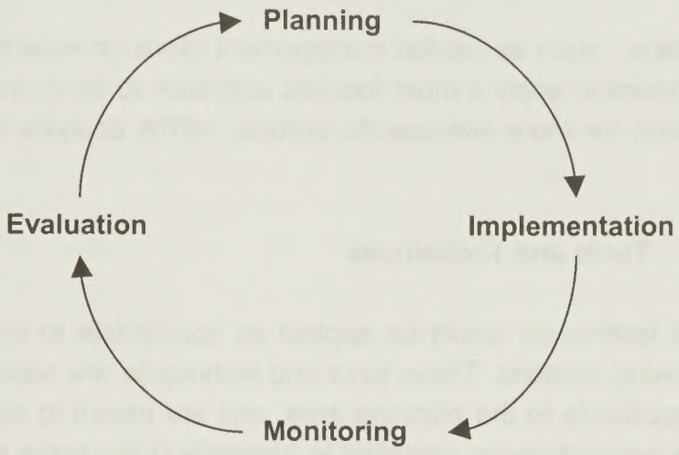
2.3.2 Ecological Analysis at the Watershed Scale

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.

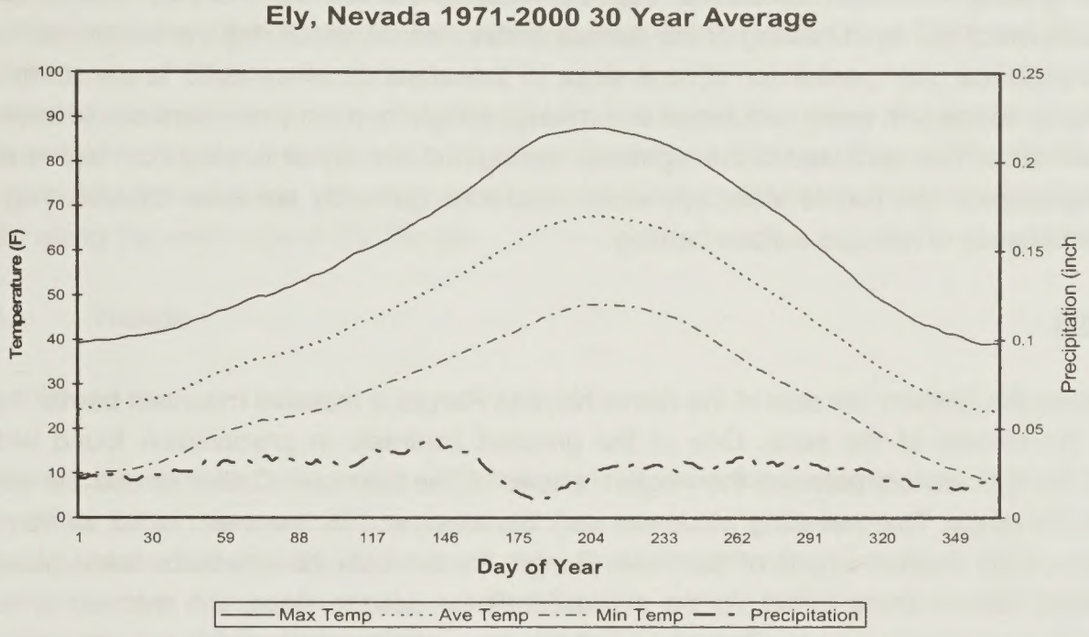


Figure 3.2-1. Climate Data for Ely, Nevada

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.

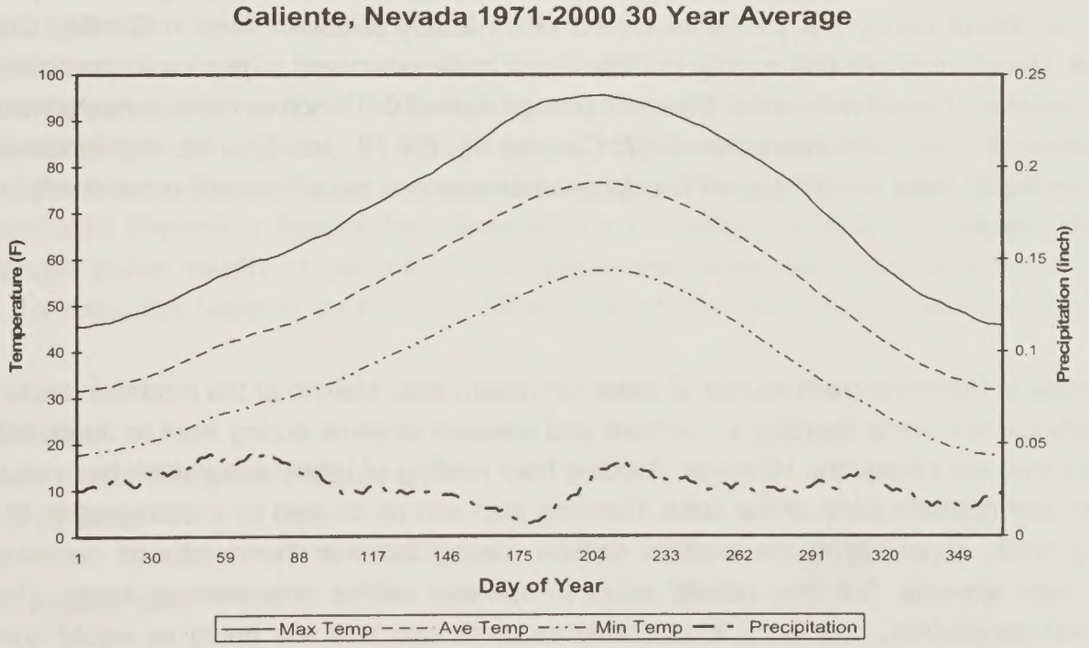


Figure 3.2-2. Climate Data for Caliente, Nevada

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]		
		(parts per million)	(micrograms per cubic meter)	(parts per million)	(micrograms per cubic meter)	Secondary[3,5]
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

Trend	Function Class					
	Proper Functioning Condition		Functioning At Risk		Non-functioning	
	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.

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
Photo by Jake Rajala

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.

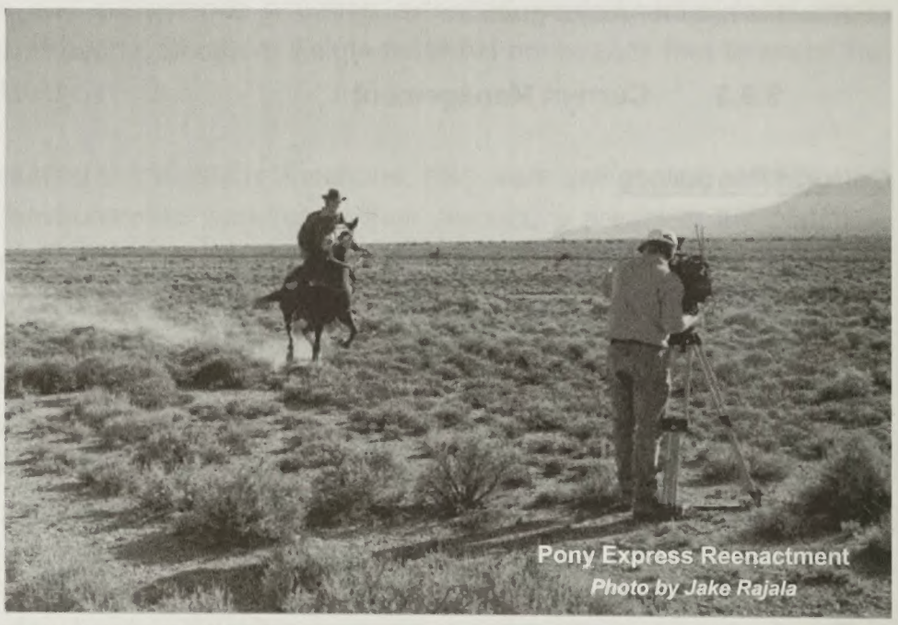
The BLM's cultural resources management program is a comprehensive system for identifying, protecting, planning the appropriate use of, and managing cultural resources on public lands. The program is

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.

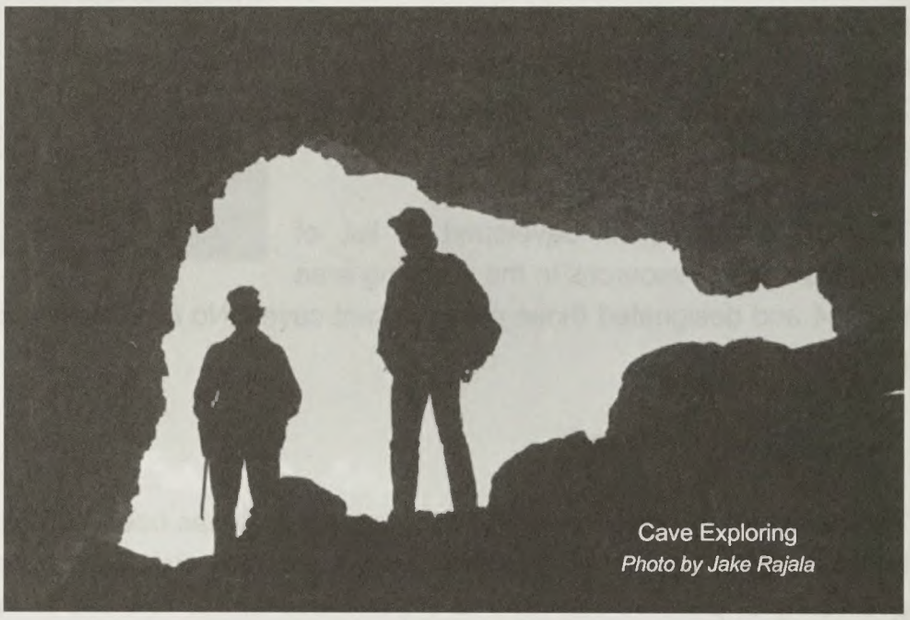
3.15.2 Trends

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.

The Adjudication Period (Early to Mid 1960s)

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.

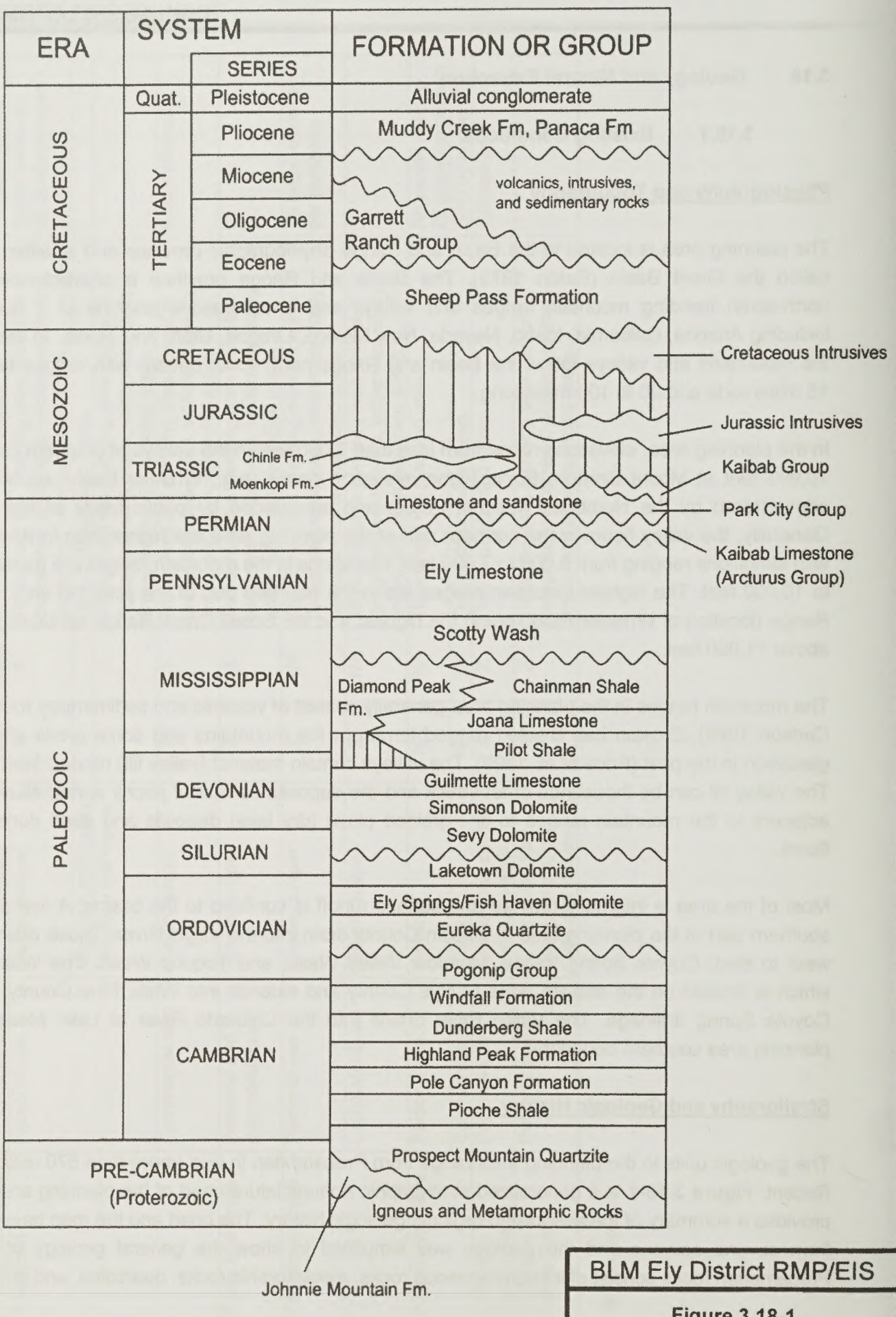
In the planning area, elevations range from less than 2,000 feet in the valleys of southern Lincoln County to 10,993 feet at Mount Grafton. Some higher elevation peaks (e.g., Wheeler Peak) are located on lands administered by the Humboldt National Forest and surrounded by public lands of the planning 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**).

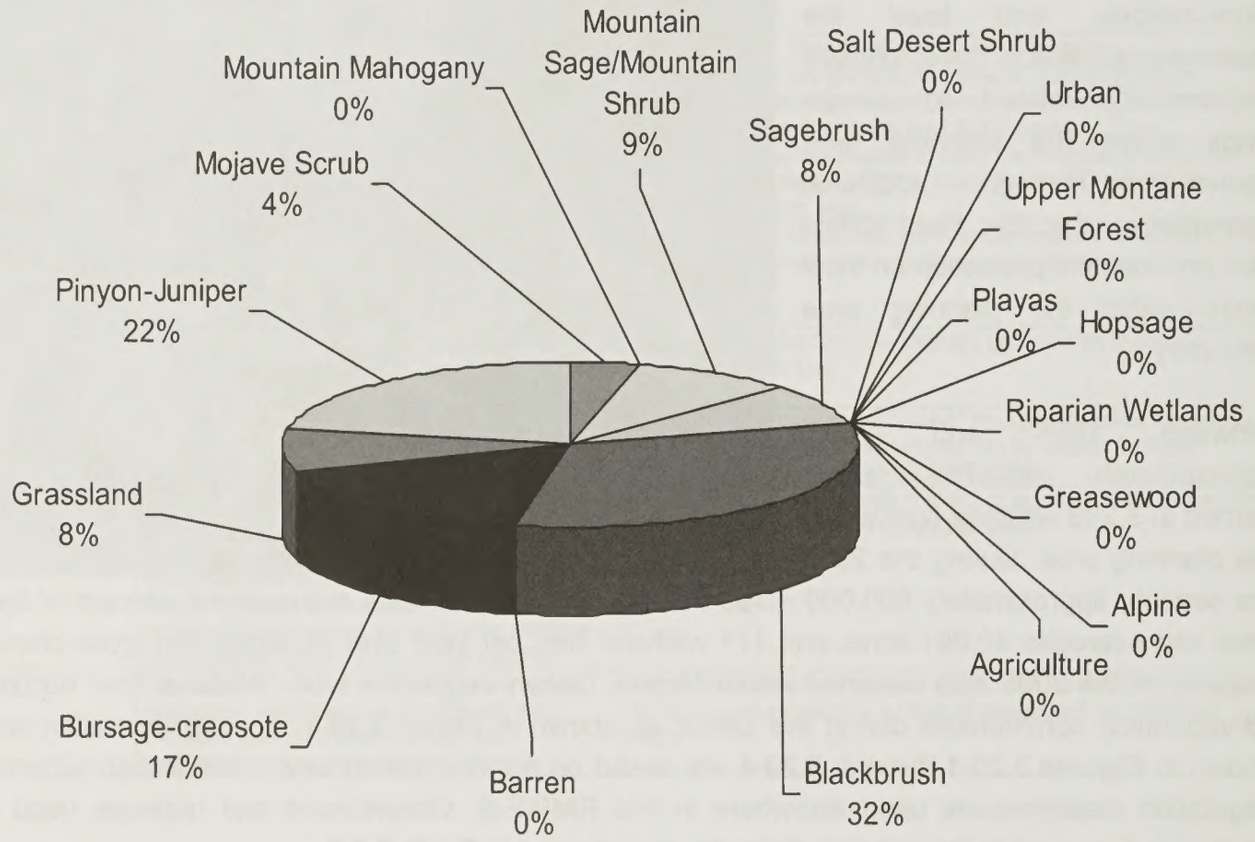


Figure 3.20-1. Proportion of Total Areas Burned in Wildland Fires by Vegetation Type (1986 to 2005)

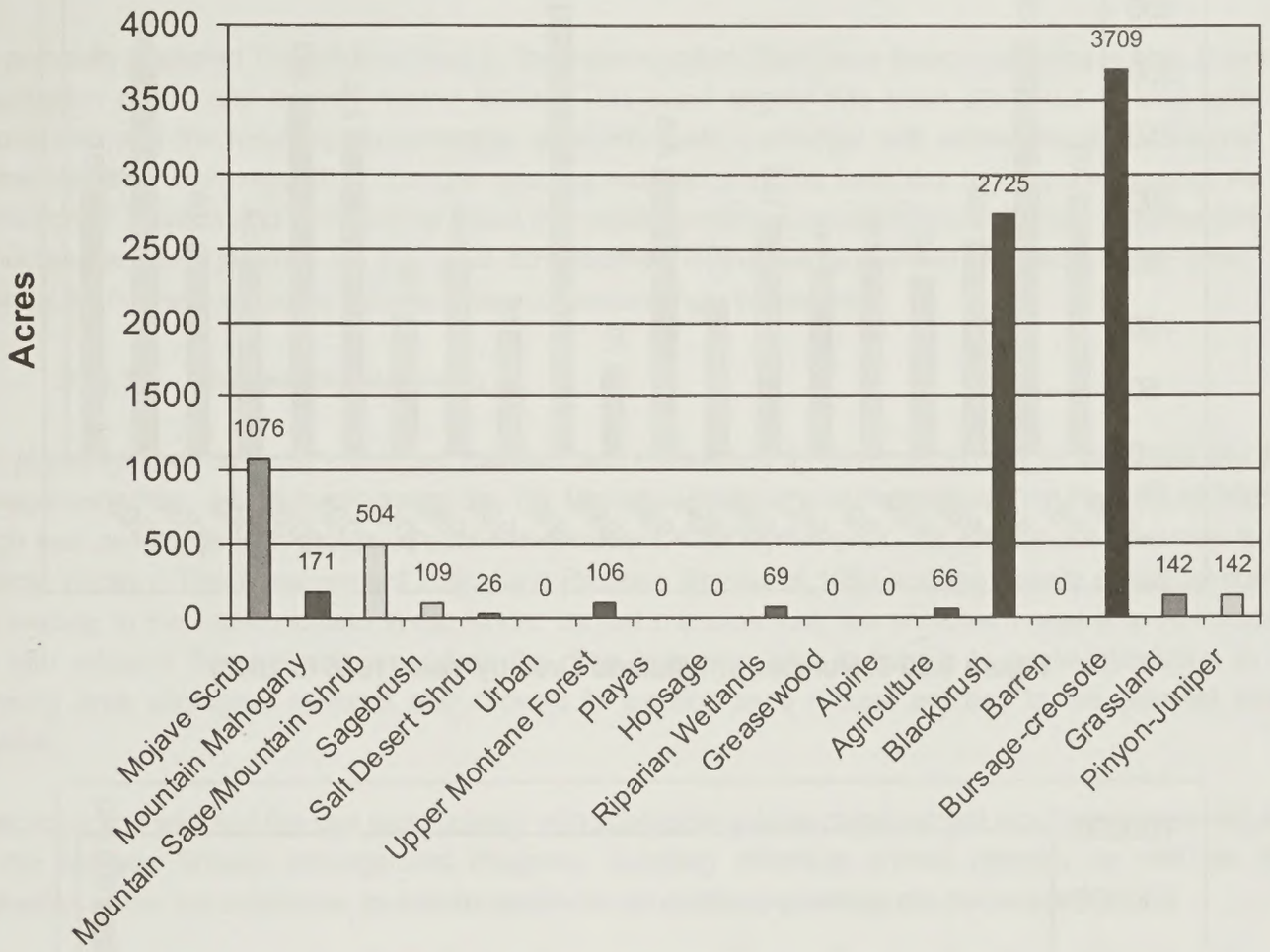


Figure 3.20-2. Mean Fire Size by Vegetation Type (1986 to 2005)

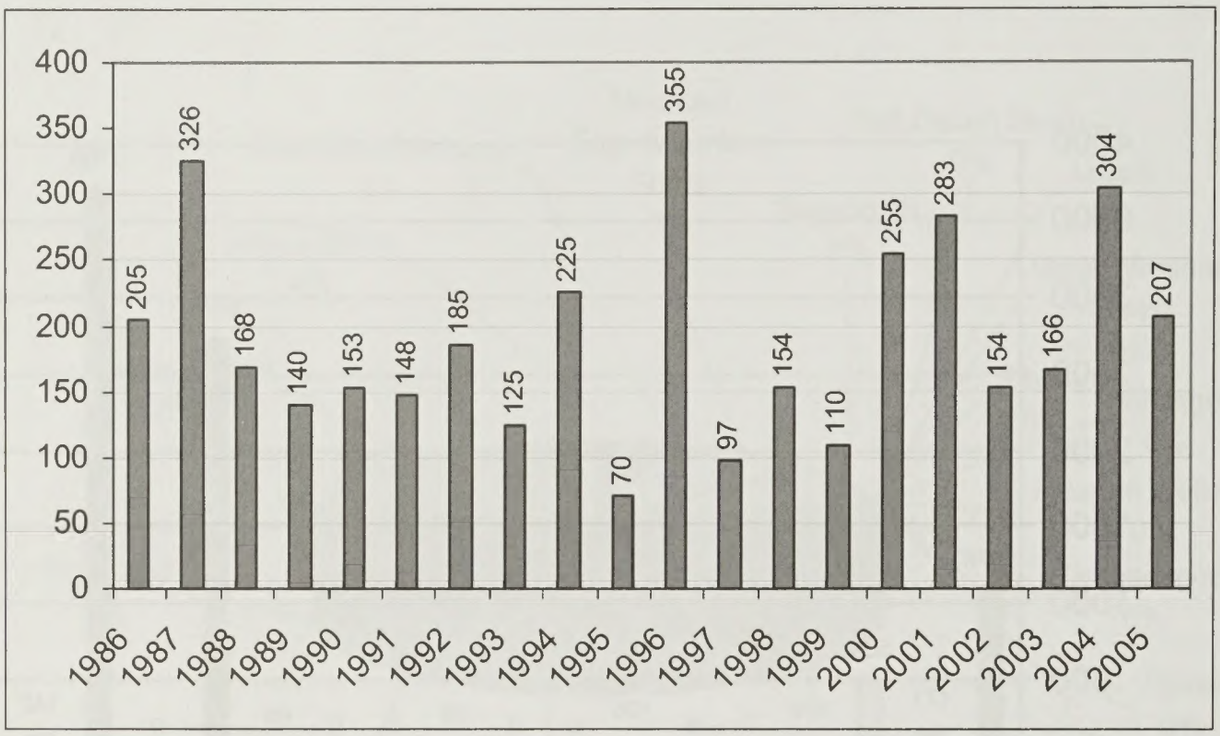


Figure 3.20-3. Number of Wildland Fires by Year (1986 to 2005)

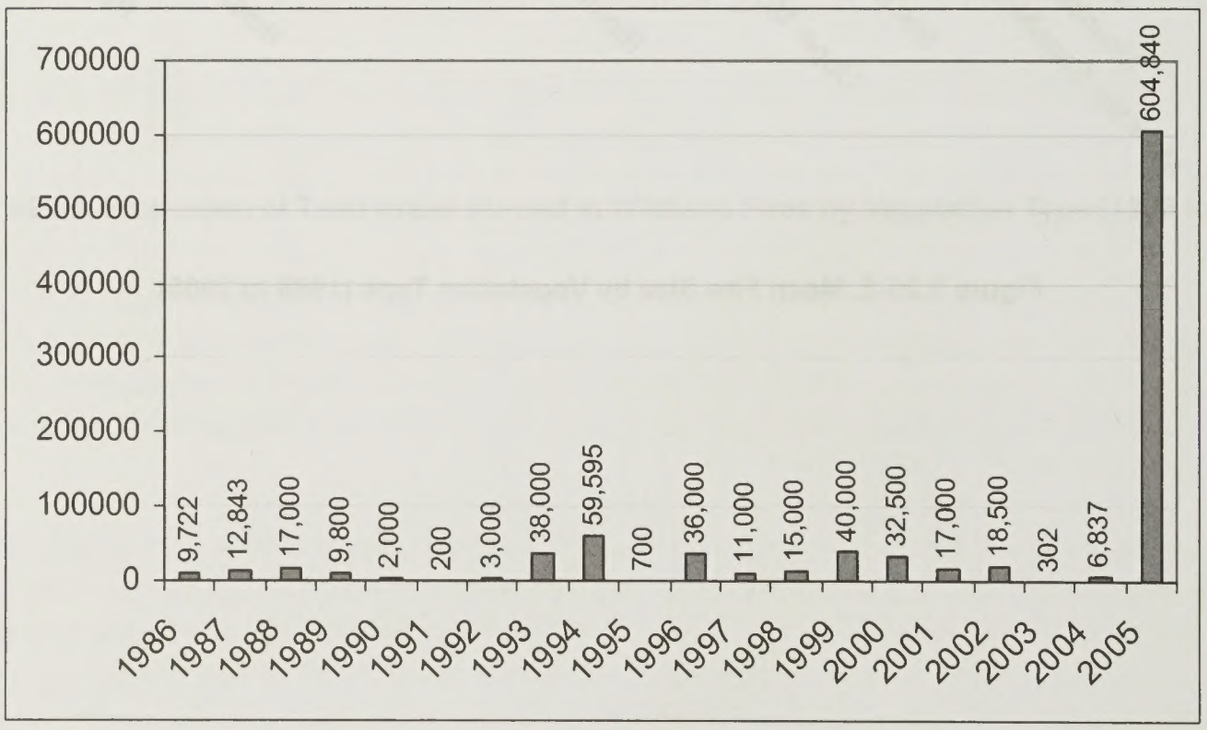


Figure 3.20-4. Total Acres Burned in Wildland Fires (1986 to 2005)

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.

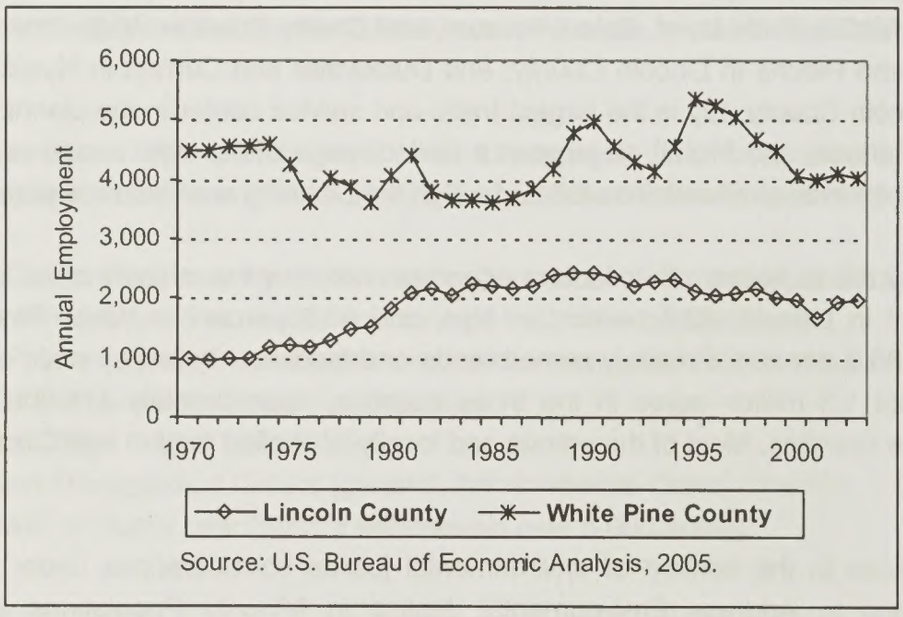


Figure 3.23-1. Total Employment in Lincoln and White Pine Counties 1970 to 2001

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.

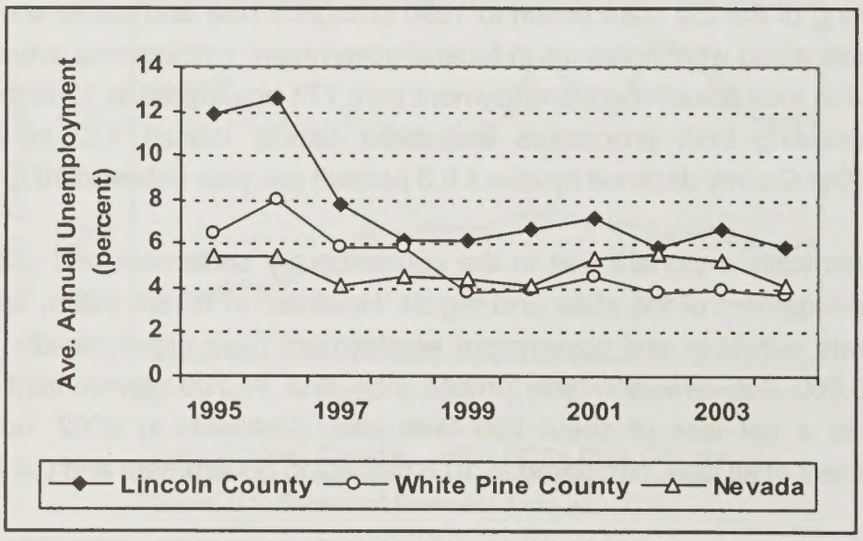
Table 3.23-1
Employment by Major Category for Year 2003

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.

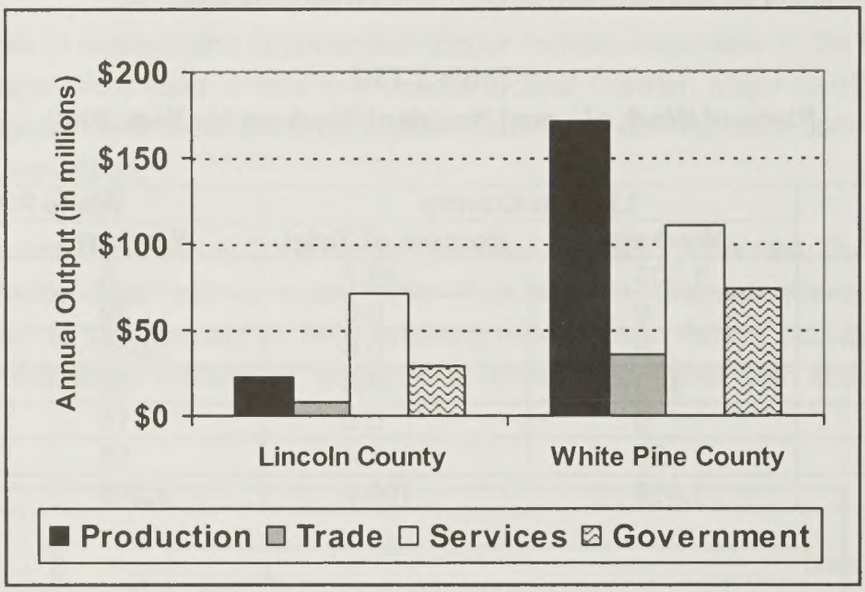
3.23.2 Economic Base

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

Category	Lincoln County			White Pine County		
	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.

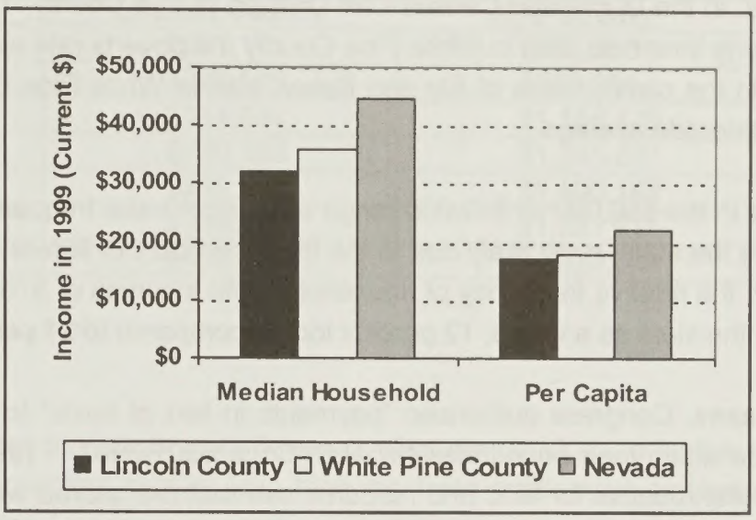
Wage and salary earnings accounted for about 66 percent of total personal income in the planning area in 2002. The statewide average was 76 percent. Dividends, interest, and rents accounted for 17 percent of local income, comparable to the 21 percent statewide. Transfer payments such as social security, 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.

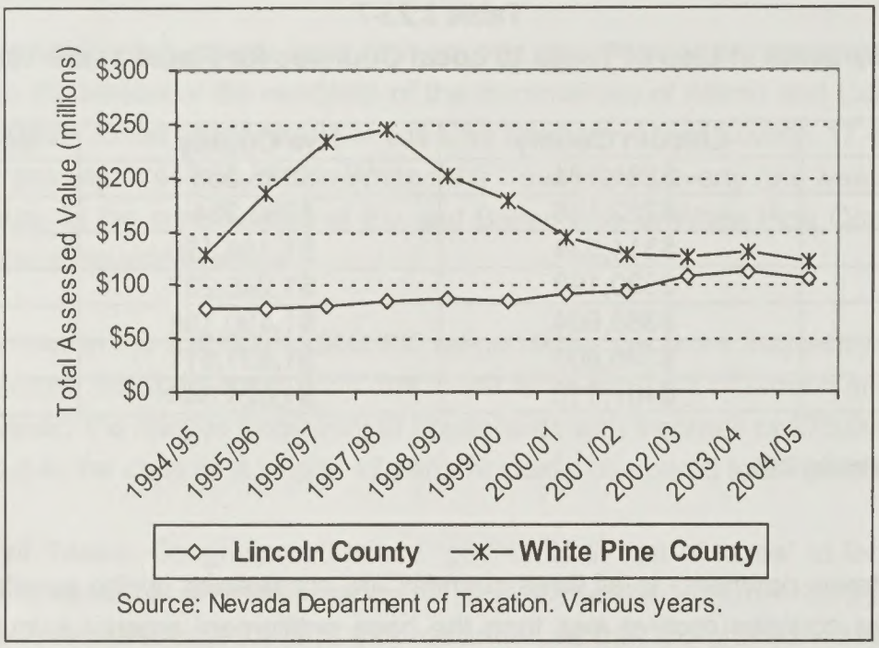


Figure 3.23-5. Assessed Valuation in Lincoln and White Pine Counties 1994 to 2004

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.

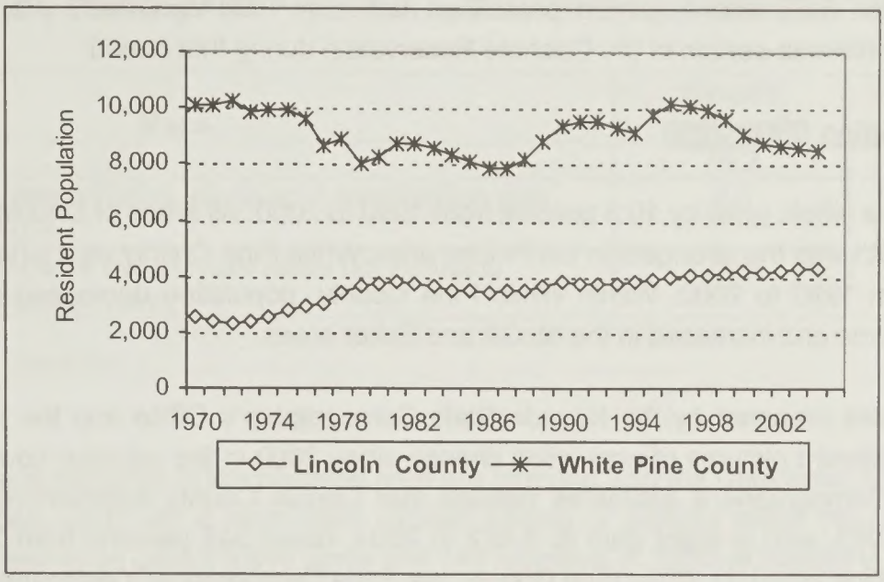


Figure 3.24-1. White Pine and Lincoln County Populations 1970 to 2004

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.

GPO U.S. GOVERNMENT PRINTING OFFICE: 2007 — 760-087 / 11007 Region No. 8