Chapter 2. Management Actions for the Proposed RMP

Introduction

This chapter describes proposed management actions under the Preferred Alternative for land and resources managed by the Bureau of Land Management (BLM) Surprise Field Office. The Proposed Resource Management Plan / Final Environmental Impact Statement (PRMP/FEIS) has been developed from the Preferred Alternative analyzed in the Draft RMP and in some cases, revised according to public comments received on the Draft RMP. The PRMP represents a reasonable range of alternatives to managing land and activities consistent with law, regulation, and policy. Development of the PRMP/FEIS was guided by theNational Environmental Policy Act (NEPA), the Federal Land Policy and Management Act (FLPMA) (1976), as amended; regulations; policy; and input from the public through public and agency scoping.

The PRMP/FEIS includes specific actions and action plans to be followed so as to make necessary changes in resource management within the planning area. However, not all issues can be resolved in a RMP; some will require that subsequent actions be taken to determine exactly how to reach desired conditions or to achieve a desired result.

Alternatives Considered

BLM developed management alternatives for the Surprise Field Office Draft RMP using input and comments from public scoping meetings, written comments, as well as ideas from staffs of BLM and other cooperating agency partners. NEPA regulations and BLM resource management planning regulations require the formulation of a reasonable range of alternatives that seek to address identified planning issues and management concerns. Each alternative must be evaluated to ensure that it would be consistent with resource goals and objectives, current laws, regulations, and policy.

The Surprise Draft RMP/EIS considered five alternatives. The alternatives are not re-printed here, as they have not changed. They are, however, summarized in the Alternatives Summary Table at the end of this chapter. The basic goal of developing alternatives was to explore the range of use options, protection options, and management tools that would achieve a balance between protection of the planning area's natural character, and a variety of resource uses and management issues. Alternatives were evaluated in the Draft RMP/EIS for potential impacts to resources that might occur as a result of implementing management decisions.

The five management alternatives that were developed for the Draft Surprise RMP include:

No Action Alternative (required by NEPA): Retains current management through guidance and direction from current policies, and existing management plans.

Alternative 1. Resource / Economic Development: Emphasizes commodity production from BLM resources in accordance with local economies and land use plans from local communities and counties.

Alternative 2. Ecosystem Restoration or Protection: Maximizes efforts to maintain, restore, or improve components of the ecosystem using natural ecosystem processes.

Alternative 3. Traditional or Historical Uses: Emphasizes traditional community uses of resources and/or emphasizes historical uses.

Preferred Alternative: The Preferred Alternative was "crafted" from all of the other alternatives and combines management actions from all four of the above listed alternatives. This alternative has been designed to best meet the purpose and need of the plan as described in Chapter 1 and best meet desired future conditions, goals, and objectives of individual and combined resources and resource uses.

Chapter 2 provides a detailed description of proposed management actions for the Preferred Alternative for 22 resource subjects. The desired future conditions, goals, objectives, and management actions for each major resource area are discussed in detail. The *Alternatives Summary Table*, at the end of this chapter, contains a summary of the five alternatives by resource subject, with emphasis on the key features described below and those aspects that differentiate the alternatives from one another.

Summary of Environmental Consequences

The Impacts Summary Table, at the end of this chapter, contains a comparative summary of the key environmental consequences for each of the five alternatives. A detailed description of environmental impacts resulting from implementation of the Preferred Alternative can be found in Chapter 4, Environmental Consequences.

Environmentally Preferred Alternative

The Environmentally Preferred Alternative is defined as "the alternative that would promote the national environmental policy as expressed in §101 of the National Environmental Policy Act." Section 101 states, "…it is the continuing responsibility of the federal government to…

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
- Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
- Achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life's amenities.
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."

Compared to the other alternatives analyzed, Alternative 2 and the Preferred Alternative best meet the national environmental goals identified above. Alternative 2 provides the highest level of protection of natural and cultural resources, however it does not allow for a wide range of beneficial uses of the environment.

The Preferred Alternative would enhance the ability of BLM to achieve the purpose and need of this document, as outlined in Chapter 1, as well as meet desired future conditions, goals and objectives of specific resources as outlined in Chapter 2. Alternatives No Action, 1, and 3 do not contain the degree of management emphasis required to protect benchmark native vegetative communities and restore degraded sagebrush steppe habitat found in the Preferred Alternative.

Portions of the field office area that are currently in a degraded condition can only be improved with the scope of active restoration efforts provided for in the Preferred Alternative.

The Preferred Alternative would result in overall minor to moderate adverse impacts to resources, and these impacts would continue to be mitigated. Proposed Management Actions would result in moderate to major beneficial impacts to native vegetation communities from restoration efforts, and the use of prescribed fire to remove invasive juniper. Improvements to riparian areas, water bodies, and other special habitats would improve soil and water resources, and wildlife habitat. The designation of three areas of critical environmental concern, one wild and scenic river, and an increased emphasis on cultural resource protection and management would have beneficial impacts to these important and unique resources.

Adaptive Management

In developing the Surprise PRMP/FEIS, BLM used the best science currently available, collaborated with other government agencies, and involved the public extensively. However, BLM's knowledge of resource conditions continues to evolve as local environmental conditions change, as new management techniques are developed and used, and as advances in science and technology are made available. Therefore, it is inevitable that in the future, some of the management direction in this PRMP/FEIS will be found to be erroneous, or inadequate, and need to be revised. To address this, implementation of the Surprise PRMP/FEIS will use an adaptive management approach to modify management actions and to incorporate new knowledge into our resource management decisions.

The complex interrelationships between physical, biological, and social components of an ecosystem and how they will react to land management practices are often not fully understood when a land use plan is developed. To be successful, plans must have the flexibility to adapt and respond to new knowledge or conditions. Adaptive management involves planning, implementation, monitoring, evaluating, and incorporating new knowledge into management approaches. It is a procedure in which decisions are made as part of an on-going process. This process builds on current knowledge, observation, monitoring data and information, and learning from experiences, which are then used to modify management decisions and/or policies.

BLM would utilize the adaptive management process for making modifications to management decisions in the PRMP/FEIS, in the following situations: 1) a management action is no longer appropriate for the resource conditions that were assumed during planning; 2) an event substantially changes the character of the landscape; 3) new information attained through monitoring indicates that planned objectives are not being met, or, 4) advances in research and technology indicate a need for a change. Changes to management direction would be made consistent with requirements of FLPMA, NEPA, and other BLM policies and regulations.

2.1 Air Quality

The national ambient air quality standards are described in the Clean Air Act (CAA) and have been established for six pollutants. Of these six criteria pollutants, the air pollutant of most concern on BLM administered land is particulate matter, which may originate from fire, road or windblown dust, and vehicle use. Most of this particulate matter is produced from fire, and most of it is less than 10 microns in diameter (referred to as PM10) which is the size class that is regulated. Because fire and smoke are a natural part of forest and rangeland ecosystems, PM10 produced from fire does not appreciably affect these ecosystems.

The CAA requires Federal agencies to comply with all Federal, State, and local air pollution requirements. The CAA also requires each state to develop a state implementation plan to ensure that the national ambient air quality standards are attained and maintained for the criteria pollutants.

Land managers and the public must make choices regarding prescribed fire and wildland fire use emissions versus emissions from wildland fires. Land managers have little control over where, when, and how much smoke is put into the air during wildland fires. Through prescribed fire, smoke levels can be better managed.

2.1.1 Desired Future Condition

The desired future condition would be for clean air standards to continue to be obtained.

2.1.2 Goal

Continue to meet or exceed the national air quality standards as described in the CAA and follow direction and requirements of the Modoc, Lassen, and Washoe Air Pollution Control Districts.

2.1.3 Objectives

Work in conjunction with local Air Pollution Control Districts to achieve air quality standards while implementing prescribed fire projects.

2.1.4 Legislative, Regulatory, and Policy Direction

- The Clean Air Act (CAA) of 1963 as amended (42 U.S.C. 7401 et seq.)
- California Code of Regulations. Title 17, Section 80101 and California Code of Regulations Title 14, 1561, 1.
- Any other applicable federal legislation
- Any applicable state legislation
- Regulations, MOUs, etc. for applicable counties

2.1.5 Proposed Management Actions

- Prior to the actual ignition of any prescribed fire, an approved prescribed fire burn plan would be in place and adhered to throughout the project. The burn plan would include information and techniques used to reduce or alter smoke emission levels. Information (including resource objectives, acres to be burned, fuel types, fuel moisture, fuel loading, fuel continuity, topography, location of population centers and Class 1 air sheds) assists fire managers in determining what weather conditions, firing methods, and mop-up standards should be used to minimize impacts.
- All prescribed fire projects would be completed in accordance with the Clean Air Act (CAA) and would comply with all Federal, State, and local air pollution requirements.
- The majority of fuel types in the management area do not allow opportunities to reduce emissions; therefore, emissions would be managed by timing and atmospheric dispersal.
- Fire prescriptions and mitigation measures will be reviewed and records of acreages burned would be maintained.
- Prescribed burning will be implemented to achieve resource objectives at a rate of approximately 5,000 acres per year.

2.2 Cultural Resources and Paleontology

Current legal, regulatory, and policy direction concerning cultural and paleontological resources exists to protect and preserve these national heritage assets. It also supports development of literature, interpretive sites, and other forms of public education designed to increase knowledge, understanding, and enjoyment of these irreplaceable resources. Legal protection, physical preservation and restoration, documentation, and access by scientists and the general public, are regulated by federal and state law. Native American communities are also permitted to use public lands in a traditional manner. The electronic management and archiving of cultural and paleontological data is vital to the management of these resources. However, present land use plans are outdated and no longer reflect current legal direction and policy. The management actions presented here are a result of the need to update existing plans and incorporate current legislation and policy direction for the management of cultural and paleontological resources.

2.2.1 Desired Future Condition

NRHP-eligible and other significant cultural and paleontological resources, including Traditional Cultural Properties (TCPs) and areas of traditional Native American use, would be managed to maintain or enhance their scientific, interpretive, educational, or economic values.

2.2.2 Goal

Protect and preserve significant cultural resources. Ensure that these resources are available to present and future generations for appropriate uses. Manage legitimate activities in a manner that will ensure preservation and provide public benefits through education (including interpretation), research, public uses, and conservation for future generations.

Locate, evaluate, and classify paleontological resources and protect them where appropriate. Manage these resources for scientific, educational, and recreational values. Ensure that significant fossils are not inadvertently damaged, destroyed, or removed from public land as a result of multiple use activities.

2.2.3 Objectives

All cultural properties in the RMP area, whether already recorded or projected to occur on the basis of existing-data synthesis, including cultural landscapes, would be allocated to one of six uses as outlined in DOI IB No. 2002-101. The BLM Surprise Field Office would seek to reduce imminent threats to cultural resources and resolve potential conflicts, from natural or human-caused deterioration, or from other resource uses by identifying priority geographic areas for new field inventory, based upon a probability for unrecorded significant resources.

2.2.4 Legislative, Regulatory, and Policy Direction

- American Antiquities Act (1906)
- National Environmental Policy Act (1969)
- Historic Sites Act (1935)
- Reservoir Salvage Act (1960)
- Archaeological and Historic Preservation Act (1974), as amended
- National Historic Preservation Act (NHPA) (1966), as amended through 1992–particularly Sections 106 and 110
- The Federal Land Policy and Management Act (1976), as amended
- Archaeological Resources Protection Act (1979), as amended (1988)

- American Indian Religious Freedom Act (1978), as amended
- Native American Graves Protection and Repatriation Act (1990)
- Executive Order no. 11,593 – "Protection and Enhancement of the Cultural Environment" (1971)
- National Trails System Act (1968), as amended (1992)
- Executive Order no. 13,007 – "Indian Sacred Sites" (1996)
- Executive Order no. 13,175 – "Consultation and Coordination with Indian Tribal Governments" (2000)
- BLM Manual 8100 (Cultural Resource Management)
- BLM Manual 8270 (Paleontological Resource Management)
- Federal-Aid Highway Act (1956); Section 120, authorizing use of Federal-Aid Highway funds for archaeological and paleontological salvage
- BLM–California State Historic Preservation Office (SHPO) Protocol Agreement (1998) as amended
- BLM–Nevada State Historic Preservation Office (SHPO) Protocol Agreement (1999) as amended

2.2.5 Proposed Management Actions

Manage cultural resources in accordance with existing laws, regulations, executive orders, and Nevada and California State Historic Preservation Office (SHPO) protocol agreements (as amended). Management actions on public lands – and private land projects that are federally funded, permitted or assisted – must comply with Sections 106 and 110 of the National Historic Preservation Act, which includes consultation with Native American representatives and the State Historic Preservation Officer, when appropriate.

Evaluate and allocate cultural properties (including cultural landscapes) to one of six uses as outlined in USDI-IB No. 2002-101 "Cultural Resource Considerations in Resource Management Plans", and Table 2.2-1 below, regardless of whether their existence is known and recorded or inferred on the basis of current data synthesis.

Once sites have been examined and assigned a use category from "a" through "f," those that are noticeably deteriorated would be prioritized for NRHP (National Register of Historic Places) evaluation. Sites that are NRHP-eligible would then be protected through withdrawals, exclosures, stipulations on leases and permits, ROWs and/or other measures developed by a qualified interdisciplinary team. NRHP designation would then be sought for currently eligible sites. (Other eligible sites, identified and evaluated in future inventories, would eventually be sought for designation.)

Cultural resource management plans (CRMPs) would be developed for sensitive (i.e., vulnerable to natural or man-caused deterioration or destruction) cultural areas, unless included in other (integrated) activity plans. Plan development must include Native American and SHPO consultation, and compliance with other applicable regulations. Landmarks, sites, districts, and landscapes that are judged eligible, would be nominated for the NRHP.

CRMPs would incorporate the following measures:

- Development of a site monitoring system
- Identification of sites in need of stabilization and restoration
- Site protection (e.g., fencing or surveillance equipment)
- Development of research designs (for selected sites/areas)

- Development of interpretation/public education (on selected sites)
- Identification of areas that require urgent inventory (due to federal actions that would damage or destroy the site)
- Development of mitigation measures

Table 2.2-1 Use Allocation Categories for Cultural Resources

Category	Allowable Uses	Proposed Actions	**Desired Future Condition**
a. Scientific Uses	Research	Permit appropriate research, including data recovery	Preserved until research potential is realized
b. Conservation (for future use)	Research and interpretation	Propose protective measures/designations	Preserved until conditions for use are met
c. Traditional Uses	Native American and other social and/or cultural group activities	Consult with appropriate tribe and/or group to determine limitations	Long-term preservation
d. Public Uses	Interpretation and education	Determine limitations and allowable uses	On-site interpretation and/or long-term preservation
e. Experimental	Research and interpretation	Assess nature and appropriateness of experiment	Protected until used
f. Discharged from management	All uses allowed	Remove protective measures	No use after recordation and not preserved

Protect burial sites, and associated burial goods, and sacred items in accordance with the Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act.

Maintain a current cultural resource data in GIS (geographic information system) format. The inventory would include a prioritized list (high/medium/low sensitivity) of areas for future inventory—based on sensitivity and the likelihood of significant, unrecorded sites. Inventory strategies for un-surveyed areas would be continually refined.

Work cooperatively with California and Nevada SHPOs on data sharing and information management, and the promotion and enhancement of public education, including Archaeological Awareness Week/Historic Preservation Month, outreach, and stewardship programs.

Conform to the National Historic Preservation Act, Federal Regulations, and the California and Nevada State protocols for identifying and treating properties affected by grazing.

Consult with Native American tribal representatives to identify areas where special management or protection is needed, such as traditional gathering areas or sites with religious significance (e.g., traditional economic areas, rock art sites, graves, religious activity areas and sacred sites). When necessary, management projects or actions would be mitigated or modified (typically by site-avoidance or time-of-use adjustment) or eliminated altogether. Religious sites and traditional cultural properties would be managed for Native American use but retained in federal ownership. Traditional harvesting/gathering areas that are in poor ecological condition would be rehabilitated through management actions such as prescribed burns, modified grazing régimes, or other approaches recommended by a qualified interdisciplinary team.

Reduce hazardous fuels or provide effective mitigation around archaeological and cultural sites that are vulnerable to wild or prescribed fire.

Vertebrate fossils may only be collected by qualified individuals to whom a permit has been issued. "Vertebrate fossils" include: bones, teeth, eggs, and other body parts from animals that possessed backbones (such as dinosaurs, fish, turtles, and mammals). Vertebrate fossils also include trace fossils, such as footprints, burrows, and dung.

Fossils and artifacts collected under permit remain the property of the federal government and must be placed in the repository specified on the permit (typically a museum or university).

Restrict increases of AUMs for allotments in the North Hays Range until Cultural Resource Management Plans are in place for this area.

Acquire private lands, when possible, at Cedarville Hot Springs, Leonard Hot Springs, hanging Rock Canyon, Massacre lakes, and Crooks Lake for cultural resource values.

Provide field research opportunities (cultural and paleontological) for qualified scientists and institutions.

Conduct regular law-enforcement patrols to protect and monitor cultural and paleontological sites from vandalism and other unauthorized uses.

Provide interpretive (and/or other educational opportunities) at selected cultural and paleontological sites. Work with communities, groups, interested individuals, and other agencies to enhance public understanding, appreciation, and enjoyment of cultural and paleontological resources. Maintain, stabilize, or reconstruct selected sites where necessary to preserve site integrity.

Three areas would be developed to interpret cultural resources and promote archaeological tourism (refer to the "Public Use" and "Experimental Use" categories of Table 2.2-1). Development would proceed according to NHPA guidelines; therefore, local tribes, SHPO, and other agencies would be consulted. Proposed sites are identified in Table 2.2-2 (below).

Table 2.2-2 Cultural Resource Interpretive Sites

Area	Size (acres)	Interpretive Values
Bitner Ranch	0.5	Prehistoric and Historic cultural resources, Wildlife
Rock Creek	0.25	Prehistoric cultural resources
Lassen-Applegate Trail	0.5	Historic cultural resources

In order to provide adequate protection for important cultural resources, the following areas of critical environmental concern would also be designated: (See Section 2.11 Areas of Critical Environmental Concern.)

- Massacre Bench ACEC (44,870 acres)
- Bitner Ranch ACEC (1,921 acres)
- Rahilly-Gravelly ACEC (957 acres)

Manage two cultural resource management areas (CRMAs) as shown on Map CR-1. Cultural resource management areas (CRMAs) would be created to protect cultural resources in the North Hays Range (92,499 acres) and on Duck Flat (88,315 acres). Cultural resource management plans would be developed for interpretive sites, ACECs, and CRMAs. However, the Lassen-Applegate Trail would be managed under the California National Historic Trails Comprehensive Management Plan and the Black Rock Desert and High Rock Canyon Emigrant Trails National Conservation Area RMP. In order to protect cultural resources, off-highway vehicles (OHVs) would be ‘Limited to Designated Routes’ in the Massacre Bench ACEC and 'Closed' in the Bitner ACECs.

2.3 Energy and Minerals

For management purposes, the Surprise Field Office (SFO) divides energy and mineral resources into three program areas: 'leasable' minerals (e.g., oil, natural gas, and geothermal), 'locatable' minerals (e.g., gold, copper, iron and other 'hard rock' minerals), and 'saleable' minerals (e.g., sand, gravel, cinders, and decorative rock). The field office area has low to non-existent oil and gas potential and one designated 'known geothermal resource area' (KGRA). Locatable mineral activity is confined to one small mine (irregularly operated) and sporadic exploration. Saleable minerals—especially sand-and-gravel operations—form the bulk of mineral activity in the field office area.

2.3.1 Desired Future Condition

Opportunities to seek and develop energy and mineral resources would be facilitated while maintaining compatibility with other resource values.

2.3.2 Legislative, Regulatory and Policy Direction

- Mineral Leasing Act (1920), as amended
- Geothermal Steam Act (1970), as amended
- Mining and Minerals Policy Act (1970)
- Federal Land Policy and Management Act (1976), Section 102
- Executive Order No. 13212 - Actions to Expedite Energy-Related Products (2001)
- National Energy Policy (2005)
- General Mining Law (1872)
- Materials Act (1947)
- Surface Mining and Reclamation Act of 1975
- BLM Wind Energy Policy (IM2003-020)
- Energy Policy Act of 2005

2.3.3 Leasable Minerals

The following definitions are provided to explain specialized terminology and standards and restrictions that apply to leasable mineral activities.

***Standard lease terms*:** These are the usual conditions and requirements that apply to leasable mineral activities. (For lease particulars, see Section 6 of Form 3110-11, "Offer to Lease and Lease for Oil and Gas," and Form 3200-4, "Offer to Lease and Lease for Geothermal Resources.") These are the only applicable conditions where additional measures are not necessary to protect vulnerable resources. Geophysical operations are also subject to the standard lease restrictions, except for certain activities that involve little-to-no surface disturbance (such as gravitational and magnetic surveys).

***Seasonal Restrictions*:** These limitations are usually applied to protect wildlife at critical times of the year when certain species, in certain locations, are highly vulnerable to human disturbance (e.g., sage-grouse leks, big-game winter ranges, and raptor nesting sites). Seasonal restrictions are applied when standard leasing terms—even with controlled surface use—provide inadequate protection and cessation of mineral activities is required during the vulnerable period.

Seasonal restrictions would apply on land with sensitive wildlife habitats (i.e., within 0.25 mile of greater sage-grouse leks, known raptor nesting sites, and pronghorn kidding grounds). Geothermal exploration and development would be facilitated in the Lake City-Surprise KGRA (subject to the terms and conditions of the standard lease form). Construction of new utility corridors may be necessary to transmit electrical energy from geothermal power plants. New corridors would be facilitated and routed where impacts on other resources and resource uses could be minimized.

The total area of seasonal restrictions (given above) is based on current knowledge of species requirements and habitats. The area total will expand (i.e., new locations and larger sizes) as the environmental assessment process evolves (i.e., as a better understanding of species and habitat requirements develops) and new habitats are identified. As new habitats are identified, the need for additional restrictions will become evident. Standardized buffer distances would be implemented according to the level of restrictive stipulations required.

***No Surface Occupancy (NSO)*:** This stipulation is applied where resources (e.g., sensitive plants or areas of high scenic value) require year-round protection—beyond that provided under standard leasing terms—from activities that would disturb the surface of the land. Fluid minerals may only be accessed through the use of directional drilling from sites outside the area needing protection.

***Closed to leasing*:** This is further divided into 'non-discretionary' and 'discretionary' closures. Non-discretionary closures are those where mandatory legal constraints disallow leasable mineral activities (such as wilderness study areas [WSAs]). Discretionary closures are management decisions arrived at through the planning process. Discretionary closure is imposed where the value of another resource is sufficient that (1) its preservation outweighs the value of expected (economic) returns from the leasing operation, (2) and where environmental impacts could cause irreparable damage the protected resource.

***Special stipulations*:** These are conditions or requirements, applied when a lease is issued, that impose additional restrictions to the standard leasing terms. However, waiver of additional stipulations may be allowed if existing or emerging technologies can be used to satisfy RMP objectives for the protected resource.

***Other special stipulations*:** There are other special stipulations that do not fit any of the previous categories. However, like the other categories, these are applied when a resource requires protection beyond that provided by standard leasing terms. Other special stipulations are applied when the resource requiring protection must be preserved on a regional basis (e.g., special status plants or animals that are found throughout the management area, some in unknown locations) or when information about the resource is incomplete; thereby necessitating blanket stipulations for all leases.

2.3.3.1 Goal

Facilitate exploration for, and development of, leasable energy and mineral resources while simultaneously protecting sensitive resources.

2.3.3.2 Objectives

Permit exploration for, and development of, leasable minerals while simultaneously protecting other resource values. Protect or reclaim other resources through application of standard leasing terms and stipulations for exploration and development activities. Impose restrictive terms where necessary to protect ecosystems, particularly with regard to wildlife, vegetation, and water-related issues.

2.3.3.3 Proposed Management Actions

BLM would manage 980,442 acres as 'Open' to leasable mineral development under BLM's standard terms and conditions (see Map-MIN-1.) Seasonal restrictions would apply to 50,344 acres. WSAs (183,581 acres) are closed to leasable mineral development, as required by the Interim Management Policy for Lands under Wilderness Review (Wilderness IMP).

No surface occupancy restrictions would apply on 6,277 acres to protect unique resources in the following areas:

- Bitner ACEC (1,921 acres)
- Rahilly-Gravelly ACEC (957 acres)
- Within a 100-acre buffer of occupied pygmy rabbit habitat.

2.3.4 Locatable Minerals

2.3.4.1 Goal

Facilitate exploration, development, and extraction of locatable mineral materials while simultaneously protecting sensitive resources.

2.3.4.2 Objectives

Permit exploration for, and development of, locatable minerals while simultaneously protecting other resource values. Stipulate special mitigation measures to preserve wildlife and wildlife habitats; plant communities; water quality, supply, and hydrologic function; as well as cultural and other vulnerable resources. Insure that environmental conditions following final reclamation conform to BLM standards and any special stipulations.

2.3.4.3 Proposed Management Actions

All BLM-administered land (1,220,644 acres) would be 'Open' to mineral entry—with stipulations to protect resources (identified through the NEPA process). BLM would continue to allow exploration and location activities in areas that are known (or reasonably suspected) to have deposits of commercially desirable minerals—regardless of economic viability.

An approved plan of operations is required prior to exploration and development of locatable mineral resources in ACECs (47,748 acres). WSAs are likewise 'Open' to exploration and development of locatable minerals (also with an approved plan of operations). However, in WSAs, locatable mineral activities are limited to those that do not require reclamation (unless the operation had valid rights in the area on or before October 21, 1976).

2.3.5 Saleable Minerals

2.3.5.1 Goal

Provide mineral materials for local, state, and federal agencies and meet public demand. Provide an adequate supply of decorative rock (a.k.a. flat rock) for public use.

2.3.5.2 Objectives

Ensure that mineral material pits are developed, used, maintained, and closed in a manner that minimizes impacts on environmental values and other resources. Ensure that the commercial and non-commercial collecting of decorative rock occurs in an environmentally sensitive manner and is conducted in areas where this activity is allowed.

2.3.5.3 Proposed Management Actions

A total of 1,037,063 acres would be 'Open' for saleable mineral development. WSAs are closed to saleable mineral activities (183,581 acres). In other areas, standard leasing terms apply—as well as any restrictive stipulations found necessary during environmental analysis (i.e., EA or EIS).

Sand and gravel for local communities and businesses would be provided from two existing community pits. Pits would be expanded when necessary to meet local demand. Closed and reclaimed pits would be considered for reopening, if local demand is sufficient. County and state sand-and-gravel requirements would be met from existing pits. These pits would also be expanded when necessary. New mineral material pits would be opened when required for road maintenance after existing and closed pits have been exhausted—if sensitive resources or other resource uses would not be compromised.

Decorative rock collecting for personal use (i.e., non-commercial) would be permitted throughout the SFO management area (except WSAs). Commercial activity would be limited to previously identified areas, which are designated for this purpose. Designated sites would be confined to areas where existing roads provide ready access and adverse impacts on sensitive resources (e.g., wildlife habitats, plant communities, soils, and cultural resources) and other resource uses could be avoided or minimized. Off-road use in designated disturbance areas would be restricted to low-impact (i.e., small, rubber-tired) vehicles or hand equipment. Sale value of harvested rock may not exceed an appraised value of $2,000 per application.

2.3.6 Renewable Energy

The National Energy Policy calls for an increase in renewable energy production on federal lands. Renewable energy resources within the SFO management area include western juniper as a biomass fuel, wind energy, and solar energy. Potential areas for wind energy development are shown on Map: EN-1.

2.3.6.1 Goal

Facilitate access to renewable energy production on federal land, involving all interested persons in a careful and open process. Support national energy needs, while protecting sensitive resources.

2.3.6.2 Objectives

Develop renewable energy facilities and operations in a manner that minimizes adverse effects on other resources and resource uses.

2.3.6.3 Proposed Management Actions

The entire management area is available for renewable energy development with the exception of WSAs (183,581 acres) and the proposed Bitner ACEC (1,921 acres). Specific renewable energy project proposals will be considered through the rights-of-way authorization process, in accordance with FLMPA, regulations, and BLM policy.

Wilderness study areas are exclusion zones for all renewable energy development. Two areas of critical environmental concern (Massacre Rim and Rahilly Gravelly), a total of 45,827 acres, are designated as rights-of-way avoidance areas. This means that any applications for new rights-of-way or utility corridors would undergo a site-specific NEPA review, and would only be granted if BLM concurs 1) the only feasible location is within the ACEC, and 2) no relevant and important resources would be adversely affected. It is incumbent on the ROW applicant to investigate and document that the only feasible location is within the ACEC. BLM will utilize the applicant's documentation to evaluate concurrence.

Wind energy projects will be designed and developed in accordance with the Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States, 2005. Implementation of any proposed management actions would ensure that potential adverse impacts to most of the natural resources present at wind energy development sites would be minimal to negligible.

Potential impacts to wildlife and visual resources would be considerably reduced by programmatic best management practices (BMPs) and by the requirement that site-specific and species-specific concerns be addressed comprehensively at the project level. Adverse impacts to wildlife and their habitats will be avoided or minimized by following the US Fish and Wildlife Service's *Interim Guidelines To Avoid And Minimize Wildlife Impacts From Wind Turbines*, 2003. Public land that is designated as an exclusion area (WSAs and Bitner ACEC) will not be available for wind energy development.

2.4 Fire Management (Appropriate Management Response)

The Federal Fire Policy defines 'wildland fire' as: "Any non-structural fire that occurs in the wildland." Three distinct categories of wildland fire are identified:

Wildfires: Caused by man or naturally ignited, these are suppressed using the 'appropriate management response' (AMR).

Wildland Fire Use: These naturally ignited fires are allowed to burn in order to realize resource benefits.

Prescribed Fires: These planned, deliberately ignited fires are set by resource managers in order to accomplish resource management objectives.

NorCal Fire Management Plan: The NorCal Fire Management Plan (FMP) is a strategic document for wildland fire management and hazardous fuels treatments within the Surprise Field Office. Fire Management Plans define a strategy to manage wildland and prescribed fires based on the area's approved land management plan. The current NorCal FMP displays qualitative and quantitative objects that are in conformance with the existing Management Framework Plans for the Surprise Field Office. The current NorCal FMP would be updated upon signature and approval of the Surprise PRMP to reflect management actions within the PRMP.

The NorCal FMP will be reviewed annually and revised as needed to ensure that the strategic guidance provided in the plan is in accordance with resource management and fire/fuels management goals, objectives, and actions outlined in the Surprise RMP. The management direction outlined in any future version of the FMP would be tiered to the NEPA analysis that was completed for this RMP. Revisions, additions, and adjustments to the FMP that are in conformance with the RMP may be made in the future. Additional NEPA analysis would be conducted on any revision, addition, or adjustment that is not adequately analyzed in other planning/NEPA documents.

Management actions regarding fire are defined and discussed in "Federal Wildland Fire Management Policy" (2001), FWFMP Appendix C, pages 43-44. This policy addresses the following management actions:

Response to Wildland Fire: Fire, as a critical natural process, will be integrated into land and resource management plans and activities across agency boundaries on a landscape scale. Appropriate response to wildland fire is based on ecological, social, and legal considerations. The circumstances of the fire and its likely consequences for firefighter and public safety are of primary concern. After this, consideration is given to protecting natural and cultural resources. These factors dictate the appropriate response.

Use of Wildland Fire: Wildland fire would be used to protect, maintain, and enhance resources and—as far as possible—be allowed to function in its natural ecological role. Use of fire would be based on approved fire management plans that follow detailed prescriptions contained in operating plans.

Protection Priorities: As previously stated, protection of human life is the overriding consideration. After this, priorities are set between protecting communities and infrastructure versus natural and cultural resource objectives. Decisions would be based on health and safety needs, the resources requiring protection, and the cost of that protection.

Suppression: Fires would be suppressed at minimum cost consistent with: human safety, resource objectives, and value of the resource requiring protection, and expected benefits of fire suppression efforts.

Appropriate Management Response: This refers to a specific and suitable pattern of actions designed to ensure public and firefighter safety while achieving resource objectives. AMR includes the entire spectrum of tactical options, from monitoring to aggressive suppression. The AMR is developed using objectives and strategies identified in the current NorCal Fire Management Plan. Appropriate response is based on safety evaluation (firefighter and public), the circumstances of the fire (especially weather and fuel conditions), natural resource management objectives, and protection of property and human values. Priorities are based on analysis and evaluation of fire context, local geography, and the national wildland fire situation.

Appropriate management response typically fits one of the following management scenarios:

1. Prompt and aggressive suppression to control the fire as quickly as possible and keep burned areas to a minimum. This is the appropriate response in the 'wildland urban interface' (WUI), developed recreation sites or facilities, and certain critical natural or cultural resource areas where wildfire is not desired.
2. Aggressive suppression on one portion of a fire while monitoring another section of the same fire.
3. Monitoring a wildland fire when topography, weather, and fuel conditions reflect a minimal threat to (adjacent) government-administered or private lands, resource objectives are likely to be enhanced (or at least not imperiled), and safety considerations are reasonable.

The Surprise Field Office (SFO) fire management plan is revised periodically, and segues to the general fire management direction of this RMP. Appropriate management response is identified and described for the entire management area. Potential locations and acceptable conditions for the use of prescribed or wildland fire are identified, plus other factors pertaining to fire management. A protocol has been formulated outlining appropriate management response for initial attack; and full suppression when wildland fires pose a serious threat to BLM-administered (and other federal and state) lands, as well as private property. Sensitive areas, such as habitats of endangered or threatened species and significant cultural sites, are also addressed in this plan.

2.4.1 Desired Future Condition

Fire managers would utilize the appropriate management response to control wildfires. Unplanned fires will be aggressively suppressed *only* where they threaten the wildland urban interface, private timber and property, special resources or sensitive habitats, and in areas where vegetation is at risk of type-conversion to noxious weeds.

Fire managers would reintroduce fire—and its ecological benefits—to restore and maintain healthy ecosystems. Vegetation communities would be healthy, exhibiting diverse age classes and seral stages. Fire would be used to restore healthy ecosystems and watersheds in order to provide adequate forage for livestock; sufficient food, thermal, and escape cover for wildlife; sustain productive forests and enhance recreational opportunities. A 'confine-and-contain' strategy would be typical of the flexibility required of fire managers in the use of adaptive management to achieve these ends. The cost of fire suppression would be dramatically reduced in the long-term.

2.4.2 Goals

Wildland Fire Management

Provide an appropriate management response for all wildland fires that emphasizes safety for the public and firefighters. With safety as the highest priority, further decision-making and fire management costs should be based on, and commensurate with, the value of resources and property requiring protection.

Risk Mitigation and Education

Enhance public awareness and knowledge of hazards associated with fuel accumulation and wildfire, as well as practical preventive measures, especially in the wildland urban interface. The public must also be educated about the natural role of fire in ecosystem maintenance and the use of prescribed fire to reduce fuels, protect property, and maintain healthy plant and animal communities.

2.4.3 Objectives

Wildland Fire Management

Suppress wildland fires that merit full suppression at minimum cost and with the smallest possible area burned. The full array of management options may be used unless site-specific restrictions apply (e.g., wilderness study areas [WSAs], research natural areas [RNAs], areas of critical environmental concern [ACECs], and NRHP-eligible [National Register of Historic Places] sites). Aggressive suppression is paramount in the WUI and in some important habitat areas.

Fire would be used as much as possible as a natural and cost-effective means of restoring, maintaining, and improving ecosystems. Areas with a history of wildland fire—under conditions showing little potential for spreading—should be considered for wildland fire use, monitoring, or a containment-and-confinement strategy. This must be accomplished with minimum risk to firefighters and at the lowest possible cost.

The NorCal Fire Management Plan (in development) would be used at all levels for fire management strategies. This Plan would provide details for implementation level wildland fire management response as well as various suppression options. It would also identify conditions and potential locations for wildland fire use, prescribed burning and other fuel-reduction treatments, in accordance with the RMP. The NorCal Fire Management Plan would be updated upon signature and approval of the Final Surprise RMP.

Risk Mitigation and Education

Education would emphasize community protection procedures and public safety measures. SFO fire managers are committed to providing fire education in communities that have been, or may be, threatened by wildland fires. Active community participation and citizen-driven solutions are essential for reducing the risk of fire in the WUI. More specifically, the SFO would provide public education regarding fuel reduction and the effects of fire, help in developing community wildfire protection plans, provide volunteer firefighter refresher training (on a yearly basis), and issue equipment (when funding is available).

Communities may take action to live safely in fire-prone areas by availing themselves of grant programs such as rural, state, and volunteer fire assistance and economic action programs. These are available through a variety of state and federal agencies.

SFO fire and resource managers will work with communities, fire safety councils, and other government agencies to identify wildland fire hazards and create mitigation strategies; as well as provide public education on fire ecology and fire as a natural ecosystem process.

2.4.4 Legislative, Regulatory, and Policy Direction

General

- Federal Wildland Fire Management Policy (1995), as amended (2001)
- Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy (June, 2003)
- Interagency Fire Management Plan Template (2002)
- "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-year Comprehensive Strategy Implementation Plan" (2002)
- Interagency Standards for Fire and Aviation Operations (published annually)
- United States Department of the Interior (USDI) Departmental Manual, Chapter 910
- BLM Manual 9200
- Fire Management Plan Guidance: IM No. 2003-38
- Land Use Plan Guidance: IM No. 2004-007
- A memorandum of understanding (MOU) exists between all federal and state agencies concerned with fire management on public and private lands in California. This is the Cooperative Fire Protection Agreement (between the USDI-BLM for CA and NV; USDI-NPS, Pacific West Region; USDA-FS, Regions Four, Five, and Six; and the CDF).
- BLM uses the Fire Program Analysis (FPA) software to allocate resources and determine fire management budgets in relation to natural resource goals and objectives.
- Conservation Strategy for Sage-Grouse (*Centrocercus urophasianus*) and Sagebrush Ecosystems within the Buffalo-Skedaddle Population Management Unit (Northern California Sage-Grouse Working Group, 2006)
- Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, First Edition (2004), including the Vya and Massacre Conservation Strategies

Specific to Surprise Field Office

Memorandum of Understanding (MOU) with other agencies:

- Fire Suppression Operating Plan–Reno Fire Department & Truckee Meadows Fire Department
- Interagency Protection Agreement–Bureau of Indian Affairs, Sacramento Regional Office, re: Fire Protection and Fuel Treatments
- Interagency Protection Agreement–USFWS, Sheldon NWR
- Interagency Protection Agreement–BLM, Lakeview District
- Interagency Protection Agreement–BLM, Winnemucca District
- Cooperative Fire Protection Agreement–Eagleville Fire Department
- Cooperative Fire Protection Agreement–Cedarville Fire Department
- Cooperative Fire Protection Agreement–Lake City Fire Department
- Cooperative Fire Protection Agreement–Fort Bidwell Fire Department
- Cooperative Fire Protection Agreement–Fort Bidwell Indian Reservation

BLM plans:

- California Master Agreement between USFS, USFWS, BIA, NPS, CDF, and BLM
- NorCal Fire Management Plan (in development)
- Surprise Field Office Fire Management Direction (From Phase I, Fire Planning)
- Risk Assessment and Mitigation Strategies
- Private Land Protection for CDF (SRA lands) and Reno (SRA Nevada Lands)
- The Black Rock Desert and High Rock Canyon Emigrant Trails National Conservation Area Resource Management Plan

2.4.5 Proposed Management Actions

Wildland Fire Management

Under conditions of severe fire-intensity—as described in the current NorCal Fire Management Plan (FMP)—aggressive initial attack and full suppression would be the appropriate management response, especially in the WUI. Exceptions would be made only where resource objectives could be achieved and the fire safely contained. Under conditions where fire-intensity is low, a less aggressive AMR is indicated. Actions would be determined by resource management objectives for the area—the typical response being containment (see Map FIRE-1.) Suppression during initial attack may include the use of engines, aircraft, retardant, hand crews, and heavy equipment. Use of heavy equipment would be avoided in ACECs, RNAs, WSAs, and NRHP-eligible sites—except where deemed necessary by the (fire) line officer. Local resources, contractors, and personnel will be used as much as possible in suppression efforts.

A full suppression AMR will be used in sage-grouse R-O habitat, as directed in the Sage-grouse Conservation Strategies for the Buffalo-Skedaddle, Vya, and Massacre Population Management Units.

The full range of AMR suppression options (from monitoring and containment to full suppression) would be employed on 328,949 acres. Containment in the former case, would involve direct and indirect actions plus natural (e.g., rock outcrops and dry lakebeds) and man-made (e.g., roads) barriers. Fuel and weather conditions would be critical factors in adaptive management decisions.

Full suppression of wildland fires would *initially* be required on a total of 891,695 acres. However, reassessment of suppression options is possible according to changing implementation plan objectives and AMR considerations. If it's apparent that a wildfire is achieving resource benefits (e.g., fuel reduction or restoration of natural conditions on rangeland) it could be managed less aggressively—by monitoring-and-containment, for example. Such a fire would be allowed to burn to natural or man-made barriers.

Unplanned fires will be aggressively suppressed where they threaten the wildland urban interface, private timber and property, important wildlife habitats, special resources or sensitive habitats, and in areas where vegetation is at risk of type-conversion to noxious weeds.

Regardless of suppression strategy, heavy equipment would not be used in ACECs, RNAs, NRHP-eligible sites, WSAs, and other sensitive areas, unless judged necessary by the (fire) line officer. In these areas use would be restricted to existing roads and trails—except where judicious off-way use is deemed *essential* by the (fire) line officer.

Risk Mitigation and Education

Fire prevention classes and education programs concerning the natural role of fire would be given in local schools. BLM fire management representative(s) would attend local fire safety council meetings to present programs dealing with the risks of hazardous fuel build-up and wildland fire as well as information on basic fire ecology and the beneficial role it plays in local ecosystems. Hazard assessment and identification of at-risk areas would be ongoing. When at-risk areas are identified, mitigation projects would be designed in cooperation with local agencies. BLM would work with local communities to develop and implement comprehensive community wildfire protection plans. Local volunteer fire departments would be assisted with yearly safety training and issued equipment (as funding permits).

2.4.6 Fire Rehabilitation and Stabilization

The National Fire Plan was developed in August, 2000 following a landmark wildland fire season. The intent of this plan is to actively respond to severe wildfires and their impacts on communities and resources while ensuring sufficient firefighting capacity for the future.

Emergency stabilization and rehabilitation activities are essential for landscapes and communities in the aftermath of severe wildfires. The objectives of the Emergency Stabilization and Rehabilitation (ES&R) programs are to minimize threats to life or property or to stabilize and prevent further unacceptable degradation to natural and cultural resources resulting from the effects of a fire, in a cost-effective and expeditious manner. Within the Department of the Interior burned area rehabilitation (BAR) and emergency stabilization (ES) activities are an integral part of wildfire incidents, but are planned, programmed, and funded separately from each other. BAR and ES Guidebooks provide operational guidance.

Emergency stabilization is defined as “Planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life and property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources. Emergency stabilization actions must be taken within one year following containment of a wildland fire.”

Rehabilitation is defined as “Efforts undertaken within three years of containment of a wildland fire to repair or improve fire-damaged lands unlikely to recover naturally to management approved conditions, or to repair or replace minor facilities damaged by fire.” (620 DM 3.3M) Specific objectives of rehabilitation are: 1) To evaluate actual and potential long-term post-fire impacts to critical cultural and natural resources and identify those areas unlikely to recover naturally from severe wildland fire damage; 2) To develop and implement cost-effective plans to emulate historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with approved land management plans, or if that is infeasible, then to restore or establish a healthy, stable ecosystem in which native species are well represented; and 3) To repair or replace minor facilities damaged by wildland fire. (620 DM 3.4B)

Development of ES&R plans is conducted immediately following a wildfire and implementation of BAR plans is often conducted over the course of several years following a wildfire; it typically includes reforestation, road and trail rehabilitation, fence replacement, fish and wildlife habitat restoration, invasive plant treatments, and replanting and/or reseeding with native or other desirable vegetation.

2.4.6.1 Desired Future Condition

Desired future vegetation in areas recently disturbed by fire would be expanses (small to large, depending on the intensity and extent of the burn) of grasses, forbs, and young shrub-dominated areas interspersed with numerous patches of climax vegetation (woody shrubs and trees), and scattered juniper.

Vegetation communities (upland, riparian, and special habitats, e.g., special-status species) would be vigorous, diverse, reproductively successful, and valuable as wildlife habitat. With respect to site rehabilitation after wildfire, Surprise Field Office (SFO) resource managers would have created a site specific, interdisciplinary emergency stabilization/rehabilitation and restoration plan in a timely manner. Burned area emergency stabilization and rehabilitation (ES&R) plans would have been developed for specific plant communities and/or watersheds in order to fulfill resource objectives for the areas which have been burned. The ES plans would be prepared immediately following a wildfire. The BAER plan, if needed, should be prepared concurrently with the ES plan.

The ES&R plans are completed by the AFO staff. Burned area emergency response plans (BAER Plans) are generally developed by the DOI National BAER Team for a wildfire that involves multiple agency ownership or on large complex wildfires where preparation of ES&R planning is beyond the scope of the local staff and where values-at-risk are extremely high.

2.4.6.2 Goal

Burned areas would be stabilized and rehabilitated to mitigate the adverse effects of wildland fires on soils, vegetation, and waterways. This would be accomplished in a cost-effective manner. The possibility of wildfire recurrence or invasion by noxious weeds would be minimized.

2.4.6.3 Objectives

A unique environmental analysis would be completed for each emergency fire stabilization and rehabilitation project. Each plan would include monitoring and assessment for adaptive management decisions.

2.4.6.4 Legislative, Regulatory, and Policy Direction

General

- National Environmental Policy Act (1969)
- Federal Wildland Fire Management Policy (1995), program review and update of 2001
- Interagency Fire Management Plan Template (2002)
- A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-year Comprehensive Strategy Implementation Plan (2002)
- U.S. Department of the Interior Departmental Manual, chapter 910
- BLM Manual 9200
- Fire Management Plan Guidance: IM No. 2003-38 (2003)
- Land Use Plan Guidance: IM No. 2004-007 (2004)
- Department of the Interior, Departmental Manual, 620 DM 3, Burned Area Emergency Stabilization and Rehabilitation (2004)
- Interagency Burned Area Rehabilitation Guidebook, Version 1.3, November 2006
- Interagency Burned Area Emergency Response Guidebook, Version 4.0, February 2006
- BLM Handbook H-1742-1, Burned Area Emergency Stabilization and Rehabilitation, USDI, BLM, 2006
- A memorandum of understanding (MOU) is in effect between all federal and state agencies concerned with fire management operations on public and private lands in California.

This is the Cooperative Fire Protection Agreement and coordinates efforts between the USDI, BLM for CA and NV; USDI,NPS, Pacific West Region; USDA, FS, Regions Four, Five, and Six; and the States of CA (CDF) and NV.

- BLM uses fire program analysis (FPA) software to allocate resources and determine fire management budgets in relation to natural resource goals and objectives.
- BLM Manual 1745 Supplement - California Native Plant Materials Policy
- NorCal Fire Management Plan

2.4.6.5 Proposed Management Actions

Hay, straw, mulch, and seed used for emergency stabilization and rehabilitation projects on BLM-administered lands must be certified noxious weed free.

Areas burned by wildland fire would be rested from livestock grazing for a minimum of two growing seasons.

Emergency fire stabilization and rehabilitation activities would be implemented on a case-by-case basis following wildland fire in consultation with affected tribes and other interested parties. A unique and specific environmental analysis would be completed for each emergency fire stabilization and rehabilitation project. Each plan would include monitoring and assessment for adaptive management decisions. A local or regional programmatic ES&R plan (PESRP) with an associated Environmental Assessment (EA) would be developed at the landscape level prior to wildfire occurrence. Locally gathered, native seed caches would be developed for seeding projects. Timber salvage would be considered, with stringent stipulations to minimize impacts on other resources. Roads and trails constructed during timber salvage activities would be closed and rehabilitated to prevent them from becoming established ways.

2.5 Forestry

For management purposes, the Surprise Field Office (SFO) distinguishes woodlands from forestlands when considering forest resources. By definition, woodlands have 6% to 10% canopy cover, while forestlands have at least 10%. A distinction is also made between commercial forestlands (i.e., 'high-site' lands, capable of producing ≥ 20 ft.³ per acre/year) and non-commercial sites (i.e., 'low-site' lands, which produce < 20 ft.³ per acre/year). Commercial forests in the SFO management area are dominated by Jeffrey pine, ponderosa pine, and white fir. Some areas contain significant inclusions of Washoe pine and incense cedar. Non-commercial forests are generally found in transitional areas, where commercial forests give way to juniper woodlands. These low-site forests are primarily composed of ponderosa pine, Jeffrey pine, and western juniper. Woodlands are dominated by western juniper, aspen, mountain mahogany, and other non-commercial species.

There are only (about) 681 acres of commercial forestlands in the entire management area; however, there are 119,426 (681+118,745) acres of non-commercial (low-site) forest and woodland (about 17,500 acres of which are historic juniper woodlands). Species composition on high-sites is about two-thirds Jeffrey and ponderosa pine with one third in white fir. Stands vary in age, but most contain large numbers of even-aged trees. Many stands developed in the late 1800s and early 1900s after logging and fires cleared the original timber.

There has not been a timber sale on commercial forestland (in the Surprise Valley, Madeline Plains, and Warner Lakes watersheds) for at least 30 years. However, some fuel treatments have been performed. There is some revenue from woodlands, primarily derived from woodcutting (about thirty permits are issued yearly). Woodlands and low-site forests mostly produce firewood and fence posts. However, these same areas are also important for wildlife habitat, hunting (and other recreation), wildcrafting (e.g., collection of mushrooms, juniper berries, evergreen boughs, pine cones, and lichen), and research.

Accumulation of hazardous fuels—particularly in ponderosa pine and fir stands—has become a significant problem. There are several (ongoing) fuel reduction projects attempting to deal with this issue. Various mechanical treatments and prescribed fire are being used in juniper-encroached big sagebrush communities, as well as in forestlands. Such projects are designed to further the goals and objectives of the Healthy Forests Restoration Act of 2003. (See chapters 2.4 "Fire Management" and 2.6 "Fuels Management.")

2.5.1 Desired Future Condition

Trees and other vegetation on high and low-site forestlands would be vigorous and healthy. Stands would be multi-aged, and would contain significant numbers of large, mature trees. Species composition would favor ponderosa and Jeffrey pine at low to mid-elevations, and a white fir monoculture at higher elevations.

2.5.2 Goals

- Restore or maintain healthy and productive forest landscapes in which long-term biodiversity is preserved and incidences of fire, insects, and disease do not exceed levels natural for healthy forests. Maintain multiple seral stages to produce conditions favorable for wildlife, natural watershed function, and high-quality recreation.
- Provide forest and woodland products in a sustainable manner, by utilizing sound ecological and economic principles.

- Restore, maintain, and enhance biodiversity and vigor in (historic) western juniper woodlands, mountain mahogany, and aspen stands in order to insure the health and productivity of these important plant communities. (See Section 2.16 of "Vegetation.")

2.5.3 Objectives

- Control hazardous fuels on commercial and low-site forests where there is significant risk of stand destruction by fire, insect infestation, or disease.
- Achieve significant timber stand improvement on commercial and low-site forestlands, chiefly by removing invasive juniper and other non-marketable timber.
- Provide forest products (chiefly firewood and fence posts) for domestic use and commercial sales.
- Where and if appropriate, salvage timber killed by fire, insects, or disease on commercial and low-site forests.

2.5.4 Legislative, Regulatory, and Policy Direction

- Federal Land Policy and Management Act (1976)
- Code of Federal Regulations (CFR), No. 43, Part 5000 (Forest Management)
- Timber Management Final Environmental Impact Statement (FEIS) (1976)
- California Vegetation Management FEIS (1988)
- Timber Management Environmental Assessment: SYU 15 (1981)
- Memorandum of Agreement (MOA) with the Lahontan Water Quality Control Board
- MOA with California Department of Fish and Game
- MOA with U.S. Fish and Wildlife Service, consultation on threatened and endangered species
- MOA with USDA-Forest Service, Modoc National Forest; North Cal-Neva Resource Conservation And Development Council, Inc.; and Modoc County for development and implementation of the Northern California Juniper Management Strategy (2003)
- Healthy Forests Initiative and Healthy Forests Restoration Act (Interim Field Guide USDI-BLM, 2004)

2.5.5 Proposed Management Actions

Multiple-use management would prevail on productive timberlands to promote wildlife habitat, recreation, scenic resources, and cultural uses. Timber stand improvements would be conducted on low-site and commercial forestlands. Low-site forests and woodlands would be managed for wildlife habitat and removal of invasive juniper for biomass fuel, firewood, and fence posts. Where and when appropriate, salvage sales would be used to remove timber killed by wildfire, insects, or disease.

Forestlands would be managed in accordance with the Healthy Forests Initiative and the Healthy Forests Restoration Act. All forestlands would be managed for improved forestland health; timber production and harvest of commercial forestlands would not be authorized.

Prescribed fire, plus mechanical and manual methods, would be used to reduce fuels in commercial and low-site forests throughout the SFO management area. Prescribed fuel-reduction treatments would be applied within forestlands on 25 to 150 acres per year. The amount and type of treatment would be restricted within WSAs (according to Wilderness IMP), ACECs, and RNAs, to protect sensitive resources.

Shearing and chipping operations conducted on forest health-improvement projects must comply with design criteria conservation measures relating to slope, allowable disturbance, limb removal, number of trees left standing, stump height, forest-fuel production and concentration, exclusion areas, landings, weed control, equipment maintenance, fence repair, site-rehabilitation, and fire safety. All (vegetation) treatment sites would be assessed for rehabilitation needs—with particular attention to noxious weed invasion and control or eradication if possible.

Aggressive (full) suppression would be the appropriate management response (AMR) for forest and woodland areas to protect forestry and woodland resources.

Management would emphasize reducing invasive juniper and hazardous fuels in forests and woodlands, and developing areas that are suitable and available for producing biomass fuel from juniper chips. Commercial, non-commercial, and free-use firewood cutting would be allowed on level or gently sloping (<10%) areas with good soil stability. Other areas would be closed to woodcutting due to considerations related to slope and topography, sensitive wildlife habitats, or cultural sites. (See Map FOR-1)

Public woodcutting would be allowed on 119,426 acres of commercial and non-commercial forest and woodlands. Locations with invasive western juniper to aid in fuels reduction work would be prioritized. Woodcutting would not be permitted within wilderness study areas (WSAs). It would also not be allowed within areas of critical environmental concern (ACECs) or research natural areas (RNAs).

Temporary road construction would be allowed, on a case-by-case basis, where deemed necessary for the management of commercial and low-site forests and juniper woodlands. Management activities would produce forest products for domestic and commercial uses, substantially reduce hazardous fuels, and ultimately produce healthy forests.

2.6 Fuels Management

Wildland fuel management decisions are based on the NorCal Fire Management Plan, this PRMP (resource management plan), and the best available science. Hazardous fuels must be reduced in order to achieve desired resource conditions (i.e., healthy and productive natural plant associations and communities). By so doing, degraded plant communities and wildlife habitats are restored, the economic value of rangelands and forests are maintained, and threats to human life, property, and cultural resources are minimized.

The Healthy Forest Restoration Act (HFRA) of 2003 provides direction and guidance for fuel management decisions. It includes measures to protect communities, municipal water supplies, and other vulnerable sites from risks associated with wildfires on, or adjacent to, federal lands. The HFRA also provides guidance for reducing threats to forest and rangeland ecosystems, endangered or threatened species, and protection of watersheds.

2.6.1 Desired Future Condition

Wildland fuel treatments would mimic natural wildfire effects. Treatments would be successful in restoring and maintaining plant communities to a condition that closely approximates the biological diversity of native ecosystems. Fuel reduction projects would be successful in protecting the wildland/urban interface (WUI) through creation of adequate fuel breaks and defensible space around communities at risk.

2.6.2 Goals

- Achieve significant reduction of hazardous fuels (using a variety of methods) where need is greatest, especially in the wildland/urban interface.
- Fire would be recognized as necessary for achieving and maintaining ecosystem health, and reintroduced as a natural and normal influence on plant communities.
- Fuel treatment plans and management actions would restore health to vegetation, wildlife, and ecosystems, and would protect cultural resources.

2.6.3 Objectives

- Prescribed fire; and mechanical and biological treatments, may be employed for treating hazardous fuels. Project locations and treatment methods will depend on the need to protect communities while also achieving natural and cultural resource management objectives. Decisions would be based on analysis and judgment by resource specialists using Risk Assessment and Mitigation Strategies (RAMS) software.
- Fuel treatments would prioritize wildland/urban interface areas of communities situated in the midst of juniper-invaded sagebrush-steppe. Projects would also be designed to enhance important wildlife habitats and protect cultural resources.
- Long-range fuels treatment projects would be developed and implemented to protect high-risk communities; restore, maintain, and improve forest and rangeland ecosystems; enhance wildlife habitats; increase livestock forage; improve recreational opportunities; and enhance traditional gathering areas by broadly reducing hazardous fuels.

2.6.4 Legislative, Regulatory, and Policy Direction

General Guidance:

- Federal Wildland Fire Management Policy (1995), updated 2001
- Interagency Fire Management Plan Template (2002)
- A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-year Comprehensive Strategy Implementation Plan (2002)
- Interagency Standards for Fire and Aviation Operations (published annually)
- United States Department of the Interior (USDI), Departmental Manual, Chapter 910
- BLM Manual 9200
- Fire Management Plan Guidance: IM No. 2003-38
- Land Use Plan Guidance: IM No. 2004-007
- A Memorandum of Understanding (MOU) exists between all federal and state agencies concerned with fire management on public and private lands in California. This is the Cooperative Fire Protection Agreement (between the USDI-BLM for CA and NV; USDI-NPS, Pacific West Region; USDA-FS, Regions Four, Five, and Six; and the CDF).
- BLM uses the Fire Program Analysis (FPA) software to allocate resources and determine fire management budgets in relation to natural resource goals and objectives and community protection needs.
- Healthy Forests Restoration Act (2003)
- Conservation Strategy for Sage-Grouse (Centrocercus urophasianus) and Sagebrush Ecosystems within the Buffalo-Skedaddle Population Management Unit (Northern California Sage-Grouse Working Group, 2006)
- Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, First Edition (2004), including the Vya and Massacre Conservation Strategies

BLM Planning for the Surprise Field Office:

- NorCal Fire Management Plan
- Risk Assessment and Mitigation Strategies
- Black Rock Desert and High Rock Canyon Emigrant Trails National Conservation Area Resource Management Plan (2004)

2.6.5 Proposed Management Actions

Fire would be recognized as a natural and integral component of most ecosystems. Therefore, its use is necessary for achieving and maintaining land health. Reintroducing fire for fuel-reduction purposes would be a high priority. Treatment plans would favor the use of prescribed fire wherever feasible. However, mechanical and biological methods would also be employed. Treatment would emphasize reduction of excess fuels throughout the management area; however, special attention would be given to the WUI, degraded forest and rangeland (especially removal of invasive juniper), critical wildlife habitats, and vulnerable cultural sites. The amount and type of treatment would be restricted within WSAs (according to Wilderness IMP), ACECs, and RNAs, to protect sensitive resources (See Map FUELS-1).

Effects from fire and other treatments would be monitored and assessed. If required, treatment plans would be modified using an adaptive management approach.

Long-term restoration projects and fuel treatment plans would be developed to produce and maintain healthy ecosystems by reducing hazardous fuel build-up on a landscape level. Long-term projects and plans would also be designed to protect high-risk communities, increase livestock forage and timber production, improve wildlife habitat, improve recreation opportunities, and protect cultural sites and traditional gathering areas.

Planned yearly fuel reduction treatments are listed below.

- Prescribed fire and/or mechanical treatments (500 to 5,000 acres yearly)
- Chemical treatments (0 to 500 acres yearly)
- Biological treatments (0 to 25 acres yearly)

Fuel treatments in the WUI are always a high priority, in order to protect vulnerable communities from catastrophic wildfire. Treatment methods may include mechanical and biological alternatives, and prescribed fire. Fuel reduction plans and projects would be developed and implemented according to the unique requirements of the community at risk. Planning would involve consultation with resource specialists and use of RAMS software. Fuel breaks and defensible space would be created around vulnerable communities. Plans and projects would also be designed to reduce fuels over a wider area, especially targeting invasive juniper. Projects would mimic naturally occurring wildfire effects in order to restore degraded ecosystems by approximating the natural diversity of native plant communities. Wildlife habitats would be enhanced, cultural sites protected, and an acceptable visual appearance maintained.

Prescribed fire would be integral to fuel reduction efforts. Location and extent of use would be determined by community protection requirements and the judgment of resource specialists, according to prescriptions specified in approved burn plans. Plans would be designed and approved by qualified resource specialists on a project-by-project basis.

Classes in hazard reduction and fire protection would be given in local schools. Lessons would emphasize the natural role of fire in maintaining healthy ecosystems. BLM would present in-depth programs on these topics at local fire safety council meetings.

BLM would continue to identify areas where hazardous fuels are accumulating. BLM would develop treatment and mitigation projects in concert with local-agency programs. Fuel reduction projects would be implemented by contract labor and/or BLM crews.

All fuels management projects would be designed in accordance with wildlife habitat objectives. Caution would be taken to not introduce fire into already degraded communities dominated by annual grasses. Fuels projects would not be undertaken in low sagebrush communities, particularly in known sage-grouse or pygmy rabbit habitats, unless needed to meet specific habitat objectives. Fuels projects would be coordinated with state game agencies regarding important wildlife habitats.

2.7 Lands and Realty

Land and realty actions of the Surprise Field Office (ELFO) are conducted under two program areas: land tenure adjustments (retention, acquisitions, and disposals) and rights-of-way.

2.7.1 Land Tenure Adjustments

Individual parcels within the SFO management area have not been specifically identified for acquisition or disposal. However, certain land tenure 'zones' have been defined and earmarked for: acquisition (Zone 1), retention (Zone 2), or disposal (Zone 3). Land would be acquired when a parcel with high public resource value is offered by a (willing) seller. (See Map "LANDS-1" to view these land tenure zones.)

2.7.1.1 Desired Future Condition

Lands within and adjacent to wilderness study areas (WSAs) would be consolidated; forming large, contiguous blocks to better preserve wilderness characteristics and facilitate efficient management. Other land tenure actions would be accomplished for similar reasons (i.e., efficient management, protection of sensitive resources, or acquisition of lands with significant public resource value). Land tenure actions would (directly or indirectly) support local communities.

2.7.1.2 Goal

Acquire lands with significant public resource value by working with willing private landowners for the benefit of both parties. Focus retention and acquisition efforts on areas with large expanses of public land that contain small in-holdings. Retain ownership of parcels that have unique resources, generate high public interest, or facilitate efficient management. Select areas where BLM would better serve the public good by disposal of certain parcels (through land exchange or sale).

2.7.1.3 Objectives

- BLM would consolidate BLM-administered lands by acquiring in-holdings and other lands (or interests in lands). Lands would be acquired because they contain sensitive resources, have high resource or recreational value, provide or improve public access, or facilitate effective management. Lands would be managed in accordance with the reason for acquisition.
- BLM-administered land with significant natural, cultural, or recreational value would be retained in public ownership.
- Make Zone 3 lands available for disposal by state indemnity selection; private or state exchange; Recreation and Public Purpose Act lease or sale; public sale; or other authorized and suitable method.

2.7.1.4 Legislative, Regulatory and Policy Direction

- Federal Land Policy and Management Act (1976), Sections 102, 202, and 203
- Federal Land Exchange Facilitation Act (FLEFA) (1988)
- BLM Handbook H-2101-4 (Pre-Acquisition Environmental Site Assessment)
- BLM Handbook H-2200-1 (Land Exchange Handbook)
- BLM Handbook H-2100 (Land Acquisition Handbook)
- R&PP Act (as amended)
- The West-wide Energy Corridor Programmatic EIS (2005)

- BLM Wind Energy Policy (IM2006-216)
- Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States (2005)

2.7.1.5 Proposed Management Actions

Acquisitions within Zone 1 would focus on lands with high resource or recreational value (such lands would, of course, be retained in Zone 2). Lands within Zone 3 could be acquired—if they contain significant resource or recreational value. Disposals (Zone 3) would be limited to lands that cannot be managed effectively or have minimal resource or recreational value. Under special circumstances, disposal of BLM-administered land would be permitted in Zones 1 and 2, if this would support resource objectives—such as acquisition of other lands with greater resource or recreational value. "Special circumstances" (in Zones 1 and 2) could include a collection of small parcels (a total of 80 acres) that are completely surrounded by private land and lack important public resource values.

BLM would work with (willing) private landowners to acquire lands within or adjacent to WSAs, ACECs, and WSRs (wild and scenic rivers) that would support management goals for public lands.

BLM would attempt to acquire conservation and scenic easements to protect these areas and preserve their natural, recreational, and scenic values.

All land use authorizations will be evaluated for their impact to sensitive resources, including critical and/or important wildlife habitat.

2.7.2 Rights-of-Way

2.7.2.1 Desired Future Condition

Provide and maintain public access to BLM lands, utilize existing disturbance areas for ROWs and communication sites and ensure potential renewable energy infrastructure is compatible with other resource values. Provide for resource usage while maintaining the primitive character of the entire field office area.

Maximize use of existing right-of-way corridor routes and consider potential sites for wind or solar energy facilities to the extent possible, taking into account avoidance areas, consistent with resource objectives. Meet the public need for ROWs that provide access to private inholdings that are compatible with resource management values.

Maintain existing routes as per the SFO Transportation Plan or acquire new routes to provide administrative or public access to public land. Construct new roads using best management practices and appropriate mitigation to provide administrative, permitted, and recreational access as needed. Close roads that are no longer needed or that are causing resource damage.

2.7.2.2 Goal

Manage public lands to support the goals and objectives of all resource programs, respond to public requests for land use authorizations, and acquire administrative and public access where needed. Conduct rights-of-way transactions, decisions, and actions in a manner that would prevent adverse impacts to scenic, ecological, water, air, scientific, and archaeological or historical values.

2.7.2.3 Objectives

Meet public needs for land use authorizations such as ROWs, leases, and permits. Establish ROW corridor routes to the extent possible, with allowances for known and unknown avoidance areas and consistent with resource objectives. Maintain access to public lands on existing roadways. Maximize utilization of existing ROWs and communication sites where ground disturbance has occurred in the past.

2.7.2.4 Legislative, Regulatory and Policy Decisions

- Federal Land Policy and Management Act (1976)
- Mining and Minerals Policy Act (1970)
- BLM Manual, Section 1610
- BLM Handbook 2800 Series - Rights-of-Way
- National Environmental Policy Act (1969)

2.7.2.5 Proposed Management Actions

The Surprise Field Office area has maintained an overall "primitive experience" theme and will continue by:

- primarily granting rights of way (ROWs) within existing roads, and confined to areas of existing disturbance,
- and maximizing existing communication facilities at Fox and 49 Mountains.

Designation of new utility corridors would be considered. All WSAs and the Bitner ACEC would be designated as right-of-way exclusion zones. In addition, all greater sage-grouse habitat and other species critical habitat would be designated as ROW exclusion zones, except ROWs needed to provide reasonable access to non-federal inholdings.

Development of communication sites would be confined to existing disturbed areas, and no new sites would be developed—except for BLM management and local improvement and upgrade purposes.

Two areas of critical environmental concern (Massacre Rim and Rahilly Gravelly), a total of 45,827 acres, are designated as rights-of-way avoidance areas. This means that any applications for new rights-of-way or utility corridors would undergo a site-specific NEPA review, and would only be granted if BLM concurs 1) the only feasible location is within the ACEC, and 2) no relevant and important resources would be adversely affected. It is incumbent on the ROW applicant to investigate and document that the only feasible location is within the ACEC. BLM will utilize the applicant's documentation to evaluate concurrence.

Future BLM granted rights-of-way, including utility corridors and communication sites would be consistent with USFWS guidance to minimize effects to migratory birds.

Development of utility corridors will be maximized within existing corridors (defined as 1 mile wide) and would be designed to avoid impacts to natural resources. Utility corridors included in the Western Regional Corridor Study (WRCS) will be available for right-of-way development, unless environmental analysis reveals the likelihood of significant adverse impacts on other resources. Transmission lines of 69 kV (or greater) and pipelines 10-inches in diameter (or greater) would be located within these corridors.

Additional corridors may be designated as future needs dictate, subject to on-site environmental reviews and clearances. *The West-wide Energy Corridor Programmatic EIS, 2005* (PEIS) specifies that coordinating agencies (BLM) will designate appropriate energy corridors on federal lands in 11 Western States, perform any environmental reviews required to complete corridor designation, and incorporate designated corridors into relevant agency land use plans. *The Preliminary Draft Map of Potential Energy Corridors on Federal Lands* depicts an east-west transmission corridor between northern California and northern Nevada, which will potentially be routed through the Surprise Field Office area. This corridor, when coupled with related renewable generation development, will create markets for renewable energy between California and Nevada and will augment California's energy supplies by allowing additional energy to flow into the state at a northerly point other than the California-Oregon border. The routes indicated on the *Preliminary Draft Map* of the PEIS are very general and exact corridor locations will need to be identified by BLM to minimize any impacts to sensitive resources. BLM will complete the environmental reviews necessary to identify proposed routes within the requisite time frames outlined in the *Programmatic EIS*.

2.8 Livestock Grazing

Livestock grazing on lands administered by the BLM Surprise Field Office (SFO) includes 49 grazing allotments within 1,445,443 total acres. The SFO authorizes 89,618 cattle, 2,671 sheep, and 176 horse AUMs annually on 59 permits issued to 51 permittees. Average annual use for the 10-year period between 1994 and 2003 was approximately 64,550 AUMs. Of the 49 allotments, 25 (1,379,176 acres—including some land with National Conservation Area [NCA] designation) are identified as suitable for Intensive (I) level management. Four allotments (41,590 acres) are identified for Maintenance (M) level management, and 20 allotments (24,677 acres) for Custodial (C) management. Portions of eight allotments, including about 200,000 acres managed by the SFO, are within the Black Rock Desert and High Rock Canyon Emigrant Trails National Conservation Area. Management direction for these areas can be found in the Black Rock Desert—High Rock Canyon Resource Management Plan, 2004.

Rangeland health determinations have been made on 29 (76% or 1,121,185 acres) of the 49 allotments managed by the Surprise Field Office. Of lands assessed, 23 allotments (69% or 777,008 acres) are meeting, or making measurable progress toward meeting, all of the standards. One allotment (1% or 10,845 acres) is not meeting, or making progress towards meeting, one or more of the standards due to factors unrelated to current grazing practices. Five allotments (30% or 333,332 acres) are not meeting, or making progress towards meeting, one or more of the standards, and current grazing practices are partly responsible. Decisions have been issued on these five allotments, including changes in livestock management, which will ensure progress toward meeting all of the land health standards. (See Map GRAZ-1 for Land Health Assessment Ratings.)

2.8.1 Desired Future Condition

The Surprise Field Office management area would support ecologically sound and economically viable livestock grazing operations that contribute to stable local and regional economies. Livestock grazing would be conducted in balance with the natural environment:

- Soils would be stable and not subject to accelerated erosion.
- Nutrient cycling would remain intact.
- Water supply and water quality would be maintained.
- Vegetation communities (e.g., upland, riparian, special status species, special habitats) would be vigorous, diverse, fertile, and suitable for wildlife habitat.
- Important archaeological sites and historic properties would be preserved.
- The visual impact of livestock presence on public lands (e.g., trailing, alteration of vegetation, water developments, and livestock control structures) would be minimized.
- Livestock grazing practices would accommodate other consumptive and non-consumptive uses of public lands.

2.8.2 Goal

Sustainable, ecologically sound, and economically viable livestock grazing opportunities would be provided, where suitable, in the SFO management area.

2.8.3 Objectives

Adequate forage would be produced to support sustainable levels of livestock grazing where compatible with objectives for other resources and resource users. Continue to modify and adjust grazing management within individual grazing allotments to ensure that a vigorous plant community is sustained in combination with livestock grazing. Adjustments would be prioritized for allotments or areas where plant communities are at risk or have greater potential for improving before they become degraded and less productive. Adjustments may involve:

- development of a improved grazing strategy as implemented through an allotment management plan (AMP), or
- adjusting the season of use with associated actions to improve livestock distribution (fences, water) in allotments without formal management plans.

Work cooperatively with ranchers and other stakeholders to implement treatments to reduce juniper encroachment in sagebrush/grassland communities, with the goal of restoring sagebrush communities to a healthy condition, and thereby maintaining (or potentially increasing) forage production of native grasses, forbs, and shrubs.

2.8.4 Legislative, Regulatory, and Policy Direction

- The Federal Land Policy and Management Act (1976)
- Public Rangelands Improvement Act (PRIA)
- Approved Northeastern California and Northwestern Nevada Standards and Guidelines for Livestock Grazing, (S&Gs) (July, 2000)
- Native Plant Materials Policy, California BLM Manual Supplement 1745
- Code of Federal Regulations (CFR), Title 43, Subpart 4100 (Grazing Administration)
- Taylor Grazing Act
- Revised Guidelines for Managing Domestic Sheep and Goats in Wild Sheep Habitats (BLM 1998)
- Conservation Strategy for Sage-Grouse (Centrocercus urophasianus) and Sagebrush Ecosystems within the Buffalo-Skedaddle Population Management Unit (Northern California Sage-Grouse Working Group, 2006)
- Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, First Edition (2004), including the Vya and Massacre Conservation Strategies

2.8.5 Proposed Management Actions

Livestock grazing would be available on 49 allotments (1,445,443 acres). The Surprise Field Office would continue to authorize approximately 92,465 AUMs of livestock use annually. Review of existing permitted use-levels (AUMs) would be conducted on individual allotments through assessment of existing activity plans (allotment management plans, livestock grazing decisions, habitat management plans, watershed management plans, biological opinions, multiple-use decisions). Decisions regarding adjustments to existing levels of use, forage allocation, allotment boundaries, and changes to management level categories would be made at the activity plan level. When additional forage becomes available on a sustained yield basis, suspended AUMs can be appointed to permittees.

The Preferred Alternative emphasizes making adjustments and enhancements to existing grazing strategies in allotments that have made significant progress toward, or achieved, land health standards. These adjustments would be focused on improving the health, vigor, and reproduction of native rangelands and unique plant communities (aspen, mountain mahogany, bitterbrush), and improving important wildlife habitat for identified species (e.g., sage-grouse, ungulates).

In allotments where significant progress has not been made, grazing practices would be altered so that land health standards are achievable. Grazing strategies would be refined as needed, with more intensive management focused on areas with moderate departure from land health standards or those areas "at risk." Experience has shown that intervention at this stage (before damage is severe or widespread) has the greatest chance of success, as well as being relatively rapid and cost-effective, because most, or many, key components of land health are still present. This is especially true in riparian and wetland habitats, which are resilient and tend to recover quickly.

Typical modifications to grazing strategies are listed below.

- Season-of-use adjustments would be employed at times of the year when sensitive soils would be damaged by livestock and where forage is seasonally inadequate.
- Permitted grazing use—including reduction of animal numbers and/or season-of-use—would be assessed annually to reflect prevailing conditions. Conservative management of grazing would be especially needful during drought conditions, when there would not be enough water to support livestock for an entire grazing season.
- Conversely, AUMs or livestock numbers may be temporarily increased or season-of-use extended, when forage production is above average. Long-term or permanent increases in grazing would be considered where land health standards have been met—or sustained, significant progress has been made—toward achieving those standards. However, increases must be based on a site-specific environmental assessment that confirms adequate and sustainable long-term forage production.

Changes to class of livestock authorized and future suitability of existing allotments for grazing would also be made at the activity plan level. This would be done when plan assessments reveal changes are necessary and compatible with RMP and activity plan goals and objectives.

New grazing systems would be developed, and existing systems modified, to improve livestock distribution and increase forage production, while still meeting the objectives for other resources. Seasonal closures, extended rest, long-term exclosure would be considered only if required to meet Standards for Rangeland Health, to meet the needs of special status species, or to protect National Register-quality archaeological sites.

If and when a grazing permit is voluntarily retired, the allotment could be considered for use as a forage reserve. Forage reserves may be established, as feasible, in cooperation with federal, state, and private agencies, for conservation benefits and management flexibility, thus helping to maintain rangeland health standards. Forage reserves would facilitate juniper treatment and other rangeland improvements by providing alternative areas for livestock grazing.

In the absence of class-specific monitoring data, adjustments between livestock AUMs and wild horse AMLs within herd management areas would be equitable. Additional livestock exclosures would be considered when no other practical or affordable options exist for mitigation of grazing effects. Whenever possible, existing infrastructure (pasture and allotment fences) or topography would be used to minimize construction of additional fencing, even if this increases the area from which livestock are excluded.

Grazing of domestic sheep would continue on the Tuledad, Selic-Alaska, and Red Rock Lake allotments, unless in the future the current operator elects to convert the livestock kind from sheep to cattle or if the allotments are vacated for reasons unforeseeable at this time. Due to the interest of state game agencies to reintroduce bighorn back into the Warner Mountains, any subsequent request to convert permits from cattle back to sheep would be coordinated with livestock operators and state game agencies.

In addition, the status of bighorn re-introduction potential in the South Warner Mountains would be re-evaluated through the NEPA process. There are no other domestic sheep allotments within the field office area and bighorn sheep have been reintroduced into suitable habitats throughout the field office area therefore no other allotments are permitted for domestic sheep grazing. Trailing may be allowed in allotments closed to domestic sheep grazing in compliance with BLM's "Guidelines for Managing Domestic Sheep and Goats in Wild Sheep Habitats". Voluntary changes or conversions of the permits from domestic sheep to cattle grazing provide the Surprise Field Office the opportunity to coordinate with state wildlife agencies and other cooperators in developing a reintroduction plan for California bighorn sheep prior to reintroduction efforts. Habitat management would focus on producing grasses and forbs in early to mid-seral stage habitats where applicable.

BLM's *Revised Guidelines for Managing Domestic Sheep and Goats in Wild Sheep Habitats* (BLM 1998) would provide operational guidance for domestic sheep and goat management in the SFO. These guidelines cover many aspects of grazing domestic sheep in the vicinity of bighorns and are listed below. Future revisions to the guidelines would apply also.

1. State wildlife and Federal land management agencies, native wild sheep interest groups, and domestic sheep and goat industry cooperation and consultation are necessary to maintain and/or expand native wild sheep numbers. When agency and industry agreement has been reached to maintain and/or expand native wild sheep numbers, the agencies and the domestic sheep industry will be held harmless in the event of disease impacting either native wild sheep or domestic sheep and goats.

2. Domestic sheep or goat grazing and trailing should be discouraged in the vicinity of native wild sheep ranges.

3. Native wild sheep and domestic sheep or goats should be spatially separated to reduce the potential of interspecies contact.

4. In reviewing new domestic sheep or goat grazing permit applications or proposed conversions of cattle permits to sheep or goat permits in areas with established native wild sheep populations, buffer strips surrounding native wild sheep habitat should be developed, except where topographic features or other barriers minimize physical contact between native wild sheep and domestic sheep and goats. Buffer strips could range up to 13.5 kilometers (9 miles) or as developed through a cooperative agreement to minimize contact between native wild sheep and domestic sheep and goats, depending upon local conditions and management options.

5. Domestic sheep and goats should be closely managed and carefully herded where necessary to prevent them from straying into native wild sheep areas.

6. Trailing of domestic sheep or goats near or through occupied native wild sheep ranges may be permitted when safeguards can be implemented to adequately prevent physical contact between native wild sheep and domestic sheep or goats. BLM must conduct on-site use compliance during trailing to ensure safeguards are observed.

7. Cooperative efforts should be undertaken to quickly notify the permittee and appropriate agency to remove any stray domestic sheep or goats or wild sheep in areas that would allow contact between domestic sheep or goats and native wild sheep.

8. Unless a cooperative agreement has been reached to the contrary, native wild sheep should only be reintroduced into areas where domestic sheep or goat grazing is not permitted.

9. Extraordinary precautions will be followed to protect special status subspecies, e.g., federally listed threatened, endangered, proposed and candidate subspecies, State listed subspecies and BLM sensitive subspecies.

The PRMP for vegetation management is to prioritize vegetation manipulation to restore ecosystem processes. Efforts would focus on reducing invasive juniper in sagebrush-steppe ecosystems, and treating closed-canopy big sagebrush communities. Juniper reduction efforts will be prioritized within grazing allotments to improve the ecological health of sagebrush communities, at a rate of up to 5,000 acres per year (see Chapter 2.6 Fuels Management). Treatment will focus on more degraded rangeland (primarily the 21%–35% juniper canopy cover class). Successful treatment of these areas would significantly improve land health and will also provide maintenance of (or potentially an increase of) forage production of native grasses, forbs, and shrubs.

All vegetation treatments will be evaluated with regard to rehabilitation requirements, especially noxious and invasive weed management. Areas burned by wild or prescribed fire would be rested from livestock grazing for a minimum of two growing seasons. Decisions to re-open burned areas to grazing would be based on monitoring and assessment. Areas may be re-opened in less than two growing seasons only if such use can be shown to meet resource management objectives of the fire stabilization and rehabilitation plans specific to that site.

Livestock salting would not be allowed within ¼ mile of springs, meadows, NRHP-quality archaeological sites, streams, and aspen areas. Location of salting stations would be determined by BLM in consultation with livestock permittees.

Meadows and aspen stands with significant value as wildlife habitat and National Register of Historic Places (NRHP)-quality archaeological sites would receive priority for additional livestock exclusion. When fencing natural water sources, water would be made available for livestock, wildlife, and wild horses outside the fenced area. Prescribed grazing may be allowed within exclosed areas, if required to maintain the vigor and diversity of the vegetation or if prescriptive grazing is compatible with resource objectives for the fenced areas. In conformity to BLM policy, all new fencing would be built to comply with applicable wildlife standards.

Water sources for livestock would be developed (e.g., springs, reservoirs, wells, pipelines) where this would have minimal impact on other resources and where additional water development would benefit wildlife. When water sources are developed for livestock grazing, the needs of wildlife and wild horses would also be considered. New livestock water sources would be designed to comply with the following standards:

- Developments would be safe for wildlife and wild horses to access. Functional and adequate ladders would be placed in troughs to prevent drowning of small mammals and birds.

Reservoirs would be constructed to provide a slope of less than 3:1 ratio on at least one side to prevent entrapment of large ungulates by mud. Spring protection fences and water trap fences would be constructed to allow safe passage of mule deer and pronghorn antelope, especially when all immediately available water and riparian habitat is contained within the fenced area. Gates to water traps would be left open when not required for livestock control (e.g., pasture rest years, post-season) to facilitate access for big-game and wild horses. Raptor perch sites would be minimized, especially on fences and water developments in important sage-grouse habitat.

- Water would be retained or provided at ground level on all naturally occurring sources developed for livestock use—including springs, seeps, and perennial, intermittent, or ephemeral streams. Natural riparian habitat and cover around a substantial portion of these sources would be protected for wildlife use. This would be accomplished by piping livestock water a sufficient distance to minimize livestock impact or by exclosure fencing. As funding and technology allow, existing water sources developed from wells or pipelines would be retrofitted (on a priority basis) to provide water at ground level.

Utilization of key species (grasses, forbs, and shrubs) on native rangelands would not exceed moderate (40%-60%) levels. On allotments not meeting or making progress toward meeting Standards for Rangeland Health, due to current levels of livestock forage utilization, Guideline 16 of the Standards and Guidelines for Livestock Grazing would be implemented. Guideline 16 would reduce the maximum allowable utilization levels on key species specifically in areas that are not meeting standards.

2.9 Recreation and Visitor Services

Three major highways provide access to lands administered by the Surprise Field Office (SFO). Internal access is provided by a network of county roads and an assortment of other maintained or primitive roadways. Road signage is limited, and visitor services few. Currently, there is one developed campground and two 'backcountry byways' (Barrel Springs and Buckhorn) associated with the existing road network. The (historic) Lassen-Applegate Trail and the newly established Black Rock Desert-High Rock Canyon National Conservation Area also attract visitors to the area. A wide variety of self-guided recreational activities are available. The most popular activities are dispersed (primitive) camping, hunting, hiking, fishing, sightseeing, wildlife viewing and photography, mountain-biking, rock hounding/fossil collecting, horseback riding, and wild horse viewing. Visitors are mostly from Oregon and Nevada. The management area's outstanding natural beauty and relative remoteness from major population centers provide ample opportunity for solitude, or self-reliant recreation in rugged, untamed country.

2.9.1 Desired Future Condition

As population pressures increase—and with it the demand for quality outdoor recreation—the SFO management area will retain and develop its ability to provide a wide variety of recreational opportunities. In part, this demand would be met by restoration and regular maintenance of existing recreation sites, creation of new recreational facilities, and more intensive management generally. However, the unspoiled character of natural landscapes must be preserved. The design of new facilities would respect this need. Other, more vulnerable, areas would be excluded from all development (recreational and otherwise) in order to preserve their pristine, natural condition.

2.9.2 Goal

Enhance existing, and provide additional developed and undeveloped recreational opportunities to satisfy increasing demand while ensuring adequate protection of natural, cultural, and scenic resources.

2.9.3 Objectives

Ensure that a wide range of developed and undeveloped recreational opportunities are sustained or created on lands administered by the Surprise Field Office.

2.9.4 Legislative, Regulatory, and Policy Direction

- Federal Land Policy and Management Act (1976)
- Code of Federal Regulations, Title 43, Part 8340 (Off-Road Vehicles) (June, 1979), et seq.

2.9.5 Proposed Management Actions

Most BLM-administered lands within the Surprise Field Office area will continue to be managed as an extensive recreation management area (ERMA), focused on dispersed recreation opportunities and promoting low impact activities. This will include all lands not administered under special designations, wilderness study areas (WSAs), areas of critical environmental concern (ACECs), and wild and scenic rivers (WSRs). Recreation management plans would not be prepared for the ERMA. Instead, management actions will be implemented as part of individual project plans that will follow approval and publication of this PRMP.

The extensive recreation management area will be managed to preserve the wild and scenic nature of the management area. Common recreational uses include, but are not limited to, the following: hiking, hunting, camping, fishing, sightseeing, wildlife viewing, photography, rock collecting, and horseback riding. Facilities will be minimal; developed only to facilitate management objectives for land health and customer service (e.g., resource protection, impact mitigation, interpretive signing, and health and safety information).

Commercial recreation, and other uses of special designations that require a special permit, would be evaluated case-by-case. Proposals would be permitted, modified, or denied as required to protect resources and values. In areas outside of special designations, commercial and non-commercial activities that require a special recreation permit would be accommodated, providing adequate resource protection can be assured. Dispersed (primitive) camping would be allowed in special designations unless specifically prohibited. Throughout the entire SFO management area, camping is limited to 14 consecutive days in one campsite or campground. Campfires are allowed – except when fire restrictions are in effect. (Campfire permits are required on public lands in California, but not in Nevada.)

The Barrel Springs and Buckhorn Backcountry Byways will be maintained as such (see Map REC-1). Creation of additional scenic byways (and incidental vehicle routes, if necessary) will be considered. However, any such development must be consistent with OHV travel designations *and* natural and cultural resource concerns must also be evaluated.

The Fee Reservoir Boat Ramp facility will be maintained in partnership with Modoc County (CA). Three seasonal wild horse viewing sites will be developed: Buckhorn Road near SOB Lake, Lost Creek Road near Cottonwood Creek, and HWY 299/8A near the Nevada California Border.

Future designation of special recreation management areas will remain an option, establishing new SRMAs in the future would require a plan amendment, if warranted by demand or the desire to strengthen local economies by promoting tourism. In this eventuality, other kinds of recreational development—such as back-country byways, interpretive sites, campgrounds, trails, and wildlife viewing areas could also be developed.

People have different needs, abilities, and expectations regarding outdoor recreation. The recreation opportunity spectrum (ROS) is a management tool designed to describe and differentiate recreational settings for the purpose of realistically evaluating the capacity of the land and resource base to provide broadly defined recreational experiences. Recreation is described under six classes (described below) which form a continuum (or "spectrum") of opportunity—according to the degree of landscape modification and human presence, and its implications for outdoor recreation. After initial determination, there is some flexibility in reassigning lands to different ROS classes—this is addressed under the PRMP. The SFO manages more than 1.2 million acres of public land in which all but two classes (Primitive and Urban) are represented.

ROS classes are described as follows:

'Primitive' (P) This setting is characterized by 5,000 acres or more, that lie at least 3 miles from the nearest point of motor vehicle access. These landscapes are essentially unmodified, with little evidence of human use and no on-site management controls. Activities include overnight backpack camping nature study and photography, back country hunting, horseback riding, and hiking. The experience provides visitors with a chance to achieve solitude and isolation from human civilization, experience nature, and requires a greater degree of personal risk and challenge.

'Semi-Primitive Non-Motorized' (SPNM) This class consists of about 2,500 acres lying at least 1/2 mile from the nearest point of motor vehicle access. The area is predominantly a natural landscape. Where there is evidence of others, interaction is low, and few management controls exist. Activities include backpack camping, nature viewing, back country hunting (big game, small game, and upland birds), climbing, hiking, and cross-country skiing. The experience provides for minimal contact with others, a high degree of interaction with nature, and a great deal of personal risk and challenge.

'Semi-Primitive Motorized' (SPM) This setting consists of about 2,500 acres within 1/2 mile of primitive roads and two-track vehicle trails. The area has a mostly natural landscape with some evidence of others and few management controls. Activities include hunting, vehicle trail riding, back country driving, mountain biking, hiking, and snowmobiling. The experience provides for isolation from human civilization, a high degree of interaction with the natural environment, a high degree of interaction with the natural environment, and a moderate degree of personal risk and challenge.

'Roaded Natural' (RN) This setting consists of areas near improved and maintained roads. While these areas are mostly natural in appearance, some human modifications are evident, with moderate numbers of people, visible management controls, and developments. Activities include wood gathering, fishing, off-highway vehicle driving, interpretive uses, picnicking, and vehicle camping. The experience provides fro a sense of security through the moderate number of visitors and developments, but with some personal risk-taking and challenges.

'Rural' (R) This class is characterized by a substantially modified natural environment. Resource modification, development, and use are obvious. Human presence is readily evident, and interaction between users is often moderate to high. Activities consist mostly of facility/vehicle-dependent recreation and generally include vehicle sightseeing, horseback riding, on-road biking, picnicking, and outdoor games. The experience provides for modern visitor conveniences, moderate to high levels of interactions with others, and a feeling of security from personal risk.

'Urban' (U) This setting consists of areas near paved highways, in which the natural landscape is dominated by human modifications. Large numbers of users can be expected. Sights and sounds of other users dominate and management controls are numerous. Activities are facility/vehicle-dependent and include concerts, amusements parks, zoos, vehicle racing facilities, spectator sports, and indoor games. The experience provides for numerous modern conveniences, interactions with others, an exotic manicured environment, and a feeling of high personal security.

The SFO will continue to manage motorized and non-motorized access, and recreational activities, under the following ROS classes and area totals (see Map ROS-1):

- 'Semi-Primitive Non-Motorized' (448,394 acres)
- 'Semi-Primitive Motorized' (636,820 acres)
- 'Roaded Natural' (127,038 acres)
- 'Rural' (6,952 acres)

Motor vehicle-based recreation will be promoted on an extensive system of 'designated' roads and trails throughout a large 'Semi-Primitive Motorized' and 'Semi-Primitive Non-Motorized area'. (See Map TRAVEL-1.)

2.10 Soil Resources

Healthy soils are essential for establishing and maintaining vigorous growth of native vegetation. Without an adequate base of productive soil, management goals for vegetation, water, wildlife, and livestock would not be achievable. Area soils are young, semi-arid, and poorly developed. Chemical and biological soil-development processes (i.e., rock weathering, accumulation, and decomposition of plant materials and nutrient cycling) proceed slowly in such environments. Soil recovery processes are correspondingly slow; therefore, soil disturbance can have long-term adverse effects on soil health and productivity.

2.10.1 Desired Future Condition

Soils used as a productive growth medium would demonstrate properly functioning condition (PFC). This means the soil would exhibit infiltration and permeability rates appropriate for the climate, landform, and soil-type. It would also demonstrate certain physical, chemical, and biological characteristics—including formation of biological crusts. PFC means that soils are adequately protected from human-caused wind and water erosion, and soil fertility is maintained at, or restored to, a level that is appropriate for the site. Where threshold conditions exist (i.e., sites in a stable but non-natural or degenerate condition)—such as sagebrush/cheatgrass dominated sites—"appropriate" characteristics are those expected under threshold conditions. Under such conditions, restoration of natural, robust soil characteristics could only be expected over a very long time frame—perhaps one hundred years or more—although some visible progress would be expected within the mandate of this RMP.

2.10.2 Goal

The long-term health and productivity of soils in the SFO management area would be preserved. This means that there would be no *net* loss of soil mass or productivity. Earthen materials would also be provided for appropriate uses (e.g., roads, gravel, and livestock watering facilities).

2.10.3 Objectives

- Maintain areas that currently meet the land health standard for soils. Improve (or mitigate where this is not feasible) the productivity and/or stability of soils not meeting this standard to such a degree that soil health is achievable.
- Prevent or eliminate erosion and sedimentation in sensitive aquatic (or other sensitive) environments to ensure there is no threat to property or human health.
- Confine development (e.g., roads, trails, facilities) to areas with suitable soils.
- Provide sufficient earthen materials to meet the needs of county and state road departments.

2.10.4 Legislative, Regulatory, and Policy Direction

BLM's "Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-Administered Lands in Northeastern California and Northwestern Nevada" (S&Gs), (July, 2000) provides principal guidance for soil management decisions; specifically the soil health standard.

The S&Gs require that upland soils exhibit infiltration and permeability rates appropriate for soil type, climate, and landform. Soils must also exhibit functional biological, chemical, and physical properties.

Stated plainly, this means that precipitation must enter and percolate through the soil at a natural rate for soil type, climate and landform. It also means that soils must be protected from human-caused wind and water erosion, and soil fertility must be maintained at (or restored to) a defined level. Although there are other standards which guide and influence soil management decisions, the soil health standard is fundamental for determining soil health and defining the desired future condition. The goals and objectives stated above are based on this standard.

2.10.5 Proposed Management Actions

The term 'best management practices' (BMPs), as used in the soil section of this PRMP, is similar to its use in the Clean Water Act. It identifies methods, measures, and practices that will be used to achieve the desired future condition (DFC) for soils. BMPs are a combination of harmonious practices rather than single treatments. They are applied on a site-specific basis according to natural background conditions (i.e., geology, landform, climate, and ecology). However, technical feasibility and current social, economic, and political considerations also come into play. BMPs would be used for the following management actions.

- Introduce measures to achieve recovery of upland soils on 49,894 acres known not to meet land health standards. (See Map SOIL-1 for Soil/Site Stability Based on Land Health Assessments.) Since evaluation is not yet complete, other degraded areas will be earmarked for restoration once they are identified. (Thus far, 388,663 acres have been evaluated.) Restorative measures would be applied on a site-specific basis at the project level.
- Ensure that all activities do not result in a net loss of soil mass or productivity from the management area.
- Soils which are unproductive and most suitable for construction will be used in road and trail-building and for making stock ponds and reservoirs. Regarding these uses; soil survey reports are available for the SFO management area.
- Livestock grazing would be managed to ensure watershed health. This means that soil productivity, natural hydrologic function, and biological integrity—including protection of biological crusts—would be preserved. Grazing strategy adjustments would be the principal means of preserving or improving soil condition. However, other practices would also be employed to achieve this end.
- A minimum rest of two growing seasons—from livestock grazing and other watershed-disturbing activities—will normally be provided following wildfires or prescribed burns. (Rest permits site stabilization, healthy root development, and vigorous growth of native grasses, forbs, and shrubs.) The decision to re-open disturbed areas will be based on monitoring and suitability assessments. Areas may be re-opened in less than two growing seasons *only* if it can be demonstrated that resumption of livestock grazing will not compromise resource objectives.
- Wild horses would be maintained at appropriate management levels (AMLs) within designated herd management areas. An AML will be reduced if soil degradation is attributable to wild horse use at the existing AML.
- Minimize uses and management activities (except as required by law) in perennial and intermittent drainages where such activities are compromising normal watershed processes or function.
- Use adaptive management principles to aggressively treat vegetation on sites where exotic or invasive species are degrading soils and compromising their ability to maintain proper function. Eradication or control efforts would focus on invasive western juniper (except where juniper is a significant part of the ecological site description), cheatgrass, and medusahead sites.

- Plans that involve large-scale harvest or treatment of vegetation (e.g., logging, prescribed burns, fuel-reduction, and juniper treatments) must specify minimum levels of woody residue (in order to protect soil integrity and minimize erosion and sedimentation).
- Minimize degradation of soils with high shrink-swell characteristics by limiting compacting activities (e.g., livestock grazing, OHV use, and BLM maintenance activities) to periods when soils are dry and firm enough to resist compression. (This means that soil compression must be no greater than two inches for the sum of all activities.) However, infrequent activities (i.e., those that occur at greater than 10-year intervals) would be appraised and managed according to changes in soil structure following the compacting activity (rather than by the compression standard).
- Natural recovery processes would be used in degraded areas where significant progress is already being made toward achieving soil health. Elsewhere, reliance would be placed on vegetation manipulation and intensive planting of woody riparian species, plus bio-engineering in the form of exclosures, upland fencing, and in-stream structures (e.g., root balls, boulders or other objects). BMPs would be applied at the project level.
- Sediment intrusion buffer zones would be established around sensitive sites (e.g., bodies of water, certain biological sites, and archaeological sites) and developed property (e.g., campgrounds, and administrative sites) on a case-by-case basis. Roads and trails would be of primary concern, but buffer zones apply to any soil-disturbing activity that would create significant wind or water-born sediments, and threaten sensitive resources or human health and property.
- Management activities where soil and/or productivity losses are inevitable (e.g., roads, OHV recreation areas, gravel pits and mining), would be offset by mitigation measures elsewhere in that watershed—for fifth level (40,000 to 250,000 acres) or larger watersheds—to ensure that no net loss of soil mass or productivity occurs in the management area. Heavy machinery would be restricted to roads in the vicinity of perennial and intermittent drainages, and where soils do not meet land health standards.

2.11 Special Designations - Areas of Critical Environmental Concern

'Areas of critical environmental concern' (ACECs) are BLM-administered lands where a higher level of protection is provided in order to prevent, exclude, or modify land uses and activities that would otherwise cause irreparable damage to important ecosystems, wildlife or fisheries. ACECs are also created to protect areas of high scenic value, preserve important cultural resources, or guard human life and property from natural hazards. At present, there are no ACECs in the SFO (Surprise Field Office) management area. However, three areas contain one or more of the outstanding characteristic(s) required for ACEC designation. First is the proposed Rahilly-Gravelly ACEC, which is recommended under the Lakeview Resource Area RMP. It was nominated for outstanding natural resources and important cultural sites. Although 19,468 acres in size, only 957 acres are in the SFO management area. Second is the proposed Massacre Rim ACEC (44,870 acres) which would fall entirely within the Massacre Rim Wilderness Study Area (WSA). Portions of two (wild horse) herd management areas (HMAs) would also be part of the proposed ACEC (22,259 acres from the Massacre Lakes HMA and 6,172 acres From the Bitner HMA). Last is the proposed Bitner ACEC (1,921 acres); it would also contain portions of the Bitner HMA (354 acres). The (proposed) Massacre Rim and Bitner ACECs are nominated for their unique cultural sites (both are entirely within the SFO management area). (Refer to Appendix E for ACEC Relevance and Importance Criteria, and Map CR-1.)

The designation of an ACEC is a BLM discretionary decision made through adoption of an RMP. In order to protect the resource values that justified designation of each ACEC in this RMP (see RMP, Volume 2, Appendix E "Relevant and Important Criteria"), BLM is required to develop and implement an ACEC management schedule or an activity plan (BLM ACEC Manual 1613.6). Each ACEC's management schedule or activity plan will be unique to the resources to be protected and are "management measures that would not be necessary and prescribed if the critical and important features were not present" (BLM ACEC Manual 1613.1.12).

Designation of an ACEC does not automatically create land use restrictions that affect all on going or proposed land uses but rather, requires development of a set of management prescriptions tailored to protect the unique resource values for which the ACEC is established. Following adoption of this RMP, a management schedule or activity plan for each ACEC will subsequently be developed, involving affected stakeholders, to set future management direction for the area. An ACEC designation applies to BLM lands and does not apply to private property rights and privately held water rights.

In compliance with NEPA, all proposed management actions on BLM lands, must be evaluated for their impacts whether such proposed management actions are within or outside an ACEC (i.e., fencing, right-of-way corridors, events authorized under a special recreation permit, etc). The type of NEPA document required is dependent upon the type of proposed impact(s) and the extent of public interest and/or controversy associated with the proposed project.

2.11.1 Desired Future Condition

The outstanding natural and cultural resources contained in these three areas would be preserved by protecting them as areas of critical environmental concern.

2.11.2 Goal

Designate areas of critical environmental concern or research natural areas (RNAs) where special management is necessary to preserve outstanding features or values—where the relevance and importance criteria required for ACEC designation are satisfied.

2.11.3 Objectives

- Identify all areas under SFO management to determine which, if any, meet relevance and importance criteria requiring special management and permanent protection under the provisions of legislation establishing ACECs.
- Ensure that qualifying areas receive ACEC designation.

2.11.4 Legislative, Regulatory, and Policy Direction

- Code of Federal Regulations, Title 43, Part 1610
- BLM Manual 1613
- Land Use Planning Handbook, BLM H-1601-1, (Nov., 2000)

2.11.5 Proposed Management Actions Common to All ACECs

Livestock grazing will continue within all ACECS, based on current permit stipulations and approved allotment management plans. Proposed changes—including duration and intensity of use – will be evaluated for impacts on the relevant and important resources and values for which the ACEC was established. Changes would be granted if effects are likely to enhance (or have a neutral effect) on these resources and values. On the other hand, when adverse effects are likely, existing livestock use would be modified (by a variety of methods). A particular concern (in the proposed ACECs) is destruction of 'cultural plants' (used by Native Americans for traditional purposes) by grazing and trampling in-and-around springs. Typical alterations in grazing use would include new fencing strategies, reduced animal numbers, and season-of-use adjustments.

Within the Massacre Rim and Bitner ACECs wild horse numbers would be kept within appropriate management levels (AMLs), in order to ensure maintenance of healthy ecological conditions. Where adverse effects are identified, impacts would be eliminated by reducing animal numbers, fencing, or other practical means.

Actions would be taken to avoid disturbance of special status plants, and their habitats, or actions would be mitigated if disturbance is unavoidable. Populations would be inventoried and monitored, and research for the benefit of these species would continue. Conservation agreements would be written for all (BLM) 'sensitive' plants.

Wildland fires would be managed according to the 'appropriate management response' (AMR) identified for adjacent areas; however, the Massacre ACEC would be evaluated for wildland fire use. Use of heavy equipment in ACECs, RNAs, and WSAs would be avoided, if at all possible. Such equipment may be used if judged necessary by the line officer. In such an event, heavy equipment would be restricted to existing roads and trails—except where off-road use is deemed essential by the line officer *and* a qualified environmental specialist. Fire retardant may be used for initial attack. However, extended use is not viewed favorably and must be carefully considered in light of the overall fire situation and a realistic appraisal of risk to the resources and values for which the ACEC (or RNA) was established. Prescribed fire may be used in ACECs where it would preserve the natural character and biological diversity of the area and meet general management objectives.

Two areas of critical environmental concern (Massacre Rim and Rahilly Gravelly), a total of 45,827 acres, are designated as rights-of-way avoidance areas. This means that any applications for new rights-of-way or utility corridors would undergo a site-specific NEPA review, and would only be granted if BLM concurs 1) the only feasible location is within the ACEC, and 2) no relevant and important resources would be adversely affected. It is incumbent on the ROW applicant to investigate and document that the only feasible location is within the ACEC. BLM will utilize the applicant's documentation to evaluate concurrence.

Where ACECs and RNAs are 'Closed' to off-highway vehicles (OHVs), or where use is 'Limited to Designated Routes,' roads not available for motorized use would be marked (i.e., signed "Closed"), physically blocked, or rehabilitated. Data on existing roads is garnered from a US geological survey (USGS) digital line graph. However, non-inventoried roads and trails may be present on the ground. Non-inventoried routes that are subsequently discovered and judged to fit the "existing roads and trails" category would remain 'Open' for motorized use unless causing resource damage. Motorized travel by BLM (or other authorized agencies or parties) is allowed on all roads and trails (and off-road) where necessary for emergency, administrative, or other exceptional purposes authorized under the enabling legislation.

Noxious weeds would be aggressively controlled in all ACECs and RNAs using integrated weed management methods (e.g., biological control, site-specific spraying, and grubbing by hand). Treatment must protect the relevant and important values for which these areas are established and comply with the Integrated Weed Management for Nevada Lands Environmental Assessment (2004). Weed control measures for ACECs that are designated within WSAs must also comply with the Wilderness Interim Management Policy (IMP) (USDI-BLM 1995b).

Research that does not involve destructive methods is encouraged in ACECs and RNAs. Investigators may collect a small number of plants or modest quantities of plant materials. Research proposals require written authorization from BLM and (where necessary) a permit will be issued. Data and conclusions will be used by BLM for management of these areas.

Proposals for commercial recreation within an ACEC (or any use requiring a special permit) would be assessed on a case-by-case basis. Once evaluated, the activity would be allowed, modified, or prohibited — as required to protect the resources and values for which the ACEC (or RNA) was established. Primitive (dispersed) camping would be allowed in ACECs and RNAs.

An approved plan of operations is required for locatable mineral development in a designated ACEC (except for recreational mining). Other restrictions apply to leasable and saleable mineral activities. However, restrictions for these will vary according to the ACEC (or RNA) and the outstanding resources and values requiring protection. Mineral activities in the Massacre Rim ACEC are further constrained by the Wilderness IMP.

Traditional Native American uses (and other concerns) within ACECs and RNAs would be identified and protected in consultation with tribal governments and native individuals. Tribes and (native) individuals would be allowed to collect whole plants or plant materials without a permit for recognized traditional uses.

2.11.6 Proposed Management Actions for Massacre Rim ACEC

An ACEC of 44,870 acres is proposed, entirely within the Massacre Rim WSA. The area would be managed under the Wilderness IMP until such time as Congress makes a decision regarding wilderness designation. In some cases, ACEC management may be more restrictive than the Wilderness IMP (e.g., motor vehicle access)—in this eventuality, the more restrictive management would apply. Specific management actions are listed below for the Massacre Rim ACEC, and would apply when, and if, the WSA is released from wilderness study by Congress.

The Massacre Rim ACEC would be placed in land tenure Zone 2 (retention—further acquisitions not be pursued). A subsequent ACEC Management Plan will be developed to insure protection of wildlife habitats and cultural sites. Eligible cultural sites would be nominated to the National Register of Historic Places (NRHP). The ACEC would be managed under VRM Class II (preserve landscape character, man-caused changes minor and unobtrusive) criteria. Motorized travel would be 'Limited to Designated Routes'.

Commercial and domestic woodcutting, bough-cutting with off-site removal, and plant collecting are prohibited under the Wilderness IMP. However, this generally does not preclude collecting dead-and-downed wood for on-site fires while camping (under the Wilderness IMP or otherwise). The ACEC would remain closed to commercial and personal plant collecting and bough-cutting with off-site removal. The ACEC would be opened to locatable mineral activities (with stipulations to protect important resources), but would remain closed to saleable minerals and leasing.

The Massacre Rim ACEC would continue to be grazed by livestock in four grazing allotments under specific Allotment Management Plans that outline the grazing strategy, season of use, and other stipulations that must be followed. Approximately 2% of the ACEC area would continue to be excluded from grazing by fencing to protect sensitive resources.

2.11.7 Proposed Management Actions for Bitner ACEC

An ACEC of 1,921 acres is proposed. The ACEC would be placed in land tenure Zone 1 (acquisition); therefore, acquisition of inholdings and adjacent lands (from willing owners) would be pursued, where this would improve management or enhance the resources and values for which the ACEC was created. The ACEC (like the surrounding area) would be managed under VRM Class II criteria.

The Bitner ACEC would be a right-of-way exclusion area. It would also be 'Closed' to motorized travel. As part of the Bitner ACEC Management Plan, a strategy would be developed to insure the protection of wildlife habitats and cultural sites. Eligible cultural sites would be nominated to the National Register of Historic Places (NRHP). Woodcutting and collection of plants or plant materials would not be authorized. The ACEC would be 'Open' to locatable and saleable mineral activities, but 'Open' to leasable mineral activities with 'no surface occupancy' (NSO) restrictions.

The Bitner ACEC would continue to be available to livestock grazing. This area is managed under specific utilization guidelines and is managed for sage-grouse habitat.

2.11.8 Proposed Management Actions for Rahilly-Gravelly ACEC/RNA

The Rahilly-Gravelly ACEC would be designated on 957 acres within the SFO management area. Designation and management would be consistent with the Lakeview, Oregon BLM's Preferred Alternative (Lakeview RMP, 2004). Designation will create a combined ACEC/RNA between the two BLM offices of 19,468 total acres. Lakeview BLM will manage 18,511 acres under their jurisdiction, and Surprise BLM will manage 957 acres under their jurisdiction.

The Rahilly-Gravelly ACEC would be placed in land tenure Zone 1 (acquisition); therefore, acquisition of inholdings and adjacent lands (from willing owners) would be pursued, where this would improve management or enhance the resources and values for which the ACEC was created. The ACEC (like the surrounding area) would be managed under VRM Class II criteria. Motorized travel would be 'Limited to Designated Routes'.

The ACEC would be open to woodcutting and bough-cutting with off-site removal (under permit), but collection of plants or plant materials would not be allowed. The ACEC would be 'Open' to all mineral activities; however, leasable mineral development is subject to NSO stipulations.

As part of the Rahilly-Gravelly ACEC Management Plan, a strategy will be developed to insure protection of wildlife habitats and cultural sites. The ACEC will also be designated a traditional cultural property for Native Americans.

The ACEC has one active sage-grouse breeding display sites (leks). If needed, restrictions would be placed within the ACEC to avoid disturbance of these birds during the breeding season and measures would be taken to preserve these and other habitats important to sage-grouse. Livestock grazing would continue, based on existing permit stipulations and approved allotment management plans. Proposed changes to grazing (i.e., season-of-use or grazing intensity) would be evaluated for likely impacts. Changes would be allowed only if they are not likely to have adverse effects on the relevant and important resources and values the ACEC was created to protect. The ACEC is also managed for riparian improvement related to habitat for the Warner Sucker.

A particular concern is destruction (by grazing and trampling) of cultural plants (plants used for traditional purposes by Native Americans) in-and-around springs. Where adverse effects are evident, livestock use will be adjusted. Typical methods would include additional fencing, reduced animal numbers, and/or season-of-use adjustments.

Table 2.11-1 Management Summary for Proposed Areas of Critical Environmental Concern and Research Natural Areas

ACEC	Size (acres)	ROW[a]	Land Tenure Zone	OHV[b]	VRM	Grazing	Wood or Plant Collecting[d]	Minerals[e]		
								Locatable	Leasable	Saleable
Massacre ACEC (WSA)										
	44,870	AV	1	LD	I (II)[c]	Available[f]	O/C	O[g] (O)[c]	C (O)[c]	C (O)[c]
Bitner ACEC										
	1,921	EX	1	C	II	Available	C/C	O	NSO	O
Rahilly-Gravelly ACEC/RNA										
	957	AV	1	LD	II	Available[f]	O/C	O	NSO	O

Notes:

ACEC = area of critical environmental concern
OHV = off-highway vehicle
RNA = research natural area
ROW = right-of-way
VRM = visual resources management
WSA = wilderness study area

[a] EX = exclusion (no new ROWs), AV = avoidance (new ROWs only if no other option)

[b] C = closed to OHVs, LD = limited to designated routes,

[c] Text in parentheses indicates how the area would be managed if released from wilderness study.

[d] C = closed to wood or plant collecting, O= open to wood or plant collecting (Note: Plant collecting means plant materials or whole plants collected for personal domestic use or for on-site firewood [dead and downed only] while camping. Commercial firewood collecting or post-and-pole cutting would not be allowed in any ACEC.)

[e] C = closed to the exploration, development, and extraction of energy and minerals resources and O = open for the exploration, development, and extraction of energy and mineral resources

NSO = 'no surface occupancy' allowed during exploration, development, or extraction of oil, gas, or geothermal resources

[f] The ACEC would be available for livestock grazing; however, future resource conflicts may require substantial modification or making the area unavailable for grazing.

[g] Massacre ACEC Note: Locatable mineral activity in any portion of an ACEC that overlaps a WSA must not require reclamation. WSAs are closed to mineral leasing or the sale of mineral materials because of the Wilderness Interim Management Policy. If denied wilderness status, former WSAs would be open to locatable mineral development and may be open to mineral leasing or sale of mineral materials.

2.12 Special Designations - Wild and Scenic Rivers

The Wild and Scenic Rivers Act of 1968 (Public Law 90-542, as amended) requires, in the course of federal agency planning activities, that rivers and streams be evaluated and considered for 'wild and scenic river' status when appropriate. In compliance with the act, an eligibility determination was made for rivers and streams in the Surprise Field Office (SFO) management area. Established eligibility parameters for inclusion in the National Wild and Scenic Rivers System (NWSRS) were used to make these determinations. Briefly, eligibility requires that a river or stream segment must be free-flowing and must demonstrate 'outstandingly remarkable' value in at least one of the following areas: scenery, recreation, geology, fish or wildlife habitat, botanical or riparian significance, ecological or hydrological importance, cultural or historic significance, or scientific study value. (See Appendix H. "Wild and Scenic River Eligibility and Suitability").

The SFO evaluated 47 streams for potential eligibility under the Wild and Scenic Rivers Act. A list of all evaluated streams is listed in Appendix H, Table H-1. Of these, three (Rock Creek, Silver Creek, and Wall Canyon Creek) were determined eligible for detailed evaluation. After careful deliberation, none of these streams were found to meet the eligibility requirements. No additional streams were identified for (potential) eligibility in the public scoping process.

However, the proposed Lakeview Resource Management Plan and Final Environmental Impact Statement of January, 2004 recommended (to the California BLM director) 2.2 miles (457 acres in the northern California/Nevada border area) of Twelvemile Creek as suitable (i.e., met the criteria) for congressional designation as a wild and scenic river. The tentative classification is 'recreational.'

2.12.1 Desired Future Condition

The eligible portion of Twelvemile Creek would be protected under a recreational classification for potential inclusion in the National Wild and Scenic River System (NWSRS). Native trees and shrubs (especially ponderosa pine, quaking aspen, chokecherry, serviceberry, and red-osier dogwood) would remain dominant in the bottomland corridor. Native riparian vegetation (sedges, rushes, grasses, and forbs) would flourish along streambanks. Water quantity and quality would remain unimpaired, providing suitable habitats for self-sustaining populations of Warner sucker (a federally listed 'threatened' species), Warner redband trout (a BLM-listed 'sensitive' species), and speckled dace.

2.12.2 Goal

The outstandingly remarkable characteristics and values of rivers and streams judged suitable for inclusion in the NWSRS will be protected and enhanced until Congress makes a determination regarding wild and scenic river designation.

2.12.3 Objectives

A 2.2 mile section (457 acres) of Twelvemile Creek will be managed to protect and enhance its suitability for wild and scenic river designation.

2.12.4 Legislative, Regulatory, and Policy Direction

- Wild and Scenic Rivers Act (Public Law 90-542) (1968), as amended
- Cedarville Study Areas Final Environmental Impact Statement, Wilderness Recommendations, Surprise Field Office (1987)

2.12.5 Proposed Management Actions

- The 2.2 mile section (457 acres) of Twelvemile Creek would be recommended to Congress for wild and scenic river designation with a 'recreational' classification (see Map WSR-1).
- BLM will provide interim protection for the outstandingly remarkable values of this 2.2-mile (457 acres) section of Twelvemile Creek until Congress makes a determination regarding WSR designation.
- This section of Twelvemile Creek will be managed under VRM (visual resource management) Class II criteria.
- BLM would attempt to add to the eligible and suitable portion of this stream through acquisition of non-federal lands along the stream corridor. This will be done on a voluntary basis, from willing sellers and/or exchange proponents.
- The Twelvemile Creek WSR corridor is 'Open' to locatable mineral entry, mining could occur subject to existing regulations. All mining activity must be conducted in a manner that minimizes surface disturbance, sedimentation, pollution, and visual impairment.
- Where no reasonable alternative exits, ROW (e.g., for transmission lines and pipelines) would be avoided or restricted to existing ROWs.
- BLM would attempt to acquire conservation and scenic easements to protect these areas and preserve their natural, recreational, and scenic values.
- OHV use would be 'Limited to Designated Routes' and a 0.2 mile section of road within the Twelvemile Creek WSR corridor would be 'Closed' (see MAP: WSR - 1).

2.13 Special Designations - Wilderness Study Areas

Demand for backcountry activities such as hiking and backpacking, hunting, and wildlife-viewing, photography, and the study and contemplation of nature is expected to increase in the SFO (Surprise Field Office) management area. Preserving key wilderness characteristics of these areas will ensure the preservation of lands suitable for these, and other, activities. The management area contains the following wilderness study areas (WSAs) (see Map WSA-1):

- The Sheldon Contiguous WSA contains 23,700 acres—748 acres are recommended suitable for wilderness designation.
- The South Warner Contiguous WSA contains 4,500 acres—the entire area is recommended suitable for wilderness designation.
- The Massacre Rim WSA contains 101,290 acres—22,465 acres are recommended suitable for wilderness designation.
- The Wall Canyon WSA contains 46,305 acres—none of this is recommended suitable for wilderness designation.
- The Buffalo Hills WSA contains 47,315 acres (but only 7,792 acres are within the SFO management area). None of the SFO portion is recommended suitable for wilderness designation.

Suitability of areas for designation as Wilderness was determined in the 1990 California Statewide Wilderness Study Report (U.S. Bureau of Land Management 1990) and the 1991 Nevada BLM Statewide Wilderness Report (U.S. Bureau of Land Management 1991).

WSA designation is a Congressional decision, and is not discretionary to the local field office. WSAs do not create restrictions and/or buffers to adjacent private lands, or the right (directly or indirectly) to manage or otherwise influence uses of private property adjacent to the WSA.

2.13.1 Desired Future Condition

The physical integrity and wilderness character of these study areas will be protected until such time as Congress makes a determination regarding wilderness designation.

2.13.2 Goal

The areas judged suitable for wilderness designation within the current WSAs (i.e., those listed in the introductory remarks), would be recommended to Congress for designation as wilderness.

2.13.3 Objectives

- WSAs will be managed under the Interim Management Policy for Lands under Wilderness Review (Wilderness IMP).
- Inholdings and adjacent lands (acquired since the wilderness inventory) that have value as wilderness would be added to the appropriate WSA and managed under the Wilderness IMP.
- Manage WSAs under the Wilderness IMP. Adjacent lands acquired by BLM since the wilderness inventory of 1979 that also have wilderness values would be managed to protect those wilderness values.

2.13.4 Legislative, Regulatory, and Policy Direction

- The Wilderness Act (1964)
- The Federal Land Policy and Management Act (1976)
- BLM Handbook H-8550-1 (Interim Management Policy for Lands Under Wilderness Review) (1995)
- California Statewide Wilderness Study Report (1990)

2.13.5 Proposed Management Actions

- Management of five WSAs would conform to the Wilderness IMP until such time as Congress makes a determination regarding wilderness designation. The Wilderness IMP generally takes precedence over other management direction. However, if another special designation (e.g., an area of critical environmental concern [ACEC] or a special recreation management area [SMRA]) overlaps a WSA, the more restrictive management would apply.
- Lands acquired within or adjacent to WSAs since the BLM-California (1990) and BLM-Nevada (1991) Statewide Wilderness Study Area Reports would be assessed for wilderness qualities. Qualified properties would be added to the appropriate WSA through amendment of this RMP (these lands would then be subject to the Wilderness IMP).
- WSAs will be managed under visual resource management (VRM) Class I criteria.
- In WSAs where Section 202 of FLPMA applies, new and existing mining operations (established under the General Mining Law of 1872) are required (under 43 CFR 3802) to prevent unnecessary or undue degradation of lands—not to prevent impairment of wilderness suitability.
- Uses and development that pre-date FLPMA may not be modified to exceed the physical and visual impacts that existed at the time this legislation was passed. Motor vehicles with the least possible impact for such activities may be used to maintain pre-FLPMA facilities (e.g., waterholes, spring developments, guzzlers, and fencing).
- The ‘minimum tool’ concept must be applied to all actions within a WSA. This means that activities must be conducted with methods and equipment that have the lowest possible impact on the wilderness experience, as well as the natural and cultural resources of the WSA.
- The use of heavy equipment for firefighting is discouraged in WSAs. If thought necessary (fire) line officer approval is mandatory. Off-road use would be avoided, so equipment would normally be restricted to existing roads and trails. If off-road use is deemed essential, approval of the line officer and an (on-site) qualified environmental specialist must be obtained. Fire retardant is allowed for initial attack. However, its use for extended suppression is discouraged. Continued use must be justified by the situation analysis and the value of the resources at risk.
- The Wilderness IMP limits off-highway vehicles (OHVs) to “existing ways” that were present prior to the passage of FLPMA (October 1976). For the purpose of this PRMP, existing ways are shown or described in the Final Intensive Wilderness Inventory of Public Lands Administered by BLM-California outside the California Desert Conservation Area (December 1979). Unauthorized roads and trails created or discovered since that time will be closed and rehabilitated, in compliance with the Wilderness IMP. (Existing roads and trails in the remainder of the management area will be those that exist at the time this RMP is approved and the record of decision signed.)
- Preservation of wilderness values is essential for managing WSAs and is the primary consideration when evaluating any proposed management action or use that could degrade or conflict with an area’s wilderness character. In WSAs, wilderness objectives take precedence over all other management objectives.

- Proposed uses or facilities within WSAs must meet the following non-impairment criteria:
  - An activity or use must not create surface disturbance or require a permanent or semi-permanent facility. A temporary facility may be allowed if the structure clearly supports wilderness values and can easily and immediately be removed upon wilderness designation.
  - When terminated, the activity, use, or facility must not have degraded the area's wilderness potential to the point where it influences Congressional assessment regarding wilderness suitability.
  - The only exceptions to the non-impairment criteria are:
    - Emergencies associated with firefighting or search and rescue operations
    - Reclamation activities designed to minimize impacts created by violations and emergencies
    - Uses and facilities that are 'grandfathered' (allowed to persist because they pre-date the Wilderness IMP)
    - Activities, uses, or facilities that clearly protect or enhance wilderness values or are permitted—to the minimum degree necessary—for public health and safety reasons
    - Reclamation of adverse impacts from pre-FLPMA uses and facilities
- Management of an area Congress deems not suitable for wilderness designation (i.e., a former WSA) would be based on management direction for this land under the current RMP.
- The Surprise Field Office would actively pursue acquisition, from willing landowners, of non-public lands within and adjacent to WSAs. All lands acquired adjacent to or within WSAs since the "1990 California Statewide Wilderness Study Report" as well as WSAs in Nevada administered by the Surprise Field Office, (refer to the "1991 Nevada BLM Statewide Wilderness Report") will be assessed for wilderness values and managed according to the surrounding WSA area.
- The Wilderness IMP limits OHVs to existing (or designated) roads and trails (roads created after the wilderness inventory would be closed and rehabilitated). Motorized travel within the Massacre Rim, Sheldon Contiguous, South Warner Contiguous, and Wall Canyon WSAs would be 'Limited to Designated Routes'. The SFO portion of the Buffalo Hills WSA would be 'Closed' to motorized travel. If a WSA is denied wilderness status and returned to multiple-use management, it would be managed under the direction of this RMP in a manner similar to the surrounding area or under a special designation (i.e., ACEC), if applicable.

2.14 Travel Management

Indicators of off-highway vehicle (OHV) impact are primarily: visitor use data, the condition of existing roads and trails, and contact with visitors, especially their questions and comments. OHVs include motorcycles, all-terrain vehicles (ATVs), and four-wheel drive vehicles (4WD). OHV use is allowed only in areas where this activity is judged to have a reasonable or acceptable impact on the environment and its resources. Impact is assessed by monitoring disturbance of cultural sites, erosion of trail systems, and by monitoring the effects on fish and wildlife. The northern portion of the Surprise Field Office (SFO) management area (i.e., the Cow head Massacre Planning Unit) is 'Open' for OHV use. The southern portion (i.e., the Tuledad - Home Camp Planning Unit) limits OHV use to existing roads and trails. With respect to wilderness study areas (WSAs), OHV use is 'Limited to Existing Routes'.

It is anticipated that OHV activity will increase in the area. The development of a field-office wide OHV Master Plan will help to control the social and environmental impacts related to this activity. The plan will need to include designations for roads and trails ('Open', 'Limited', or 'Closed').

2.14.1 Goal

Manage off-highway vehicle use to protect environmental resources, promote public safety, and provide OHV use opportunities where appropriate. Minimizing conflict between various user groups must also be addressed.

2.14.2 Objectives

- Designate 'Open', 'Limited', and 'Closed' areas as required by Executive Order 11644 and amended by Executive Order No. 11989.
- Modify the travel route system where needed to improve access or protect resources.
- Adopt Resource Advisory Council (RAC) Guidelines (Appendix C) for OHVs.

2.14.3 Legislative, Regulatory, and Policy Direction

- Executive Order 11644 (Use of Off-Road Vehicles on Public Lands) (Feb. 1972), as amended by Executive Orders 11989 and 12608
- Code of Federal Regulations, Title 43, Part 8340 (Off-Road Vehicles) (1979)
- USDI-BLM, H-8550-1 (Interim Management Policy for Lands under Wilderness Review), Rel. 8-17 (July, 1995)
- USDI-BLM, Priorities for Recreation and Visitor Services (May 2003)
- USDI-BLM, H-1601-1 (Land-Use Planning) (Mar. 2005)

2.14.4 Proposed Management Actions

A system of designated roads, ways, and trails would provide reasonable opportunities for motorized recreation and motorized access to distant locations; including trailheads for non-motorized, cross-country travel (for activities such as hiking, hunting, fishing, and horseback riding). All routes identified in the 2003 inventory (1,944 miles) would be designated. Exemptions for administrative access, emergencies, livestock operations, and mineral authorizations would be allowed.

Routes would be maintained, modified, created, or obliterated in order to meet land health standards, water quality standards, wildlife habitat needs, and changing public needs and desires.

The following OHV designations would apply:

Table 2.14-1 Off-Highway Vehicle Designations

OHV Designation	Size (acres)	% of Area
'Open'	0	0
'Limited to Designated Routes'	1,208,650	99
'Closed'	11,994	1
Total	**1,220,644**	**100**

'Limited' Designation. Routes in areas not specifically designated 'Open' or 'Closed' would be part of the 'Limited to Designated' route network.

'Closed' Designation. Areas that will be 'Closed' to motor vehicles in order to protect natural or cultural resources, or provide areas for non-motorized recreation.

OHV use in Wall Canyon, Sheldon Contiguous, South Warner Contiguous, and Massacre Rim WSAs would be 'Limited to Designated Routes'. That portion of Buffalo Hills WSA managed by the Surprise Field Office will be 'Closed' to OHV use. The proposed Massacre Rim ACEC lies entirely within the Massacre Rim WSA. OHV use in this area is covered by the Massacre Rim WSA decision stated above, which limits OHV use to designated roads and trails. The proposed Bitner ACEC will be 'Closed' to OHV travel except for emergency, administrative, and authorized uses. OHV use in the Rahilly-Gravelly ACEC will be 'Limited to Existing Routes'. The following table identifies the lengths of routes that will remain 'Open' or become 'Closed' within WSAs.

Table 2.14-2 Designated Routes within Wilderness Study Areas[1/]

Wilderness Study Area	Open Routes (miles)	Closed Routes (miles)
Massacre Rim	24	48
Sheldon Contiguous	6	21
Wall Canyon	16.5	23

1/ Refer to Map TRAVEL-1 for route locations.

All proposed management actions concerning any parts of areas of critical environmental concern (ACECs) within Instant Study Areas (ISAs) or WSAs are governed by "Interim Management Policy for Lands under Wilderness Review" (USDI-BLM 1995b) until such time as Congress makes a determination regarding wilderness designation. OHV designations in WSAs remain in effect until Congressional release of an area from WSA status or until such time that actual or unforeseeable use levels cause the nonimpairment criteria to be violated. In this case, more restrictive designations may be made. Areas released from WSA status would be managed according to the designations of the surrounding area(s).

According to the Wilderness Interim Management Policy (IMP), the use in WSAs of "....mechanical transport, including all motorized devices as well as trail and mountain bikes, may only be allowed on existing ways and within open areas that were designated prior to the passage of FLPMA (October 1976)."

For the purposes of this PRMP, existing roads and ways within WSAs are those that existed on the ground at the time the FLPMA was passed (1976) and were subsequently shown or described in the "Final

Intensive Wilderness Inventory, Public Lands administered by BLM California outside the California Desert Conservation Area, December 1979". Any new roads or trails that have been created or discovered since then have either been closed or should be closed to vehicle use in order to comply with the Wilderness Interim Management Policy (IMP). In order to adhere to this policy, 43 additional miles of routes within WSAs would be closed, as shown on Map TRAVEL-1.

Existing roads and trails within the remainder of the management area are defined as those roads or trails that exist on the ground at the time the RMP is approved and the record of decision is signed. These will be verified by comparison with recent cadastral surveys (conducted in 2003–2004) using global positioning system units.

Designated routes will be reevaluated and updated as transportation data is incorporated into the GIS database. This may result in closure of routes which are sensitive to resource damage, areas hazardous to the public, or when multiple routes exist to the same location.

Off-road vehicle is defined as any motorized vehicle designed for, or capable of, travel on or immediately over land, water, or other natural terrain, excluding:

1. Any non-amphibious registered motorboat
2. Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes
3. Vehicles on official business
4. Any combat or combat support vehicle when used in times of national defense or in emergencies
5. Any vehicle whose use is expressly authorized by an officer or person acting in an official capacity

Exceptions to authorized OHV use would automatically apply in cases one through four (listed above) without requiring additional authorization. Under case five, individuals authorized use of the public lands under a license, lease, permit, contract, or other authorization may be allowed to use an OHV in a closed area or off-road in a limited use area on a case-by-case basis. This would require official approval by a BLM authorized officer to give such permission. Such approval would take into account the type of vehicle, frequency of use, time of year, purpose, and effects upon the existing resource base, i.e., protection of soils, vegetation, wildlife, cultural, paleontological, WSA, and other possible values. A person requesting such permission would be required to demonstrate that OHV use was necessary to carry out the primary purpose(s) of a license, lease, permit, contract, or other authorized activity in which no other practicable alternatives exist. The vehicle authorized must be of a type which would have the lowest possible impact to the environment while at the same time having the capacity to perform the task. Furthermore, travel would be limited to frozen or dry soil conditions in order to minimize adverse impacts on soils and other protected resources. Trip frequency would be limited to the minimum necessary to complete the required task(s) and conducted in such a way as to prevent the development of new trails.

In addition, retrieval of big game is the only exemption of use for off highway vehicles for hunting activities. It is expressly forbidden to use 4x4 vehicles, ATVs, motorcycles etc., for hunting off road. The sole purpose of this exemption is big game retrieval only; no other hunting use is allowed. BLM law enforcement is expected to be heavily involved for compliance of this exemption to OHV travel.

Route modifications must be consistent with RMP goals and objectives and fulfill one or more of the following criteria:

- Actions would minimize damage to the watershed and its soil, vegetation, air-quality or other resources of the public lands.

- Actions would avoid significant habitat disruption and minimize harassment of wildlife. Special attention—and higher standards—would be imposed for endangered or threatened species and their habitats.
- Actions would minimize conflicts between competing uses of the same, or adjacent, public and private lands and ensure that sanctioned activities are compatible with desired conditions for nearby populated areas (e.g., noise, air-quality, and safety concerns, where applicable).
- Actions would improve wilderness characteristics and values or prevent impairment of suitability for wilderness designation.
- Routes would be realigned where they pass through unsuitable soils.
- Actions would improve or establish public access.
- Actions would protect public health and safety.

Vehicular travel would conform to the "Guidelines for OHVs" (see Appendix C) from BLM's Northeastern California Resource Advisory Council.

Existing scenic byways or vehicle routes would be retained. New road construction would be allowed if the need arises. An 'Open' OHV use area may be developed if the demand arises.

Roads identified for closure may be signed, physically barricaded, and/or restored. Priority areas for restoration would be riparian sites, conservation areas, damaged watersheds, and important wildlife or plant habitats.

A 0.2 mile section of road would be 'Closed' within the Twelvemile Creek WSR corridor (see MAP WSR-1).

Commercial, competitive, and other organized OHV activities would be managed with special recreation permits (SRPs). Organized OHV events would be restricted to existing or designated roads and trails. These activities would be allowed only when consistent with protection of identified resources and other management objectives. OHV site or area signing and other measures would be instituted as area designations, acceptable uses, and resource values dictate.

Road maintenance would continue at a rate of 30 to 75 miles per year.

2.15 Vegetation

Vegetation communities within the SFO management area may be placed in one of five general groups known as 'plant associations'. These are 1) shrub-steppe (i.e., plant communities dominated by grasses or by sagebrush, greasewood and saltbrush, bitterbrush, or winterfat); 2) riparian; 3) quaking aspen; 4) Utah and western juniper woodlands; and 5) curlleaf mountain mahogany. Other plants, plant communities, and associations are discussed under "Forestry" (Section 2.5—primarily white fir or ponderosa pine-dominated communities), "Noxious Weeds" (Section 2.16), and "Special Status Plants" (Section 2.17). The extent of occurrence of plant associations within the SFO management area is presented in the following table.

Table 2.15-1 Vegetation Plant Associations in the SFO Management Area

Vegetation Community		Approximate Size (acres)	Percent of Management area
Juniper Woodlands[1/]		17,500	1%
Curlleaf Mountain Mahogany Woodlands[1/]		9,100	1%
Quaking Aspen Woodlands[1/]		1,800	<1%
Timber (commercially viable white fir and ponderosa pine)		700	<1%
Riparian (seeps, springs, streams, and productive lakebeds)[1/]		20,000	2%
Shrub-Steppe Associations (1,171,500 acres in total or 98% of management area)	Healthy Shrub-Steppe	558,500	46%
	Potential Perennial Grassland	67,000	5%
	Existing/Potential Annual Grassland	110,000	9%
	Decadent Shrubland	10,000	1%
	Existing Juniper Encroachment	90,000	7%
	Potential Juniper Encroachment	336,000	28%
Total Area		**1,220,600**	**100%**

[1/] The extent of juniper, mahogany, aspen, and riparian associations are estimates based on soil surveys. Specific soil types characterize these associations, though they exist within the context of the dominant vegetation.

About 67,000 acres of shrub-steppe is comprised of big sagebrush or greasewood, with little remaining understory. These communities have the potential to support native grassland composed of basin wildrye, other native grasses, and associated forbs (see map VEG-2 for potential wildrye restoration areas). The present rate of shrub-steppe restoration in these communities is about 40 acres/year.

Approximately 110,000 acres of native shrub-steppe is degraded to the point where it is dominated by—or at risk of conversion to—cheatgrass or medusahead. However, about 10,000 acres of decadent mountain big sagebrush (with sparse understory vegetation) would respond well to treatment that encourages regeneration and increases species and age-class diversity. The present rate of shrub-steppe restoration in these associations is about 600 acres/year.

The management area only contains 17,500 acres of historic juniper woodlands. However, an additional 90,000 acres of sagebrush-steppe, aspen, mountain mahogany, and riparian plant associations have been severely degraded by encroachment of this species. These plant associations would greatly benefit from juniper reduction efforts.

An additional 336,000 acres that currently support commercial timber, big sagebrush, antelope bitterbrush, curlleaf mountain mahogany, quaking aspen, riparian communities, and (productive) low sagebrush is threatened by encroaching juniper and will ultimately convert to juniper woodland without aggressive treatment. The current rate of juniper expansion is about 650 acres per year.

Without restoration of a natural fire régime and/or other forms of effective treatment, estimates are that an additional 13,000 acres will be significantly degraded by juniper encroachment in the next 20 years. Invasive juniper is currently treated at a rate of 500 acres/year (320 acres manually and 180 acres with prescribed fire) and 20 additional acres (about 75 cords/year) are harvested for firewood by the public. Therefore, the current rate of juniper harvest/destruction will not be adequate to reverse this trend, or even halt its progress.

Although wetland and riparian habitats cover less than 2% of the management area, their small size belies their profound ecological significance. These areas provide essential structural and biological diversity and have major importance for ecosystem stability and productivity—particularly in drier climates (Elmore and Beschta 1987). The current rate of riparian restoration is about 25 acres/year.

At the present time, aspen may be harvested commercially or for private use—however, there is virtually no demand. The aspen restoration rate is about 30 acres/year. Dead mountain mahogany may also be harvested commercially or privately and about 10 cords are collected yearly.

2.15.1 Desired Future Condition

Plant communities would exhibit sufficient diversity in structure, age class, and species composition to support nutrient cycling and energy flows. Vigor would be adequate to maintain healthy plant associations and communities would meet the needs of fish and wildlife and provide sufficient forage for livestock. Reproduction and recruitment would be assured when favorable events occur (e.g., good precipitation years, normal down-swings in wildlife populations or reduced livestock grazing pressure). Natural disturbance régimes—particularly fire—would be common, but not catastrophic. Species populations would be sufficiently dispersed to permit adequate reproduction and recovery from localized catastrophic events. Plant communities would reflect the ‘potential natural community’ or the ‘desired plant community’ appropriate for the site. Non-native plant species would exist at acceptable levels. Adequate organic matter (ground litter and standing dead material) would be present in sufficient quantities to control erosion, replenish nutrients, maintain soil health, and meet the needs of wildlife.

Riparian vegetation would be vigorous, mostly perennial, and sufficiently diverse in species composition, age class, and structure to control erosion by decreasing runoff energy, thereby delaying and reducing floodwater peaks and stabilizing streambanks. Healthy riparian vegetation will shade water courses, filter sediments, recharge groundwater, and encourage floodplain development. Vegetation around seeps and springs would reflect the potential natural community for the site and diversity in species composition, age class, and structure would be evident.

Wildlife habitats would exist in a variety of seral stages. Species diversity, as well as plant structure and patch size, would support varied and healthy wildlife populations. Habitat areas would be sufficiently large to support thriving populations. Similar habitats would be interconnected so that genetic exchange between wildlife populations would be sufficient to insure long-term viability and healthy, thriving populations.

2.15.2 Goal

Restore, protect, and enhance the health and diversity of native (and desirable non-native) plants, plant communities and associations throughout the management area. Ensure that vigorous and abundant plant life is available to support other valued resources in order to (directly or indirectly) provide economic benefits and high-quality recreation.

2.15.3 Objectives

- Ensure that the natural distribution, variety, and abundance of native plants, plant communities, and associations are restored and native plants and ecosystems remain healthy throughout their range. Restore degraded landscapes, especially shrublands dominated by exotic annual grasses, perennial grasslands choked with brush, and decadent mountain big sagebrush.
- Ensure that vegetation provides sufficient forage, water, and cover (thermal and escape) for wildlife.
- Ensure that vegetation is sufficiently healthy and robust to support human needs; particularly recreation, water (supply and quality), and livestock forage.
- Increase public safety and protect property by managing vegetation to minimize the risk of catastrophic wildfires, while restoring natural ecosystems and preserving scenic values.
- Eliminate encroachment and significantly reduce invasive juniper in order to restore shrub-steppe, aspen, riparian, and mountain mahogany plant associations. However, maintain ecosystem integrity in natural juniper woodlands.
- Achieve healthy and productive wetland and riparian habitats through measures that will restore and protect riparian vegetation, and achieve habitat diversity and hydrologic stability.
- Produce healthy aspen stands (upland and riparian) through measures that will promote regeneration and growth, and create size and age class diversity. Restore and maintain ecosystem integrity and productivity in natural mountain mahogany woodlands.

2.15.4 Legislative, Regulatory, and Policy Direction

- Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-Administered Lands in Northeastern California and Northwestern Nevada (July, 2000)
- BLM Manual 1745, Supplemental (California Native Plant Materials Policy)
- Conservation Strategy for Sage-Grouse (Centrocercus urophasianus) and Sagebrush Ecosystems within the Buffalo-Skedaddle Population Management Unit (Northern California Sage-Grouse Working Group, 2006)
- Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, First Edition (2004), including the Vya and Massacre Conservation Strategies

2.15.5 Proposed Management Actions

Prescribed fire, herbicides, mechanical and manual treatments would be used to restore shrub-steppe associations on 500 to 4,000 acres/year. Treatment specifically targeting invasive juniper would concentrate on degraded shrub-steppe associations adjacent to natural juniper woodlands (to ensure that native juniper woodlands are not treated and to delay reinvasion from these areas). Treatment would focus on areas where rapid recovery to site potential is likely—usually sagebrush areas with abundant young juniper. Treatment would also emphasize areas with potential high-demand (for firewood and [possible] biomass power generation), where juniper is most accessible for mechanical treatment (chipping).

Treatments would be prioritized in areas where restoration would enhance special habitat, such as riparian areas, pronghorn kidding grounds, and sage-grouse brood rearing sites, and areas in which there is high potential to increase livestock grazing authorizations would be prioritized.
Additional vegetation goals are to establish (wildfire) fuel breaks, restore natural ecosystems and wildlife habitats, and increase forage for livestock and wild horses.

Historic juniper woodlands will be maintained on land to which it is native (17,500 acres). (Prior to European settlement, juniper woodlands were restricted to rocky, fire-safe ridges with sparse vegetation.) Quaking aspen woodlands will be restored, maintained, or enhanced on at least 1,800 acres (the estimated extent of aspen stands remaining in the management area). Curlleaf mountain mahogany woodlands will be restored, maintained, or enhanced on at least 9,100 acres (the estimated extent of curlleaf mountain mahogany remaining in the management area).

Quaking aspen, bitterbrush, and mountain mahogany communities will be treated at a rate of 10 – 100 acres/year to reduce juniper and brush, and increase shoot density, vigor, and age class diversity. Low-intensity fire (i.e., burning of understory vegetation) and large-scale burns (in conjunction with adjacent shrub-steppe communities), mechanical, and manual treatments will be used to accomplish these objectives. Plantings (root/seed/sapling), alternative grazing régimes, forage utilization limits, and exclosure fencing will be used (post-treatment) to restore aspen and mountain mahogany where these species have declined.

On sites where wild or prescribed fire has burned more than two acres of quaking aspen or mountain mahogany, at least three years rest from livestock grazing will be mandatory. Post-fire recovery criteria (e.g., sapling density, plant height, and ability to withstand grazing) must be met before grazing can resume. Pole cutting will be allowed in aspen and mountain mahogany stands outside of WSAs, RNAs, or ACECs. Mahogany harvest will be limited to a total of 30 cords/year for the management area.

Achieve measurable progress toward proper functioning condition (PFC) or desired future condition (DFC) on 53 miles of perennial and intermittent streams and 2,500 acres of riparian/wetland areas. Implement treatments to restore priority perennial and intermittent streams, based on riparian functional assessment ratings and associated resource values. These sites are the highest management priority because, without management, these riparian resources are expected to decline. Prescribed fire, manual, and mechanical treatments will be used to restore 50 to 100 acres per year of riparian areas. Treatments will be prioritized to achieve healthy and productive wetland and riparian habitats, and achieve habitat diversity and hydrologic stability.

Livestock salting will not be permitted within one quarter-mile of springs, meadows, streams, aspen stands, and archaeological sites. Suitable locations would be determined by BLM in consultation with livestock permittees.

Prescribed fire, herbicides, mechanical, and biologic treatments (including grazing or animal impact) will be used to restore 50 to 100 acres/year of degraded native grassland. Seeding will be actively employed for post-fire stabilization and rehabilitation, wildlife habitat restoration, fuel breaks, and forage production.

Crested wheatgrass communities will be maintained where in a healthy and productive condition (36,740 acres); however, crested wheatgrass stands in poor condition (8,400 acres) will be restored to native vegetation.

Sustainable forage utilization levels (that consider the combined impacts of livestock, wild horses, and wildlife) will be set for key grass, forb, and shrub species in order to maintain healthy native plant communities. This means that grazing of key species must not exceed moderate (40%-60%) levels and hedging of browse plants must not exceed form class 2.25.

Post-wildfire stabilization and rehabilitation efforts will continue on 4,568 acres already seeded for this purpose. Newly seeded areas must comply with BLM-California's native plant materials policy. This means that locally gathered, native seed (or non-local native seed when local seed is unavailable) will be used for post-fire stabilization and rehabilitation, wildlife habitat restoration, forage augmentation efforts and other such projects.

Areas burned by wild or prescribed fire would normally be rested from livestock grazing for a minimum of two growing seasons. The decision to re-open a burned area will be based on monitoring and assessment. Grazing might resume in less than two growing seasons, *if* this would not hamper resource objectives for the area.

Proposed treatments will be evaluated with regard to rehabilitation requirements—especially concerning invasive plants and noxious weeds. Modify treatment procedures, or choose alternative methods, where rehabilitation requirements are unacceptable. Chemicals used to reduce juniper or treat noxious weeds will be approved for public lands and guidelines for use will be strictly followed. Juniper treatments that involve shearing or chipping must comply with conservation measures related to slope, soil disturbance, limb removal, leave-tree requirements, stump height, fuel concentration, fire safety, exclusion areas, landings, equipment maintenance, fence repair, site rehabilitation, and weed control.

The BLM Surprise Field Office will actively consult with local Native American tribes to determine locations of harvesting/gathering areas prior to vegetation manipulation treatments.

2.16 Noxious Weeds and Invasive Species

This section addresses both weeds that are legally defined as "noxious" and other invasive plants, and addresses management actions for both categories of weeds. Invasive and noxious plants have inhabited what is now the United States since the earliest days of European settlement. However, infestation (species and numbers) has increased exponentially in the last half-century. Due to the vulnerable nature of altered native ecosystems, invasive plants frequently threaten their stability and productivity. Noxious weeds may also retard or prevent recovery of degraded ecosystems. In some cases, the survival of native species is in jeopardy. Therefore, displacement of native plants and plant communities by alien weeds—which are frequently unpalatable or toxic—can be devastating for rangelands, forests, and other native landscapes, often with severe economic consequences for man.

The state of California has identified more than 130 species of invasive, noxious plants that threaten croplands, rangelands, forests, and waterways. Nevada has identified more than 30; there are undoubtedly many others yet to be located and identified. Many invasive plants are easily dispersed and readily adapt to local conditions. Unfortunately, we can expect this problem to continue, and even worsen (Gimp et al. 2004).

The SFO (Surprise Field Office) management area is one of the few locations in the Western States where noxious weeds can still be controlled or eradicated due to low-density infestation. The SFO's 'integrated weed management control program' has sufficient flexibility to deal with the dynamic qualities of the noxious weed problem. Major challenges are posed by increasing numbers of invasive species, differing physiology, rapidly changing environmental conditions, and trends in commerce and technology. The extent and severity of the problem (i.e., new introductions and proliferation of existing infestations) varies from year-to-year, according to prevailing conditions. Weed infestation can also be a by-product of vegetation treatments. For these reasons, site-specific reviews of known infestations are conducted prior to the annual commencement of weed treatment activities. The noxious weed program is conducted in cooperation with adjacent weed management areas and in partnership with county, state, and federal agencies, plus local working groups.

2.16.1 Desired Future Condition

The present condition of terrestrial and aquatic ecosystems reflects local economic conditions and widely held social values. Local economic and social values for biodiversity are tangibly presented in BLM's *Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-Administered Lands in Northeastern California and Northwestern Nevada,* 2000 (S&Gs). Description of the Desired Future Condition is intended to facilitate attainment of the Biodiversity Standard for Rangeland Health described in these S&Gs.

The desired future condition is the attainment and maintenance of viable, healthy, and diverse populations of native—or desirable introduced—plant species which are free of noxious weeds. Where noxious weeds are currently a problem; they will be contained or decreased to an acceptable level.

2.16.2 Goal

Integrated weed management will succeed in curtailing introductions and limiting the proliferation of noxious weeds and other invasive plants throughout the management area. As a result, native ecosystems will be rejuvenated or (eventually) reestablished, in areas now dominated by noxious weeds.

2.16.3 Objectives

Noxious weeds will be extirpated whenever possible. Where this is not feasible, infestations will be contained and numbers reduced to manageable levels. Special attention would focus on highly invasive species such as cheatgrass and medusahead—on sites where infestation is below the threshold level (for sight conversion) and aggressive treatment is likely to succeed. Measures will be taken to reduce introductions and proliferation by increasing public awareness and imposing stipulations on management activities.

2.16.4 Legislative, Regulatory, and Policy Direction

- The Federal Land Policy and Management Act (1976), as amended (1999)
- The Food, Drug, and Cosmetic Act (1938)
- The Miller Pesticide Amendment (1954)
- The Carson-Foley Act (1968)
- The Insecticide, Fungicide, and Rodenticide Act (1947), as amended (1988)
- The Federal Noxious Weed Act (1974), and the amendment to Section 15 (1990)
- Executive Order 13112 (Invasive Species) (1999)
- Partners Against Weeds – An Action Plan for BLM (1996)
- BLM Manual 9011 (Chemical Pest Control) and Handbook H-9011-1
- BLM Manual 9014 (Biological Control of Pests on Public Land)
- BLM Manual 9015 (Integrated Weed Management)
- California Food and Agriculture Code: Sections 403, 482, 5021, 5041, and 5405
- Nevada Department of Agriculture Code: NRS 555
- BLM Pesticide Applicator's Certification Program

2.16.5 Proposed Management Actions

Control measures will focus on disturbed areas; particularly roads and right-of-way, livestock watering sites and trailing routes. The integrated weed management program will continue in cooperation with the California and Nevada Departments of Agriculture, Lassen, Modoc, Washoe and Humboldt Counties, adjacent cooperative weed management areas, and with private landowners and permittees. Inventories and control measures will be coordinated with adjacent weed management areas for early detection of new infestations, monitoring of existing infestations, and evaluating the effects of prior treatment activities.

Other management actions include:

- The IWM program will employ a combination of treatment methods designed to provide flexibility in dealing with the dynamic character of the noxious weed problem. Treatments include mechanical, chemical, biological, and manual means and include pre-treatment and post-treatment surveys to determine need, locate problem areas, and assess treatment effectiveness. Treatments will focus on restoration of sites to native plant communities.
- Eradicate noxious weeds and other invasive species wherever possible; achieve adequate control and limit proliferation where eradication is not feasible.
- Use integrated weed management methods (i.e., education, prevention, and treatment) to eradicate or control noxious weeds and other invasive species.

- Maintain present partnerships and cooperative arrangements with local (noxious weed and other invasive species) working groups (i.e., private landowners, other agencies, and BLM-permittees), adjacent weed management areas, and appropriate county, state, and federal agencies in order to permit efficient inventory, early detection, and effective eradication (or control) of noxious weeds and other invasive species.
- Use prescribed fire, mechanical, manual, chemical, biological, and cultural (e.g., grazing, plant competition, and fertilization) treatments, alone or in combination, to eradicate or control existing infestations.
- Employ chemical treatment (using approved herbicides) where fire, mechanical, and/or biological methods are not adequate or feasible.
- Biological methods must employ host-specific pathogens, insects, or other known and proven agents.
- Use public education and effective preventive measures (particularly regarding livestock, wild horses, and wildlife) to preserve native vegetation and minimize introduction and/or proliferation of weeds (as seeds or plant parts).
- Conduct regular, systematic inventories to detect new infestations and monitor existing ones.
- All hay, straw, or mulch used on BLM-administered lands must be certifiably free from noxious weed seed. Stipulations to this effect will be attached to all use permits and emergency stabilization and rehabilitation plans. Only under emergency conditions and on a case-by-case basis, may non-certified hay, straw, or mulch be used (if approved by the field office manager).
- Cooperative weed control programs will continue on the Upper Alkali Lake restoration project, the Snake Lake experimental medusahead project and on watershed restoration projects in Wall Canyon.

2.17 Special Status Plants

No populations of federally listed plants are known to occur in the SFO (Surprise Field Office) management area. Nonetheless, five species and 150 occurrences of other special status plants (SSP) have been identified within the management area. (However, there are seven species in the management area –which includes the Black Rock Desert and High Rock Canyon Emigrant Trails National Conservation Area and the Sheldon national Wildlife Refuge.) Ten more species probably occur in the management area, but their presence has not been verified. The major threats to the continued existence of these plants are grazing and trampling by livestock and wild horses, off-highway vehicle (OHV) traffic, continued fire suppression, mining and decorative rock collecting, invasive plants and alien weeds, plus soil erosion (from a variety of causes).

2.17.1 Desired Future Condition

Populations of special status and special interest plants would be reproductively successful and thrive in the varied and characteristic habitats to which they are adapted.

2.17.2 Goal

Restore, maintain, or enhance habitats and populations of special status plants on public lands administered by BLM.

2.17.3 Objectives

Identify and protect all species and populations of special status plants in the management area. Take action to maintain reproductive viability and ensure that BLM management actions, and those of its permittees, do not contribute to the decline of any special status plant. Protect these plants in the following order of priority:

1. Federally listed endangered and threatened species
2. Species proposed for federal listing
3. Possible candidates for federal listing
4. State-listed (CA, NV, or OR) endangered and threatened species
5. BLM ‘sensitive’ species
6. BLM ‘special interest’ species

2.17.4 Legislative, Regulatory, and Policy Direction

- The Federal Land Policy Management Act, Public Law 94-579 (Oct. 21, 1976, as amended through Sept., 1999)
- Endangered Species Act of 1973 (16 U.S.C 1531 et seq.), as amended
- BLM Manual 6840 – Special Status Species Management, Release 6-121, (Jan. 19, 2001)
- Departmental Manual 632.1.1–1.6, Endangered Species Management;
- Memorandum of Understanding (MOU) between USDA-Forest Service; USDI-Fish and Wildlife Service, Bureau of Land Management, National Park Service, and USDC-National Marine Fisheries Service (1994)

- Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-Administered Lands in Northeastern California and Northwestern Nevada (July, 2000)
- BLM Manual 1745, Supplement (California Native Plant Materials Policy)
- Species Management Guide for *Eriogonum crosbyae* (1989)
- BLM Manual Supplement, California State Office, 6840.06 – Special Status Plant Management, Release 6-24 (Mar. 25, 1996);
- BLM Manual Supplement, California State Office, H-6840-1– Special Status Plant Management, Release 6-25 (April 15, 1996);
- BLM Manual Supplement, California State Office Handbook H-1745–Native Plant Materials Handbook, Release CA 1-243, (Sept. 13, 2001).

2.17.5 Proposed Management Actions

Protection and habitat enhancement will be prioritized for any federally listed endangered or threatened plant, should any be found in the management area. All populations of special status plants will be protected and their habitats managed so that BLM actions, or those of its permittees, do not contribute to their decline, especially the need to 'list' any plant under the Endangered Species Act. As a rule, BLM will always seek to eliminate or minimize the impact of ground-disturbing activities on special status plants and their habitats.

Site-specific management practices will be implemented for all species, populations, and habitats of SSPs as presented in or according to: conservation plans, recovery plans, habitat management plans, conservation recommendations, Biological Evaluations (BE), and best management practices (BMPs). Any mitigation measures or management actions described for SSPs in a BE could be called BMPs. Under certain conditions and in certain areas, as much as 20% of occupied habitat and a 20% overall decrease in abundance (both apply only on an individual species basis and are the threshold level for that species) would be tolerated, where this would not materially contribute to the decline of a SSP. However, the threshold level would not be tolerated where contrary to a biological assessment, conservation strategy, species-specific management guidance, or biological evaluation.

Where a special status species has a conservation strategy, management prescriptions, or standards and guidelines contained therein would be followed. If a SSP or its habitat declines beyond the thresholds defined above, all management actions suspected of contributing to the decline of the species or its occupied habitat would be terminated. If a conservation strategy for a special status species does not exist, a Biological Evaluation would be prepared to determine likely effects on the SSP and a monitoring program would be implemented.

Where land-use activities are contributing to the decline of sensitive (special status and special interest) plants on private lands, BLM would attempt to acquire these lands (from willing owners)—particularly in Hays Canyon and Grass Valley. Special management considerations and permit stipulations applied to protect populations of special status plants would apply equally for special interest species.

Commercial and private woodcutting would not be allowed where populations of sensitive plants (special status and special interest) are found. Despite this, commercial permits for mechanical harvesting of invasive juniper would be sanctioned within habitats containing such populations. However, special stipulations would apply to the harvesting permits. These would include limits on road construction, mandatory use of rubber-tracked vehicles (for cross-country travel), and access-point rehabilitation requirements (to avoid establishing permanent ways). OHVs would be managed according to 'Limited to Designated Routes' throughout the management area, so motor vehicles would have no direct impact on sensitive plants.

2.18 Visual Resource Management

The SFO (Surprise Field Office) management area is characterized by extensive open-country landscapes that are exceptionally scenic and visually imposing. The Surprise Valley, in particular, is mostly open basins of grassland and sagebrush steppe. To the west, rise the forested slopes of the Warner Mountains; to the east, desert hills. These features enclose vistas of outstanding visual beauty. Recreation in the SFO management area usually involves enjoyment of striking arid-land scenery, experienced in a rugged, undeveloped setting. This demands a large measure of independence and self-reliance. The need of visitors to experience peace and solitude, and the opportunity to contemplate visually inspiring landscapes, is fundamental to most recreational activities in this area.

Visual resource management (VRM) classes identify and quantify criteria in order to describe visual potential and evaluate the degree to which humans have altered the visual qualities of the natural environment. VRM classes are a useful tool for land management, to help avoid adverse impacts on visual resources at the landscape level. Once a VRM class has been determined or assigned, activities must conform to the parameters of the designated class. In addition to scenic quality and value, planners also considered public opinion regarding sensitive areas (e.g., unique landscapes, special management areas, and travel corridors) and distance and exposure from primary travel routes (i.e., distance zoning). The following is a brief summary of VRM class descriptions and management strategies appropriate for the SFO management area.

Class I: The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes, but it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II: The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III: The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV: The objective of this class is 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. These management activities may dominate the view and be the major focus of attention. But every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements (form, line, color, and texture).

2.18.1 Desired Future Condition

Public lands within the Surprise Field Office area will be managed so as to provide a range of protection for the existing landscapes. BLM's management will strongly emphasize (1) preserving and retaining much of the area in its current visual condition and (2) improving land health and the related natural appearance of the landscape. Protecting the existing visual character of the landscape ranges from VRM Class I (preservation), to Class II (retention of existing landscape character), to Class III (partial retention of the existing landscape character).

BLM will also manage public lands to allow for new developments that can significantly alter the character of the existing landscape if those projects are in areas classified as VRM Class IV areas (major modification of the existing landscape) or if the land use plan is amended to change VRM Class II and III areas to Class IV. (In the Surprise Field Office, the only VRM Class I designations apply to wilderness study areas (WSAs), and change of WSA status requires congressional action).

Projects such as development of large wind energy farms, high voltage power lines, major utility corridors, and large mines would require completing an environmental impact statement (EIS). Analysis of visual impacts would be part of the EIS, and the proposed project would have to be simulated on photographs of the project site to help analyze the extent of change likely to occur. Public involvement would also be a part of the process before any VRM class could be changed through a land use plan amendment.

2.18.2 Goal

Manage BLM lands so that actions conducted, authorized, or regulated by BLM meet the visual resource objectives established by this RMP.

2.18.3 Objectives

Evaluate and designate suitable VRM classes (Class I to Class IV) for the entire management area using the visual resource inventory conducted for the management area and procedures enumerated in BLM Manual 8410 (Visual Resource Management). Use the visual contrast rating system, and other procedures described in Manual 8410, to assess project proposals where visual impacts could be significant. Visual mitigation and mandatory rehabilitation apply to all surface-disturbing activities. These measures would be reassessed and revised as needed.

2.18.4 Legislative, Regulatory, and Policy Direction

- The Federal Land Policy and Management Act (1976) [43 U.S.C. 1701]
- The National Environmental Policy Act (1969), as amended [43 U.S.C. 4321]
- The Surface Mining Control and Reclamation Act (1977) [30 U.S.C. 1201]
- BLM's "Priorities for Recreation and Visitor Services" (May, 2003)
- BLM Handbook H-1601-1 (Land Use Planning) (Nov, 2000)
- BLM Manual 8410 (Visual Resource Inventory) (Jan, 1986)

2.18.5 Proposed Management Actions

VRM classes would be designated as listed below (in Table 2.18.1) and as shown on Map VRM-1. All proposed actions must consider the importance of visual values and must minimize the impacts the project may have on these values. While performing an environmental analysis for projects, the visual contrast rating system would be utilized as a guide to analyze potential visual impacts of the proposal. Projects would be designed to mitigate impacts and must conform to the assigned VRM class objective.

Table 2.18-1 Visual Resource Management Classes

Class	Total Area (acres)
Class I (applies only to WSAs)[1/]	**183,587**
Class II	**437,553**
Class III	**227,134**
Class IV	**372,390**

[1/] VRM Class I objectives apply for all WSAs in the SFO management area. Class I objectives supersede other, underlying, class objectives. However, if a WSA is removed from wilderness study by Congress and returned to multiple-use management, the area will revert to its underlying VRM class.

WSAs are managed under the wilderness interim management policy (IMP); therefore, VRM Class I designation is mandatory. However, should wilderness status be denied by Congress, the area would revert to the VRM classification of the surrounding area (as shown on Map VRM-1), unless reclassified because it is part of an area of critical environmental concern (ACEC) or a wild and scenic river (WSR).

The (proposed) Twelvemile Creek Wild and Scenic River would be managed under VRM Class II criteria. The Massacre Rim, Bitner, and Rahilly-Gravelly ACECs would also be managed as under VRM Class II, in order to preserve the existing character of the landscape.

2.19 Water Quality and Hydrologic Function

Water quality is defined and discussed with respect to recognized water quality indicators. A body of water is 'impaired' when it exceeds (or fails to achieve) the upper or lower limit for one or more of these indicators. Applicable water quality indicators are found in BLM's Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-Administered Lands in Northeastern California and Northwestern Nevada (S&Gs). Primary indicators are water temperature, nutrient levels, coliform count (fecal bacteria), turbidity, sediment load, dissolved oxygen (DO), and stream channel condition. (These are discussed in Section 4.20 of this PRMP.)

Generally speaking, bodies of water found within the SFO (Surprise Field Office) management area do not meet State water quality standards with respect to temperature and dissolved oxygen levels during summer and fall months. However, significant progress is being made towards attainment of desired potential conditions. Livestock impacts on riparian vegetation and stream bank stability play a significant role in regulating temperature extremes as well as other water quality parameters. Past livestock impacts combined with high ambient temperatures are believed to have contributed to overall failure to meet water quality standards. Upstream non-BLM managed lands are contributing to non-attainment on most streams. Unrealistic state standards are another contributing factor.

2.19.1 Desired Future Condition

Attainment of desired water quality standards would be met within 20 to 50 years. Hydrologic function and water quality would be suitable for all present and potential beneficial uses. Water quality would be sufficient for stable and productive aquatic and riparian ecosystems. Water quality parameters for natural bodies of water would meet state water quality standards. Artificially created (developed) bodies of water that are not 'waters of the state' (e.g., some stock ponds, waterfowl developments, and wildlife guzzlers) would demonstrate water quality that is suitable for the beneficial uses for which they were developed.

Water quality goals would be achieved by managing the key factors that affect the health, productivity, and stability of upland, riparian, and aquatic ecosystems. Stream-channel processes and stream channel integrity would be preserved in a manner similar to the riparian and aquatic systems from which they developed. Hydrologic processes and sedimentation régimes of streams, wetlands, and lakes would be natural and appropriate for soil type, landform, and climate. This means that conditions would be such that snow and rainwater would be effectively captured and stored; then safely released. Soils would support healthy native upland, riparian, and wetland vegetation that would slow water movement and permit normal infiltration, filtration, and storage. Streams would flood naturally (i.e., without excessive rapidity or volume) so that watershed damage would be minimal. 'Properly functioning condition' (PFC) would be attained because water quality and in-stream flow would be adequate, stable, and effective in supporting healthy and resilient aquatic and riparian habitats.

Rejuvenating or enhancing the vigor, diversity (structural and species), and extent of upland, riparian, and wetland vegetation is essential to this effort. Healthy terrestrial and aquatic vegetation would provide shade (reducing evaporation and water temperature), delay run-off, dissipate energy, filter sediment, and aid in floodplain development. These factors would recharge groundwater and increase and prolong flow from streams and springs. It would also decrease peak flow and delay floodwaters. By so doing, incised channels would be healed, streambanks stabilized, and erosion effectively controlled. Natural resources would be enhanced for human use by improving the quality and quantity of water, and creating healthy fisheries and healthy vegetation for livestock, wildlife, and recreation.

2.19.2 Goal

Ensure that the natural hydrologic function of uplands, springs, riparian areas, streams, and wetlands is achieved (or preserved) so the requirements of beneficial uses and state water quality standards are met.

2.19.3 Objectives

On a priority basis, take action to improve hydrologic function and/or water quality in areas not meeting State standards – especially where hydrologic function and/or water quality problems are major factors inhibiting the success of other resource programs. Ensure that hydrologic function and water quality are preserved in areas where standards have been met.

Actions will be guided by the following objectives from the Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-Administered Lands in Northeastern California and Northwestern Nevada:

- "Maintain the physical, biological, and chemical integrity of waters flowing across or underlying the lands it [BLM] administers".
- "Protect the integrity of these waters where it is currently threatened."
- "Insofar as is feasible, restore the integrity of these waters where it is currently impaired."
- "[BLM must] not contribute to pollution and take action to remedy any pollution resulting from its actions that violates California and Nevada water quality standards, tribal water quality standards, or other applicable water quality requirements." (e.g., requirements adopted by state or regional water quality control boards in California or the Environmental Protection Agency [EPA] pursuant to Section 303(d) of the Clean Water Act or the Coastal Zone Reauthorization Act)
- "Where action related to grazing management is required, such action will be taken as soon as practicable but not later than the start of the next grazing year (in accordance with 43 CFR 4180.1)."
- "Be consistent with non-degradation policies identified by the States."
- "Develop and execute a management agency agreement with the States of California and Nevada for the efficient protection of water quality associated with BLM's management."
- "Work with the State's water quality administrative agencies and the EPA to establish appropriate beneficial uses for public waters, establish appropriate numeric targets for 303(d)-listed water bodies, and implement applicable requirements to ensure that water quality on public lands meets objectives for the designated beneficial uses of this water."
- "Develop and implement 'best management practices'[1/] (BMPs) approved by the States to protect and restore the quality and beneficial uses of water, and monitor both implementation and effectiveness of the BMPs. These BMPs will be developed in full consultation, coordination, and cooperation with permittees and other interests."
- "State or tribal approved variances or exceptions to water quality standards may be applicable within their 'basin plans' for specific types of activities or actions. BLM will follow state or tribal administrative procedures associated with variances."

[1/] U.S. EPA guidelines define Best Management Practices (BMPs) for water resources as "methods, measures or practices to prevent or reduce water pollution, including but not limited to, structural and non-structural controls, operation and maintenance procedures and scheduling and distribution of activities. Usually BMPs are applied as a specific conditions that reflect the natural background conditions and political, social, economic, and technical feasibility". In general, BMPs are site specific actions taken to prevent or reduce water pollution from nonpoint sources.

2.19.4 Legislative, Regulatory, and Policy Direction

- Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-Administered Lands in Northeastern California and Northwestern Nevada (2000)
- BLM Manual 7200 (Water Resources)
- BLM Manual 7240 (Water Quality)
- Unified Federal Policy for a Watershed Approach to Federal Land and Resource Management (2000)
- Clean Water Action Plan (1998)
- Memorandum of Understanding between the Bureau of Land Management and the California Water Resource Control Board (1993)
- Lahontan Water Quality Control Board Basin Plan
- Central Valley Water Quality Control Board Basin Plan
- Nevada Water Quality Standards (Nevada Administrative Code 445A.118 to 445A.225)
- Clean Water Act (1972), as amended
- Executive Order no. 12088 - Federal Compliance With Pollution Control Standards (1978)
- Executive Order no. 11988 - Floodplain Management (1977)
- Executive Order no. 11990 - Protection of Wetlands (1977)

2.19.5 Proposed Management Actions

BLM will employ a range of management strategies to minimize impacts on water quality and riparian function. Various uses and activities will be allowed within streams, riparian areas, and contributing uplands as long as they do not impede progress toward attaining water quality standards or the goals and objectives for riparian habitats. For streams with quality-impaired segments, or lakes not meeting water quality standards, allowed uses must not interfere with restoring water quality to standards set by the State.

Best Management Practices (BMP) will be developed and implemented to improve water quality and progress towards meeting state standards and the needs of beneficial uses on streams where existing data does not support that conditions are in compliance. Best Management Practices will be developed and applied to any bodies of water subsequently identified as having impaired water quality resulting from BLM's management. It is likely that other areas that have not been assessed are at risk of not meeting Land Health Standards.

- Creating new livestock grazing strategies,
- Adjusting livestock AUMs (animal-unit-months) and/or adjusting season-of-use,
- Gathering wild horses to appropriate management levels and/or adjusting herd numbers,
- Protecting uplands, springs, streams, riparian areas, and wetlands from grazing by employing and maintaining protective exclosures.
- Implementing vegetation treatments and planting woody riparian species planted where this is most beneficial and desirable.
- Constructing in-stream structures, where suitable.

BMPs will be routinely included in all activity plans where actions could degrade water quality, especially those for silviculture and recreation. BMPs will be developed on a site-specific basis, as directed in BLM Manual 7240 (Water Quality).

Assessment of riparian and wetland PFC would be completed for the entire management area. Periodic reassessment of riparian/wetland conditions would ensure satisfactory progress toward water quality objectives and normal hydrologic function.

Fifty-three miles of perennial and (important) intermittent streams and 2,500 acres of riparian and wetland areas are known to not meet riparian PFC; areas already in PFC would be managed to maintain that condition. These areas would be prioritized for restoration. Other stream segments and riparian areas subsequently found to not be in PFC would also be restored.

BLM will work towards amending basin plans to reflect water quality standards that would meet the needs of beneficial uses throughout the SFO management area. This includes working with state water quality control regulatory agencies and participation in their triennial reviews, as well as participation in Nevada's basin plan revision.

In watersheds infested by noxious weeds, invasive species, riparian and wetland areas would be treated, on a priority basis, using integrated weed management practices.

2.20 Water Supply

BLM has traditionally employed various forms of water development in association with its livestock grazing program. Developments for the benefit of wildlife include: installation of guzzlers, wetland enhancement or development, and reservoirs, which may also benefit livestock and wild horses. Subtle changes in surface water conditions have occurred over many decades as a result of roads established by recreational activities and historic heavy livestock grazing. Relatively large irrigation dams have been built by private individuals on public lands under permit from BLM. Reservoirs are the principal instrument of hydrologic modification and change. Other hydrologic modifications include stock ponds, spring developments, and a small number of water diversions. These hydrologic modifications are necessary for the proper distribution of livestock and wild horses. They also provide water for irrigation, wildlife, recreation and other purposes.

The present condition of terrestrial and aquatic ecosystems in the SFO (Surprise Field Office) area reflects economic and social values widely held by the local population. These values are most tangibly expressed in BLM's Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-Administered Lands in Northeastern California and Northwestern Nevada, 2000 (S&Gs). The description of the desired future condition is intended to guide and facilitate the attainment of BLM's standards for rangeland health.

2.20.1 Desired Future Condition

Water supply would be sufficient for the needs of livestock, terrestrial and aquatic wildlife, and wild horses, as well as for recreation and other land-use activities.

2.20.2 Goal

As much as possible, natural hydrologic function would be restored to degraded or impaired watersheds. Where hydrologic function is compromised or water supply is unreliable, badly distributed, or inadequate; existing sources would be enhanced or new sources would be developed.

2.20.3 Objectives

- Determine minimum seasonal flow requirements to support diverse and healthy populations of riparian and aquatic vegetation and aquatic wildlife species in watersheds throughout the management area.
- Acquire and maintain water rights necessary to protect federal investment and ensure a reliable water supply for BLM programs.

2.20.4 Legislative, Regulatory, and Policy Direction

- Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-Administered Lands in Northeastern California and Northwestern Nevada (S&Gs) (2000)
- The S&Gs include a water quality health standard. This requires that water be suitable for existing or potential beneficial uses. Surface and groundwater must also comply with the Clean Water Act and other applicable water quality requirements – including California and Nevada state standards (excepting variances).

- BLM water rights policy:

- IM CA-2000-014, "Interim Water Rights Policy for Public Lands in Nevada Administered by BLM-California"
- BLM Handbook H-7250 (Water Rights)
- BLM Handbook Supplement H-7250-1 (California Water Rights Procedures)

2.20.5 Proposed Management Actions

Water management would favor enhancement and development of fish and wildlife habitats. Existing water sources and facilities will be maintained and protected, in order to maintain existing supply and ensure proper distribution of livestock, wildlife, and wild horses, protect recreational uses, and provide water for other activities. Year-round water would be provided by (regularly maintained) wildlife guzzlers and by ensuring that reservoirs have adequate storage reserves (i.e., minimum pool depths) to prolong seasonal supply.

Water sources would be developed or enhanced where this would have direct benefits for desired ecosystems. BLM would assert in-stream flow rights in Nevada, and riparian rights in California, on all perennial and important intermittent streams that are 'waters of the State.' BLM would also apply to the state (CA and NV) for water rights currently under state jurisdiction. BLM would reserve the option to withdraw water right permits and licenses on sources that are not 'waters of the State' (CA or NV).

Springs would be developed for additional water supply, where deemed appropriate. Exclosures would be constructed to protect associated riparian ecosystems, where this is necessary.

Projects that involve inter-basin transfer of water would be coordinated with local and regional governments.

2.21 Wild Horses and Burros

Since the early 1980s, SFO (Surprise Field Office) resource managers have ensured the continuity of physical traits common to horses from the same herd management area (HMA). This has been accomplished by selecting animals with historically typical characteristics (i.e., type, confirmation, size, and color) during periodic 'gathers' and releasing them as breeding stock. However, the primary reason for gathers is to keep herd size in check. Animal numbers must be maintained within an 'appropriate management level' (AML) that is different for each HMA, in order to minimize resource degradation (especially to vegetation, wildlife, soils, water quality, and archaeological sites) and maintain a healthy herd. Numbers are reduced to the low end of the AML range in order to ensure that normal population growth will not rapidly exceed the AML—and the carrying capacity of the land. Excess horses from the SFO management area are generally high-quality animals that are popular in the adoption program.

Appropriate management levels have been established for seven of the management area's eight HMAs. The remaining area (Massacre Lakes) is scheduled for AML determination during fiscal year 2007. Baseline genetic information has been collected from some herds during recent gathers and fertility control research was conducted (in the fall of 2003) on horses from the Buckhorn HMA. Results were sufficiently encouraging that fertility control investigations are anticipated on horses from the Coppersmith, and other, HMAs.

2.21.1 Desired Future Condition

Wild horses would be limited to established herd management areas at appropriate management levels so as not to degrade ecosystems or interfere with activities of resource users. Horses would be regularly gathered to reduce numbers and excess animals would be placed in the National Wild Horse and Burro Adoption Program. Genetic data would be used for guidance and confirmation regarding selection for historical herd characteristics in animals contemplated for release. Although horses from the SFO management area are mostly high-quality animals and popular in the adoption program, fertility control will likely have increased importance as a more cost-effective method for maintaining healthy herds and minimizing resource damage.

2.21.2 Goal

Limit wild horses to established herd management areas at appropriate management levels so that healthy herds of wild horses can coexist with native plants and animals, as well as livestock, without degrading the resource base or interfering with activities of resource users.

2.21.3 Objectives

- Achieve ecological stability so that healthy herds of wild horses can be maintained while making significant progress in achieving BLM land health standards within the life of this RMP. Toward this end, ensure that wild horses are limited to established herd management areas and maintained at appropriate management levels so that vegetation, native wildlife, soils, and archaeological sites are not degraded, but maintained.
- Maintain historically typical herd characteristics (i.e., type, confirmation, size, and color) in all HMAs by selecting suitable animals for release as breeding stock during periodic 'gathers.'
- Promote and manage wild horses in a manner that will encourage tourism and boost economic development.

2.21.4 Legislative, Regulatory, and Policy Direction

- Wild Free-Roaming Horses and Burros Act (1971), as amended (1978)
- The Federal Land Policy and Management Act (1976)
- Public Rangelands Improvement Act (1978)

2.21.5 Proposed Management Actions

The SFO would continue to protect and manage wild horses within eight Herd Management Areas (HMAs), and at established Appropriate Management Levels (AMLs), as shown in Table 2.21-1.

Table 2.21-1 Wild Horse Herd Management Areas and Appropriate Management Levels

Herd Management Area Name & No.	Appropriate Management Level (Range)	Acres
Coppersmith (CA – 261)	50-75 head	75,547
Buckhorn (CA-262)	59-89 head	76,780
Fox Hog (CA-263)[1/]	120-220 head	145,244
Wall Canyon (CA-265) [1/ 2/]	15-25 head	41,051
Nut Mountain (CA-266) [1/ 2/]	30-55 head	40,214
Bitner (CA-267) [2/]	15-20 head	53,672
Massacre Lakes (CA-268) [1/ 2/]	est.25-35 head	39,890
Carter Reservoir (CA-269)	25-35 head	23,423
Total	339-550 head	495,821

[1/]These herds are partially within the Black Rock Desert-High Rock Canyon Emigrant Trail National Conservation Area (NCA).

[2/] These HMAs would be managed as a complex.

Note: The High Rock Herd Management Area (CA-264), administered by the Surprise Field Office is entirely within the NCA and is not considered in this RMP.

HMAs would be managed individually in four of the eight herd management areas; however, the Nut Mountain, Bitner, Massacre Lakes, and Wall Canyon HMAs would be managed as a complex. This would facilitate recovery of degraded or threatened ecosystem components by providing sufficient management flexibility to (temporarily) remove horses from an entire HMA (or portion thereof) in order to permit recovery following wildfire, resource improvement projects, or overgrazing by horses. Grazing rest would allow rapid and dramatic improvements in land health. Once the area recovers, an appropriate AML would be determined and wild horses reintroduced. The assigned AML would be enforced; however, it would be reduced if a recovery plan becomes necessary (due to emergence of a new land health issue). In the absence of species-specific monitoring data, wild horses would be treated as 'equivalent to livestock' for the purpose of (livestock) stocking rate adjustments.

Gathers and (increasingly) fertility control would be used to maintain herds within AMLs. Scant effort (and little funding) would be expended on attempts to retain historical herd characteristics or produce animals desirable for the adoption program. However, managing four of the eight HMAs as a unit (complex) will facilitate genetic exchange and result in healthier animals. HMA boundaries would be redrawn (notably, 48,226 acres would be added to the Fox-Hog HMA, increasing its size to 145,244 acres) and some AMLs may be reduced (on the basis of monitoring) to permit recovery of riparian and upland vegetation, wildlife habitats, water quality and soils in order to achieve BLM land health standards.

Domestic horses would not be allowed to graze within, or adjacent to, HMA boundaries if interbreeding with wild horses is likely. In such cases contact would be eliminated by converting horse AUMs (animal unit months) to cattle. Forage allocation for wild horses and livestock would be managed equitably (i.e., neither having precedence over the other). If monitoring reveals adverse impacts from wild horses or livestock, adjustments would be made to the specific class of use (i.e., to wild horses *or* livestock). In the absence of class-specific monitoring data, stocking rates (active livestock AUMs and wild horse AMLs) would be proportionately reduced.

During gathers, wild horses would be selected for type, confirmation, size, and color according to historical herd characteristics for each HMA. Three seasonal wild horse viewing sites (including interpretive sites and promotional material) would be created near SOB Lake (off the Buckhorn Back-Country Byway within the Buckhorn HMA); adjacent to Lost Creek Road (near Cottonwood Creek within the Fox-Hog HMA); and along HWY 299/8A near the Nevada California Border.

Aerial census of wild horses will be conducted in each HMA at least every third year. Horses will be gathered every three-to-four years in order to maintain appropriate management levels. Animals that are found outside HMAs will be removed. Genetic data from each herd (during gathers) will be collected to establishing baseline information. Fertility control will be used in some or all HMAs (as funding and other constraints allow) to assist in maintaining AMLs. Fence building will be minimized and unnecessary fencing eliminated where this prevents seasonal movement within an HMA.

2.22 Wildlife and Fisheries

There are seven groups for this section to systematically address a range of wildlife issues. These are presented (in order) as follows: federally listed wildlife, state-listed and BLM 'sensitive' wildlife, ungulates, sagebrush-obligate wildlife, other native wildlife, native and non-native fish and other aquatic fauna, and desirable non-native wildlife. These categories were formulated during initial planning for this RMP in consultation with state and federal wildlife managers.

2.22.1 Legislative, Regulatory, and Policy Direction

A large body of federal legislation, plus numerous BLM regulations and policies, are concerned with protecting or enhancing wildlife and fish habitats on BLM-administered lands. However, three pieces of legislation are pivotal; these are the Endangered Species Act (ESA), FLPMA, and the Sikes Act.

The ESA requires land management agencies to exercise their authority to conserve endangered and threatened species. Any action that is authorized, funded, or conducted by such agency must not jeopardize a federally listed species. Consultation with the U.S. Fish and Wildlife Service (USFWS) is required prior to any action that the managing agency determines may affect a listed species or (identified) critical habitat.

Section 102.8 of FLPMA requires land management agencies to conduct or regulate activities and uses of public land in an environmentally sound manner so that ecological stability is maintained. Where feasible and appropriate, ecosystems and landscapes must be preserved in, or restored to, their natural (original) condition. Fish and wildlife conservation is elevated to equal footing with traditional land uses. This means that restoration, maintenance, and enhancement of aquatic and terrestrial wildlife habitats is required, and of equal importance, where livestock grazing or other economic activities occur. Therefore, wildlife and fish are entitled to management attention and funding comparable to traditional resource management activities. FLPMA requires that a portion of grazing fees be spent on "range betterment." It also requires due consideration for fish and wildlife as a relevant and important factor before any land exchange or sale is approved.

Under the Sikes Act, BLM is required to actively plan, develop, coordinate, and maintain programs specifically aimed at conserving and restoring wildlife and fish habitats. This legislation recognizes the interdependent relationship of plants and animals with each other and the physical environment. Though relationships are often subtle, wildlife and fish are integral to, and essential for, ecological processes vital to the health and proper functioning of terrestrial and aquatic ecosystems upon which recreational uses and industries based on renewable resources depend (e.g., livestock grazing, logging, water supply, and quality).

BLM land health standards (from the Northeastern California and Northwestern Nevada Standards for Rangeland Health and Guidelines for Livestock Grazing Management) require restoration (or significant progress toward restoration) for all rangeland—including habitats of federally listed, proposed, and other special status species. Wildlife and wildlife habitats are managed in cooperation with state wildlife departments. With respect to BLM's Surprise Field Office (SFO), these agencies are the California Department of Fish and Game (CDFG) and Nevada Department of Wildlife (NDOW).

These agencies manage statewide wildlife populations according to their respective management plans—while BLM manages *habitats* on BLM-administered lands. It is BLM policy to cooperate with state wildlife agencies by accommodating their species management objectives to the extent they remain consistent with BLM policies and the principle of multiple-use management.
There are (separate) memoranda of understanding (MOUs) between state wildlife departments and BLM. These detail the manner in which agencies will cooperate for wildlife management on BLM-administered lands.

BLM policy regarding special status species (i.e., state-listed, BLM 'sensitive' or 'special interest,' and federal [ESA] candidate species) is articulated in (BLM) Manual 6840 ("Special Status Species Management"). Section .06 (E) 7 of this manual declares that state-listed species must be afforded the level of protection provided by state law or BLM policy regarding federal candidate species—whichever would best achieve species conservation. Section .06 (D) makes this the *minimum* level required for protection of BLM 'sensitive' species. Manual 6840 requires that any action authorized, funded, or conducted by BLM must not contribute to the need to list a federal candidate or BLM sensitive species under the Endangered Species Act.

Special status species are limited in their distribution, populations, or habitats and may be at risk in a variety of geographic areas. Where evidence suggests that land use is adversely affecting a special status species not currently listed as threatened or endangered, it is in the public interest to prevent the need for federal listing under ESA. Therefore, preferential restoration and maintenance of habitat may be the best course of action where resource conditions are of high-quality (or potentially so) or where they are uniquely suited to a particular species. BLM policy regarding "listed" species is governed by, and articulated in, BLM Manual 6840 and the following documents from Section .03 (Authority):

- The Endangered Species Act (1973), as amended (16 U.S.C. 1531 et seq.)
- The Sikes Act (1960), as amended (16 U.S.C. 670g et seq.)
- The Federal Land Policy and Management Act (1976), as amended (43 U.S.C. 1701 et seq.)
- BLM Departmental Manual 235.1.1.A (General Program Delegation)
- BLM Departmental Manual 632.1.1-1.6 (Endangered Species Management)
- Secretarial Order 3206 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act)

BLM policy regarding alien (non-native) species is articulated in BLM Manual 1745 (Introduction, Transplantation, Augmentation, and Re-establishment of Fish, Wildlife and Plants), and the following documents from Section .03 (Authority):

- The Endangered Species Act (1973), as amended (16 U.S.C. 1531 et seq.)
- The Federal Land Policy and Management Act (1976), as amended (43 U.S.C. 1701-1782) and P.L. 98-540 (98 Stat. 2718)
- The National Environmental Policy Act (1969) (42 U.S.C. 4321-47) and P.L. 91-190 (83 Stat. 852)
- Executive Order 11,987 (Exotic Organisms) (1977)
- BLM Manual 6500 (Wildlife and Fisheries Management)

The following is a non-inclusive list of other pertinent legislative, regulatory, and policy documents:

- Bald and Golden Eagle Protection Act (1940), as amended (1978)

- Pacific Bald Eagle Recovery Plan (1986)
- Migratory Bird Treaty Act (1918), as amended (1998)
- Memorandum of Understanding (MOU) between USDA-Forest Service, USDI-Fish and Wildlife Service, USDI-Bureau of Land Management, USDI-National Park Service and USDC-National Marine Fisheries Service (MOU 94-SMU-058, 1994) (provides a general framework for cooperation and participation among the cooperators in the conservation of species that are tending toward federal listing)
- Northeastern California and Northwestern Nevada Standards for Rangeland Health and Guidelines for Livestock Grazing Management (1999) (43 CFR 4180)
- Executive Order 13,186 (Migratory Birds) (2001) (66 FR 3853)
- California Endangered Species Act (1984)
- California Partners in Flight and the Riparian Habitat Joint Venture, "The Riparian Bird Conservation Plan" (2000)
- Partners in Flight, Western Working Group, "Birds in a Sagebrush Sea" (1999)
- BLM Nevada's "Migratory Bird Best Management Practices for the Sagebrush Biome"
- Nevada Bat Conservation Plan (2006)
- BLM Manual 6600 (Fish, Wildlife, and Special Status Plant Resource Inventory and Monitoring)
- BLM Manual 6525 (Wildlife Programs Related to the Sikes Act)
- BLM Manual 1745 (Introduction, Transplantation, Augmentation, and Reestablishment of Fish, Wildlife, and Plants) (plus California Supplement and Associated Handbook)
- Master MOU between the California Department of Fish and Game and the USDI-BLM
- Master MOU between the Nevada Department of Wildlife and the USDI-BLM
- Nevada Department of Wildlife—Bighorn Sheep Management Plan (2001)
- (Nevada's) Pronghorn Antelope Management—Ecology, Management, and Conservation (2003)
- BLM's National Sage-Grouse Habitat Conservation Strategy (2004)
- Conservation Strategy for Sage-Grouse (Centrocercus urophasianus) and Sagebrush Ecosystems within the Buffalo-Skedaddle Population Management Unit (Northern California Sage-Grouse Working Group, 2006)
- Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, First Edition (2004), including the Vya and Massacre Conservation Strategies
- Various local, state, and national guidelines for managing sage-grouse and their habitats
- Nevada Department of Wildlife – Management Plan for Mule Deer (2006)
- California Comprehensive Wildlife Conservation Strategy (2005)
- Nevada Comprehensive Wildlife Conservation Strategy (2005)
- North American Waterfowl Management Plan
- North American Waterbird Conservation Plan
- United States Shorebird Conservation Plan

- Partners in Flight North American Landbird Conservation Plan
- Nevada Partners in Flight Bird Conservation Plan (1999)
- Coordinated Implementation Plan for Bird Conservation in Nevada (Nevada Steering Committee of the Intermountain West Joint Venture)

2.22.2 Management Common to All Groups

- Develop a geographical information system (GIS) database to document and track wildlife data.
- Locate new livestock watering sites where depletion of natural springs and wetland areas can be avoided. Equip watering troughs with ramps for wildlife access and egress; provide water at ground level, if possible.
- Ensure that sufficient vegetation is retained around springs and other water sources, riparian areas, and wetlands to fulfill the needs of wildlife.
- Remove fencing that is no longer required and replace fencing that is harmful to wildlife. Build all new fencing to wildlife-friendly specifications.
- Employ seasonal restrictions and/or buffer zones for permitted activities when and where necessary to reduce disturbance of wildlife, as determined by BLM staff.
- Acquire lands through purchase, exchange, or donation (from willing owners) containing important special status or special interest wildlife habitats. Do not sell or exchange land containing important wildlife breeding habitat.
- Manage land according to the standards for rangeland health where no specific species guidelines or wildlife habitat management plan exists.
- Close and rehabilitate (when feasible) resource extraction or other temporary roads where needed to reduce disturbance of special status and special interest wildlife.
- Implement habitat treatment projects in a manner that will not greatly stress or displace resident wildlife.

2.22.3 Group 1. Federally Listed Species

Federally listed (wildlife) species whose presence is known or suspected, and (federally-listed) species for which (potentially) suitable habitat has been identified are: Warner sucker (*Catostomus warnerensis*), (threatened); bald eagle (*Haliaeetus leucocephalus*), (threatened); and the Carson wandering skipper (*Psuedocopaeodes eunus obscurus*), (endangered). Potential Warner sucker habitat is found in two grazing allotments and the bald eagle is known to roost in some (limited) pine habitats. The management area contains potential habitat for the Carson wandering skipper; however, surveys have not been conducted so its presence or absence has not been verified.

2.22.3.1 Desired Future Condition

Resident species would successfully reproduce and thrive in self-sustaining populations. Habitats would be sufficiently large, diverse, and healthy to meet year-round species requirements. With respect to terrestrial wildlife, vegetation would be sufficiently diverse in species composition, age, and structure to provide adequate food, cover, and breeding habitat. There would also be dependable, year-round supplies of water. Habitat connections would be adequate to ensure genetic exchange. Connection between stream and spring habitats would also be sufficient to permit genetic exchange between isolated aquatic populations and habitats. There would be an adequate supply of high-quality water and aquatic habitat conditions would meet or exceed the needs of fish and other aquatic fauna.

2.22.3.2 Goal

Restore, enhance, or maintain populations and habitats of federally listed (endangered or threatened) wildlife on BLM-administered lands—including proposed and candidate species (populations and critical habitats).

2.22.3.3 Objectives

Manage critical habitats of endangered and threatened wildlife according to recovery plans or habitat management plans.

2.22.3.4 Proposed Management Actions for Group 1

Consult with the USFWS regarding habitat management plans and other issues and manage habitats according to their recommendations.

Warner sucker

- Manage habitats according to current guidelines, conservation strategies, and biological opinion.
- Cooperate with other agencies in formulating and providing incentives for private landowners to improve their lands for listed species.

Bald eagle

- Follow the Pacific Bald Eagle Recovery Plan and BLM Manual 6840 for management guidance.
- Seasonal restrictions and buffer zones would be implemented as appropriate for permitted activities (See Table 2.23-1 at the end of this section.)
- Develop an action plan if nests are found on BLM-administered lands.
- Continue survey efforts.
- Collect and record GIS information for nesting, roosting, and foraging areas.

Carson wandering skipper

- Inventory playa and dune habitats for the presence of ‘listed’ species and their potential habitats (i.e., Carson wandering skipper and saltgrass).
- Continue survey efforts.
- Develop an action plan if a population is found on BLM-administered land.

2.22.4 Group 2. State-Listed and BLM Sensitive Species

State-listed wildlife species known to live or occur in the SFO management area are: Swainson's hawk (*Buteo swainsoni*), bank swallow (*Riparia riparia*), Greater sandhill crane (*Grus canadensis tabida*), and California bighorn sheep (*Ovis canadensis californiana.*). (Bighorn sheep are addressed in the ungulate section.)

BLM sensitive wildlife known to live or occur in the SFO management area are: golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), northern sagebrush lizard (*Sceloporus graciosus graciosus*), juniper titmouse (*Baeolophus griseus*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), small-footed myotis (*Myotis ciliolabrum*), Yuma myotis (*Myotis yumanensis*), Townsend's western big-eared bat (*Plecotus townsendii*), greater sage-grouse (*Centrocercus urophasianus*), Wall Canyon sucker (*Catostomus murivallis*), and burrowing owl (*Athene cunicularia.*). (Greater sage-grouse and burrowing owl will be addressed in the sagebrush-obligate and associated species section and Wall Canyon sucker in the aquatic wildlife section)

2.22.4.1 Desired Future Condition

Resident species would successfully reproduce and thrive in self-sustaining populations. Habitats would be sufficiently large, diverse, and healthy to meet year-round species requirements. With respect to terrestrial wildlife, vegetation would be sufficiently diverse in species composition, age, and structure to provide adequate food, cover, and breeding habitat. There would also be dependable, year-round supplies of water. Habitat connections would be adequate to ensure genetic exchange. Connection between stream and spring habitats would also be sufficient to permit genetic exchange between isolated aquatic populations and habitats. There would be an adequate supply of high-quality water and aquatic habitat conditions would meet or exceed the needs of fish and other aquatic fauna.

2.22.4.2 Goal

Restore, enhance, or maintain populations and habitats of state-listed and BLM sensitive wildlife on lands administered by the Surprise Field Office. Habitats and populations of these species would be healthy and robust; therefore, actions permitted, funded, or conducted by the SFO would not contribute to the need to list any species under the Endangered Species Act. State-listed species will be managed in accordance with the California Endangered Species Act (CESA). Species protection and habitat conservation would satisfy the minimum requirements of the CESA.

2.22.4.3 Objectives

Manage critical ecosystems and habitats of special status wildlife according to recovery plans, habitat management plans, conservation plans, and conservation recommendations. Employ 'best management practices' (BMPs) for habitat restoration and maintenance according to specific management guidelines established for these species.

2.22.4.4 Proposed Management Actions for Group 2

- Maintain an active partnership and coordinate wildlife-related activities with the California Department of Fish and Game (CDFG), Nevada Department of Wildlife (NDOW), U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS) and other conservation partners to maintain or improve the status of state-listed and BLM sensitive wildlife species.

- Cooperate with these and other qualified partners to obtain information on the presence, abundance, and distribution of state-listed and BLM sensitive wildlife in the SFO management area. Develop a GIS database to record and track information on these species.
- Develop an interdisciplinary plan to support populations of state-listed and BLM sensitive species known to reside on SFO-administered lands. Employ the following procedure in these efforts: (a) involve recognized experts, (b) conduct a literature review and garner information from local (or other) trustworthy sources, (c) compile a list of potential actions, and (d) develop species-specific plans and implementation strategies.
- Implement seasonal protective measures and buffer zones for permitted activities when and where necessary to reduce disturbance of state-listed and BLM sensitive wildlife. (See Table 2.22-1.)

2.22.5 Group 3. Ungulates

The species addressed in this section are: mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), Rocky Mountain elk (*Cervus elaphus nelsonii*), and California bighorn sheep (*Ovis canadensis californiana.*)

2.22.5.1 Desired Future Condition

An abundance of quality habitats would exist in sufficient proximity to provide adequate food, water, and cover (thermal, security, and reproductive) for the needs of wild ungulates. Modernized (wildlife-friendly) livestock watering developments and natural water sources would provide reliable, year-round water. When and where required, ungulates would be sufficiently protected from disturbance and undue stress caused by human activities.

2.22.5.2 Goal

Restore, enhance, and maintain important habitats for wild ungulates on BLM-administered lands.

2.22.5.3 Objectives

- Manage wild ungulate habitats to maximize site potential. Activities permitted, funded, or conducted by BLM must comply with (BLM) land health standards, especially Standard 5 (biodiversity). Ensure that viable (genetically diverse and reproductively successful) populations of healthy native ungulates—and the vegetation and water resources on which they depend—are adequately restored and maintained.
- Manage wild ungulate habitats according to CDFG and NDOW management plans, where these exist. Cooperate with state wildlife agencies to amend and update herd management plans for deer, sheep, elk, and pronghorn (where and when appropriate).
- Complete GIS mapping of wild ungulate habitats, and update obsolescent material, in concert with state wildlife agencies. Prioritize identification and mapping of reproductive habitats (kidding, calving, lambing, and fawning grounds).
- Monitor habitat conditions in key ungulate habitats (e.g., aspen, mountain mahogany, and bitterbrush).

2.22.5.4 Proposed Management Actions for Group 3

- Implement seasonal protective measures and buffer zones for permitted activities when and where necessary to reduce disturbance of wild ungulates (see Table 2.22-1).
- Remove invasive juniper (generally by burning or cutting) throughout the management area where it threatens meadows and aspen stands. (Treatment is especially necessary in bighorn lambing habitat.)

- Coordinate augmentation and reintroduction of native wild ungulates, in cooperation with state wildlife agencies, where habitats are suitable or when adequately restored (with the exception of bighorn in the Warner Mountains and Coppersmith Hills).
- Elk may establish themselves in the management area. If this happens, develop and implement a management plan in conjunction with state wildlife agencies and other cooperators, including livestock operators.
- Cooperate with state wildlife agencies to build and maintain additional guzzlers east of Surprise Valley to discourage bighorn sheep from crossing to the Warner Mountains and Coppersmith Hills.
- BLM's Revised Guidelines for Managing Domestic Sheep and Goats in Wild Sheep Habitats (BLM 1998) would provide operational guidance for domestic sheep and goat management in the SFO. These guidelines cover many aspects of grazing domestic sheep in the vicinity of bighorns and are listed below. Future revisions to the guidelines would apply also.

  1. State wildlife and Federal land management agencies, native wild sheep interest groups, and domestic sheep and goat industry cooperation and consultation are necessary to maintain and/or expand native wild sheep numbers. When agency and industry agreement has been reached to maintain and/or expand native wild sheep numbers, the agencies and the domestic sheep industry will be held harmless in the event of disease impacting either native wild sheep or domestic sheep and goats.
  2. Domestic sheep or goat grazing and trailing should be discouraged in the vicinity of native wild sheep ranges.
  3. Native wild sheep and domestic sheep or goats should be spatially separated to reduce the potential of interspecies contact.
  4. In reviewing new domestic sheep or goat grazing permit applications or proposed conversions of cattle permits to sheep or goat permits in areas with established native wild sheep populations, buffer strips surrounding native wild sheep habitat should be developed, except where topographic features or other barriers minimize physical contact between native wild sheep and domestic sheep and goats. Buffer strips could range up to 13.5 kilometers (9 miles) or as developed through a cooperative agreement to minimize contact between native wild sheep and domestic sheep and goats, depending upon local conditions and management options.
  5. Domestic sheep and goats should be closely managed and carefully herded where necessary to prevent them from straying into native wild sheep areas.
  6. Trailing of domestic sheep or goats near or through occupied native wild sheep ranges may be permitted when safeguards can be implemented to adequately prevent physical contact between native wild sheep and domestic sheep or goats. BLM must conduct on-site use compliance during trailing to ensure safeguards are observed.
  7. Cooperative efforts should be undertaken to quickly notify the permittee and appropriate agency to remove any stray domestic sheep or goats or wild sheep in areas that would allow contact between domestic sheep or goats and native wild sheep.
  8. Unless a cooperative agreement has been reached to the contrary, native wild sheep should only be reintroduced into areas where domestic sheep or goat grazing is not permitted.
  9. Extraordinary precautions will be followed to protect special status subspecies, e.g., federally listed threatened, endangered, proposed and candidate subspecies, State listed subspecies and BLM sensitive subspecies.

2.22.6 Group 4. Sagebrush-Obligate and Associated Species

This section focuses on the management of the sagebrush ecosystem to provide habitats for populations of native wildlife that depend on it (for at least some of their habitat needs), specifically sage-grouse, burrowing owl, and pygmy rabbit.

2.22.6.1 Desired Future Condition

Large blocks of healthy sagebrush-steppe would be widespread across the SFO landscape. Ecosystems within this biome would provide the proper combination of plant species and diversity (i.e., species diversity, structural and age-class composition; and irregular, patchy habitat distribution) necessary to maintain stable populations of sagebrush-obligate, sagebrush associated, and facultative wildlife native to the management area. Sagebrush habitats would generally exist as large (usually greater than 320 acres), irregular, randomly connected polygons.

2.22.6.2 Goal

This goal is concerned as much with the sagebrush biome itself as with the wildlife (sage-grouse, pygmy rabbit, and other sagebrush-obligated or facultative wildlife) that depend on it. Sagebrush-steppe habitats would be restored, enhanced, or maintained so that food, water, and cover are sufficient for the needs of indigenous wildlife.

2.22.6.3 Objectives

- Use BLM conservation plans and guidelines, especially "Partners in Flight—Birds in a Sagebrush Sea" and related strategies specifically developed for the sagebrush biome. Employ 'best management practices' developed for sagebrush-obligate and sagebrush associated wildlife and associated vegetation.
- Cooperate with other federal and state agencies to develop joint strategies and actions capable of restoring sagebrush-steppe habitats.
- Assess sagebrush-steppe habitats and identify management requirements. Prioritize key areas for restoration, maintenance, or enhancement.

2.22.6.4 Proposed Management Actions for Group 4

- Use locally developed plans or conservation strategies to identify and manage high-priority treatment areas (including fire suppression areas, utilities and rights-of-way, land tenure decisions) for sage-grouse, pygmy rabbit, and other sagebrush-obligate special status species.
- Implement the Conservation Strategy for Sage-Grouse (*Centrocercus urophasianus*) and Sagebrush Ecosystems within the Buffalo-Skedaddle Population Management Unit (PMU) (Northeast California Sage-Grouse Working Group, 2006). Essential components of this document include protection, restoration, monitoring, research, and ongoing adaptive management for sage-grouse and sagebrush ecosystems within the management unit.
- Implement the Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, First Edition (2004), including the Vya and Massacre Conservation Strategies.
- Implement strategies and actions from "Partners in Flight—Birds in a Sagebrush Sea" and other BLM-approved conservation plans specifically developed for this biome.
- Conduct juniper reduction programs to enhance species composition and understory vegetation, and provide structural and age-class diversity in sagebrush ecosystems.

- Approximate natural disturbance régimes by reintroducing fire (prescribed) and forest and woodland thinning (where trees have degraded sagebrush ecosystems).
- Use local native seed or plants for reseeding, rehabilitation, and restoration projects. Non-local native seed or plants may only be used when local native vegetation is unavailable.

2.22.7 Group 5. Other Native Wildlife Species

The major species groups covered in this group are:

- terrestrial mammals,
- raptors,
- migratory birds (neo-tropical migrants),
- waterfowl and shorebirds,
- upland game birds, and
- bats.

Most of the species, or groups of species, addressed in this group, had little or no protective measures relating directly to them or their habitats, in previous land-use plans. However, several species known or suspected to occur in the field office management area are now on the BLM sensitive species list or are State-listed (these species are addressed in a previous management group).

2.22.7.1 Desired Future Condition

Wildlife and vegetation would be natural to the site and reproductively successful. Native wildlife would be seen to prosper from the effects of management actions that support natural ecosystems upon which they depend. Therefore, native vegetation would be diverse in species, structure, and age-class. Water supply and quality would be adequate for the year-round needs of wildlife.

2.22.7.2 Goal

Native wildlife addressed in this section would be recognized as integral and important to the ecosystems in which they occur; and that all be managed on an equal footing. (Habitats for most of these species, or groups of species, have had little-to-no management attention or habitat protection in previous land-use plans and several are now state-listed or BLM sensitive.)

2.22.7.3 Objectives

Habitat for native wildlife species will be managed in such a manner that forage, water, and cover, of appropriate diversity and structure, will be present and sufficient to meet their life-cycle requirements.

Surveys will be conducted to determine the occurrence, distribution, and abundance of native wildlife species, as qualified personnel and time may allow.

Proposed reintroductions, augmentations, and translocations of native species will be evaluated according to BLM policy and directives, as well as habitat management goals and objectives. These projects will be coordinated with state agencies, under existing MOUs which outline the process and prior planning procedures.

2.22.7.4 Proposed Management Actions for Group 5

- *Raptors*: Employ standard protocols for protecting nesting and roosting areas.
- *Migratory birds (including neo-tropical migrants)*: Manage in accordance with the Migratory Bird Treaty Act (MBTA) and minimize adverse effects at the project level.
- *Waterfowl*: Protect and maintain existing nesting islands and structures. Create new islands and structures in promising locations; and protect shoreline nesting habitats where threatened by grazing.
- *Upland Game birds*: Enhance game bird habitats, especially by optimizing water distribution and ensuring year-round availability.
- *Bats*: Protect caves and other habitats important for bats and limit disturbance of maternity areas and hibernacula.
- *Introductions and Translocations*: Cooperate with state wildlife agencies in accordance with BLM policy.

Most management actions that have beneficial implications for wildlife are discussed in the "Special Status Plants" and "Vegetation" sections of this RMP; however, some actions that relate directly to other native wildlife are discussed below.

- *Aspen*: Inventory and assess aspen stands. Protect stands and treat to produce multiple size and age classes.
- *Mountain Mahogany*: Inventory and assess mahogany stands. Prioritize stands for treatment to stimulate growth and create age-class diversity.
- *Bitterbrush*: Inventory and assess bitterbrush stands. Prioritize stands for treatment to stimulate growth and create age-class diversity.
- *Wetlands*: Inventory wetland habitats. Protect, restore, enhance, and maintain these habitats to benefit wetland wildlife.
- *Riparian Areas*: Manage these habitats according to a sequential, three-part process: (1) use current inventory data to prioritize treatment of riparian areas (protect, restore, enhance, or maintain) according to their relative importance for wildlife; (2) develop a 'desired future condition' for individual riparian areas (on a watershed, stream segment, or grazing allotment basis); and (3) ensure that grazing practices meet the standards and guidelines for riparian habitats.
- *Playas*: Inventory playa and dune habitats for the presence of 'listed' species and their potential habitats (e.g., Carson wandering skipper and saltgrass). Since these habitats have never been inventoried, assess their use and importance for wildlife in general—particularly waterfowl and shorebirds. Ensure that areas important to wildlife are protected.
- Ensure that trees and snags known or identified as raptor nesting sites are not harvested or destroyed in project areas.
- Intervene (at the project level) to minimize adverse effects from permitted activities on sites and habitats where migratory birds are common.
- Identify suitable locations for waterfowl nesting and brood-rearing areas. Maintain existing nesting islands and structures and build new islands or structures on sites and reservoirs suitable for this purpose. Use fencing and/or seasonal livestock exclusion to protect shoreline and adjacent vegetation from grazing to preserve dense nesting cover for ducks and emergent vegetation for duck broods and marsh birds.

- Coordinate with CDFG and NDOW to allow construction of new guzzlers for otherwise-suitable game bird habitats that lack a reliable, year-round source of water. Coordinate this activity with the appropriate state wildlife agency and ensure that guzzlers are regularly and properly maintained.
- Protect bat caves and retain old aspen and juniper trees (especially snags) used as roosting sites or hibernacula. Enforce limited operating periods (LOP) for permitted activities near rimrock, cliff, or other areas with nursery colonies. Discourage recreation in these areas. Protect wet meadows to preserve insect production for foraging bats.
- Coordinate with state wildlife agencies to reintroduce, disseminate, or augment native fauna where this would be beneficial and likely to succeed. Do not encourage state agencies to introduce non-native species.

2.22.8 Group 6. Native and Non-Native Fish and Other Aquatic Species

The SFO planning area supports a variety of native and non-native fish. Native fish species are: Warner sucker (*Catostomus warnerensis*), Wall Canyon sucker (*Catostomus murivallis*), Cow Head Lake tui chub (*Gila bicolor vaccaceps*), Sheldon tui chub (*Gila bicolor eurysoma*), speckled dace (*Rhinichthys osculus*), redside shiner (*Richardsonius balteatus)*, redband trout (*Oncorhynchus mykiss* spp.) Resident non-native fish species present are: Eagle Lake rainbow/cutthroat trout hybrids (*Oncorhynchus clarkii x mykiss*) and brown trout (*Salmo trutta*).

2.22.8.1 Desired Future Condition

Upland and riparian habitats would be intact and healthy. This, along with suitable protective measures, would demonstrate as healthy in-stream conditions. Aquatic habitats would support a thriving population of native (and desirable non-native) fish and other (native) aquatic fauna. Infestations of undesirable, non-native fish or aquatic organisms would be eliminated or controlled.

2.22.8.2 Goal

Restore, enhance, or maintain habitats of native (and desirable non-native) fish and other (native) aquatic organisms throughout the management area. Achieve this through proper management of water supply and quality, livestock grazing, and bio-technology (i.e., structural additions or modifications), where appropriate.

2.22.8.3 Objectives

- Manage aquatic, riparian, and upland habitats to meet BLM standards for rangeland health. Use riparian functional assessments and employ BMPs to improve springs and streams that are not in ‘proper functioning condition’ (PFC) or fail to meet state water quality standards. Ensure that the measures employed achieve, or make significant progress toward achieving, required standards.
- Cooperate with state and federal agencies to monitor fish and other aquatic fauna, as well as riparian and in-stream conditions (e.g., riparian vegetation height/condition, bank stability, stream cover/shading, water quality, and stream cross-sectional analysis).
- Update and revise fisheries plans when no longer accurate or relevant. Employ the latest, most accurate information for this purpose and coordinate planning and actions with the appropriate state wildlife agency.
- Improve degraded upland, riparian, and aquatic habitats in order to re-create suitable habitable conditions for indigenous sport-fish.

2.22.8.4 Proposed Management Actions for Group 6

- Finish the current inventory of riparian and aquatic habitat conditions. Describe and catalog the unique assemblage of fish and macro-invertebrates that characterize management area waters.
- Use riparian functional assessments and BMPs to repair eroded streambanks, restore streamside vegetation and shade, lower water temperature, and improve water quality to achieve healthy and productive fish habitats.
- Before resorting to bio-technology (such as in-stream debris or structures) use recognized BMPs to make improvements to upland, riparian, and aquatic habitats.
- Use only native fish and strains for transplantation, when degraded streams (or stream segments) are sufficiently restored to support viable fish populations.
- Manage for both native and non-native game fish where they, coexist—except where a non-native game fish is highly detrimental to any species of native fish. In such cases, work with the appropriate state agency to eliminate the non-native fish.
- Focus on improving game fish habitats and fishing opportunities on 20-25 stream miles on the east slope of the Warner Mountains.

2.22.9 Group 7. Desirable Non-Native Species

The SFO provides habitat for a variety of desirable non-native species, including chukar, turkey, brown trout, and rainbow trout. There are also several undesirable wildlife populations that may compete with habitat elements for native wildlife. Some of these include starling, brown-headed cowbird, and bullfrog.

2.22.9.1 Desired Future Condition

Habitats of desirable non-native wildlife (i.e., game fish and animals esteemed for recreation—such as brown and rainbow trout, chukar partridge and turkey) would be adequate to support current populations without reducing quality habitat for native wildlife. However, at times, management actions to promote native wildlife (e.g., rangeland improvement, control of cheatgrass [a plant favored by chukar partridge]) may reduce the quantity or quality of habitat available for non-native game.

2.22.9.2 Goal

Maintain stable populations of non-native game species within their current areas of distribution. Where desirable non-native game fish or animals (or their preferred habitats) are adversely affecting native wildlife or vegetation, native species and native habitats would be favored in management decisions. Whenever and wherever discovered, eliminate undesirable exotic wildlife (or control if elimination is not feasible).

2.22.9.3 Objectives

- Maintain populations of desirable non-native game fish and animals within their current areas of distribution.

- As a general rule, do not encourage state fish and wildlife agencies to introduce or translocate "desirable," but non-native, fish or game. However, where appropriate (under circumstances enumerated in BLM Manual 1745), cooperate with state fish and wildlife agencies to augment, translocate, or introduce populations of desirable, non-native game fish or animals according to BLM policy and current MOUs.
- Control desirable non-native game fish and animals were required to protect native wildlife, plants, or habitats.

2.22.9.4 Proposed Management Actions for Group 7

- Actions regarding desirable non-native game fish and animals must comply with Section .06 (A) of BLM Manual 1745 (Introduction, Transplantation, Augmentation, and Re-establishment of Fish, Wildlife and Plants). This requires use of native species unless—through the process established under NEPA—it is determined that:
  - Suitable native species are not available.
  - Biological diversity in the proposed area will not be diminished.
  - Exotic and naturalized species can be confined to the proposed area.
  - Ecological analysis of the proposed area indicates that reestablishing a naturally occurring species is no longer feasible.
  - Resource management objectives cannot be met with native species.
- Actions regarding undesirable, non-native animals must comply with Section .06 (F) of BLM Manual 1745. This requires that exotic fish and wildlife or domesticated animals that have reverted to a feral state (feral species) that have adverse effects on native species, or habitats of native species, be eliminated, controlled, or removed—unless expressly allowed under state or federal law (e.g., The Wild Horse and Burro Act).
- Coordinate with state wildlife agencies to ensure that new chukar guzzlers are accessible to other game birds and small mammals.

2.22.10 Proposed Management Actions for All Groups

The following section describes alternative management scenarios for the seven categories. Proposed management actions were developed in concert with other resource programs—especially vegetation; grazing; water quality and supply; energy and minerals; and the fire, fuels, and fire rehabilitation programs. (See those sections for additional information.)

Present habitat improvement projects would continue along with regular, routine structural and project maintenance (in cooperation with state and federal wildlife agencies and other partners). Surveys for special status species would be conducted at the program and project levels (as required by NEPA). Rangeland enhancement projects would focus on large-scale juniper removal; 250 to 2,500 acres/year would be removed or harvested in priority wildlife habitats.

Table 2.22-1 General Guidelines for Seasonal Restrictions and Distance Buffers in Special Wildlife Habitats[1/]

Species	Locations[2/]	Distance of Spatial Buffer Zone/ Type of Restriction	Restriction Dates
Bald eagle	Nests	¼ mile non-los,[3/] ½ mile los, & 1 mile blasting	Jan. 1 – Aug. 31
	Winter roosts	½ mile	Dec. 1 – Apr. 1
Golden eagle	Nests	¼ mile non-los, ½ mile los	Feb. 1 – Aug. 31
Northern goshawk	Nests	¼ mile occupied, ½ mile previous year nest	Mar. 1 – Aug. 31
Cooper's hawk	Nests	¼ mile	Mar. 1 – Aug. 31
Sharp-shinned hawk	Nests	¼ mile	Mar. 1 – Aug. 31
Ferruginous hawk	Nests	¼ mile non-los, ½ mile los	Mar. 1 – Aug. 1
Red-tailed hawk	Nests	¼ mile	Mar. 1 – Aug. 31
Swainson's hawk	Nests	¼ mile non-los, ½ mile los	Apr. 15 – Aug. 15
Peregrine falcon	Nests	1 mile	Jan. 1 – Aug. 15
Prairie falcon	Nests	¼ mile non-los, ½ mile los	Mar. 15 – Aug. 15
Burrowing owl[4/]	Nests	¼ mile	Mar. 1 – Aug. 31
Flammulated owl	Nests	¼ mile	Apr. 1 – Sept. 30
Townsend's big-eared bat[5/]	Nurseries	N/A	Apr. 15 – Oct. 31
	Hibernacula	N/A	Nov. 1 – Apr. 15
Mule deer	Fawning areas (as needed)	¼ mile radius	May 15 – June 15
Pronghorn	Kidding areas (as needed)	¼ mile radius	Apr. 1 – June 31
Elk	Calving areas (as needed)	¼ mile radius	May 1 – June 31
Bighorn sheep	Lambing areas (as needed)	¼ mile radius	Apr. 1 – May 30
Pygmy rabbit	Active burrow	surrounding 50 - 100 acres	Year-round
Greater sage-grouse[6/]	Within 2.0 miles of leks	Avoid/eliminate structural raptor perches & protect sagebrush cover	Year-round
	Within 0.3 mile of leks	Reduce human activity in early morning and late evening	Mar. 1 – May 15

[1/] These are typical restrictions and general guidelines;specific dates and distances may vary depending on the nature of the proposed permitted action, local breeding chronology, local yearly weather patterns, and continued field observations. Seasonal restrictions or distance buffers may be implemented for other species of special status wildlife as plans are formulated.

[2/] Suitable nesting habitat exists for most of these birds. However, nesting has only been documented for a few. Although some are known regular nesters (and others probably are) actual nesting has not been documented.

[3/] "los" = line-of-sight

[4/] Burrowing owls should have a year-round distance buffer of 50–100 acres around active burrows. However, a year-round radius up to 655 yards may be necessary where insecticides or herbicides are applied.

[5/] LOP (limited operation period) restrictions are required for all activities (i.e., not just permitted activities) in maternity caves from April 1st through October 1st and in hibernacula from November 1st through April 1st.

[6/] Additional site-specific recommendations are found in local and national conservation plans and in other nationally approved guidance for sage-grouse.

Alternatives Summary Table

AIR QUALITY

Management Common to All Alternatives:

- All prescribed fire projects would be completed in accordance with the Clean Air Act (CAA) and would comply with all Federal, State, and local air pollution requirements.
- An approved prescribed fire burn plan would be in place prior to the ignition of any prescribed fire, and adhered to throughout the project.
- The majority of fuel types in the planning area do not allow opportunities to reduce emissions; therefore, emissions would be managed by timing and atmospheric dispersal.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Manage prescribed fires to reduce impacts to air quality (acres/year)	500–1,500	500–3,000	500–5,000	75–5,000	500–5,000

CULTURAL RESOURCES AND PALEONTOLOGY

Management Common to All Alternatives:

- Develop cultural resource management plans for culturally sensitive areas. Pursue NRHP designation for all eligible sites.
- Reduce hazardous fuels around archaeological and cultural resource sites.
- Prohibit collection of vertebrate fossils without a permit.
- Conduct regular law enforcement patrols to monitor and protect known cultural and paleontological sites.
- Restrict AUM increases for allotments in the North Hays Range until Cultural Resource Management Plans are in place.
- Acquire private lands, from willing sellers, at Cedarville Hot Springs, Leonard Hot Springs, Hanging Rock Canyon, Massacre Lakes, and Crooks Lake for cultural resource values.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Develop on-site interpretive areas (number)	0	6	3	0	3
Designate archeological areas of critical environmental concern (ACECs) (number)	0	3	3	0	3
Develop cultural resource management areas (CRMAs) (number)	0	0	2	0	2
Apply off-highway vehicle use restrictions within cultural ACECs: 'Open', 'Limited to Designated Routes' (LD), 'Limited to Existing Routes' (LE), or 'Closed':					
• **Massacre**	LD	LD	Closed	Open	LD
• **Bitner**	Open	LE	LE	Open	Closed
• **Rahilly-Gravelly**	Open	Open	LE	Open	LE

ENERGY AND MINERALS

Leasable Minerals

Management Common to All Alternatives:

- All WSAs (183,581) are 'Closed' to leasable mineral activities.
- Permanent no surface occupancy (NSO) restrictions would apply within a 100-acre buffer of occupied pygmy rabbit habitat.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
'Open' to leasing under standard terms and conditions (acres)	1,035,706	1,007,519	688,278	919,085	980,442
'Open' to leasing with seasonal restrictions to protect wildlife (acres)	0	28,187	229,843	107,074	50,344
'Open' to leasing with permanent no surface occupancy (NSO) requirements (acres)	1,357	1,357	108,431	10,904	6,277
'Closed' to mineral leasing (acres)	183,581	183,581	195,049	183,581	183,581

Locatable Minerals

Management Common to All Alternatives:

- All WSAs (183,581) are 'Open' to development of and exploration for locatable minerals, but would be limited to activities that do not require reclamation, unless the operation had established grandfathered uses or valid existing rights on October 21, 1976.
- Locatable mineral development and exploration within ACECs would require a plan of operations.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
'Open' to locatable Minerals (acres)	1,220,644	1,220,644	1,173,943	1,220,644	1,220,644
'Closed' to locatable Minerals (acres)	0	0	46,701	0	0

Saleable Minerals

Management Common to All Alternatives:

- All WSAs (183,581) are 'Closed' to saleable mineral activities.
- Stipulation requirements for reclamation, disturbance, weed control, access, cultural resources, seeding, and wildlife habitat would be identified through environmental assessments or environmental impact statements.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
'Open' to saleable minerals (acres)	1,037,063	1,037,063	990,362	1,037,063	1,037,063
'Closed' to saleable minerals (acres)	183,581	183,581	230,282	183,581	183,581

FIRE MANAGEMENT

Management Common to All Alternatives:

- The NorCal Fire Management Plan identifies aggressive, full suppression as the appropriate management response (AMR) under conditions of severe fire intensity, especially in the wildland urban interface. However, exceptions may be made where resource objectives could safely be achieved.
- Under conditions of low fire intensity, a less aggressive AMR, such as containment/confinement, would be implemented in previously identified areas likely to benefit from wildland fire use.
- Engines, aircraft, retardant, hand crews, and heavy equipment may be used for initial attack. Use of heavy equipment would be avoided in ACECs, RNAs, WSAs, and known NRHP-eligible sites, unless approved by the line officer.
- Local resources and contractors would be used as much as possible for suppression efforts.

Management Actions Appropriate Management Response (AMR):	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
• **Full suppression only (acres)**	1,220,644	1,220,644	891,695	1,220,644	891,695
• **Wildland fire use (acres)**	0	0	42,239	0	0
• **Full range of AMR suppression options (acres)**	0	0	286,710	0	328,949

FORESTRY

Management Common to All Alternatives:

- Evaluate all forestry treatments for rehabilitation needs, with emphasis on noxious weed control.
- Implement conservation measures for mechanical shearing and chipping operations relating to slope, allowable disturbance, limb removal, leave-trees, stump height, fuel concentrations, exclusion areas, landings, noxious weed control, equipment maintenance, fence repair, rehabilitation, and fire safety.
- Implement aggressive fire suppression as the appropriate management response (AMR) for commercial timber areas.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Implement timber production and harvest of commercial forestlands (acres)	0	700	0	500	0
Implement fuels reduction through mechanical and prescribed fire treatments on commercial forestlands (acres/year)	0 - 5	10 - 30	0 - 20	0 - 20	25 -150
Employ insect control on commercial forestlands (acres)	0	700	0	0	0

FORESTRY (continued)					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Allow public woodcutting on 119,426 acres of commercial and non-commercial forest and woodlands. Target locations with invasive western juniper to aid in fuels reduction work.	No	Yes	No	Yes	Yes
Implement reforestation projects on commercial forestlands	No	Yes, following mechanical harvest	Yes	Yes	Yes
Allow post-fire timber salvage sales on commercial forestlands	No	Yes	Yes, but limit to existing roads and low-impact methods	No	Yes
Manage low-site forestlands and woodlands for the following objectives:					
• **Wildlife habitat**	Yes	No	Yes	No	No
• **Fuelwood removal**	Yes	No	Yes	Yes	Yes
• **Timber production**	No	Yes	No	No	No
• **Removal of invasive juniper for land health**	No	No	No	Yes	
• **Biomass production**	No	No	No	No	Yes
Allow temporary new road construction to manage commercial and low-site forest lands	Yes	Yes	No	Yes	Yes
Allow permanent new road construction to manage commercial and low-site forest lands	No	Yes	No	No Yes	No
Emphasize use of forest fuels for biomass production	No	Yes	No	No	Yes
Close sensitive resource areas to public woodcutting of invasive juniper, e.g., wilderness study areas (WSAs), research natural areas (RNAs), areas of critical environmental concern (ACECs)	WSAs, RNAs, and ACECs	WSAs, RNAs, and ACECs	Most of SFO area	WSAs, RNAs, and ACECs	WSAs, RNAs, and ACECs; areas of special status and special interest species

FUELS MANAGEMENT

Management Common to All Alternatives:

- Implement fuels treatments through mechanical, prescribed fire, and biological methods to reduce build-up of hazardous fuels, provide fuel breaks, and create defensible space in communities at risk.
- Develop and implement hazardous fuel reduction plans and projects driven by community protection needs and resource specialist input.
- Teach classes in local schools and fire safety council meetings regarding fire protection, hazard reduction, and the natural role of fire in the ecosystem.
- Identify hazardous areas and develop mitigation projects in concert with local fuel reduction programs.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Implement hazardous fuels reduction treatments using various methods:					
• **Prescribed fire and mechanical treatment (acres/year)**	500–1,500	500–3,000	500–5,000	75–500	500–5,000
• **Mechanical treatment (maximum percent allowed of total treatments)**	No restriction	50%	50%	50%	No restriction
• **Biological treatment (acres/year)**	0–25	50–1,000	50–1,000	50–500	0–25
• **Chemical treatment (acres/year)**	0	50-100	0	75–125	0–500

LANDS AND REALTY

Management Common to All Alternatives:

- Acquire access for public and administrative uses where none exists to facilitate management of BLM-administered land.
- Manage acquired lands same as adjacent parcels, unless site-specific analysis determines need for different management prescriptions.
- WSAs (183,581 acres) would be designated as rights-of-way exclusion zones. All proposals within WSAs must meet non-impairment criteria, which prohibit permanent facilities unless they are grandfathered, they have valid existing rights, or they provide access to private inholdings.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Priorities for land acquisition (Zone 1)	Specific parcels identified in Management Framework Plans	WSA inholdings; lands with high commodity resources	Lands within and adjacent to WSAs, WSRs, ACECs; conservation and scenic easements	Lands within and adjacent to WSAs, WSRs, ACECs; conservation and scenic easements; lands with high resource values	Lands within and adjacent to WSAs, WSRs, ACECs; conservation and scenic easements; lands with high resource values

LANDS AND REALTY (continued)					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Priorities for retention or exchange of land (Zone 2)	Specific parcels identified in Management Framework Plans	Lands adjacent to WSAs, ACECs, and special areas; allow exchanges for commodity opportunities	Retain all existing BLM lands; allow exchanges only when parcels have higher resource values	Lands with public resource values; allow exchanges when private parcels have higher resource values	Lands with public resource values; allow exchanges when private parcels have higher resource values
Priorities for the potential disposal of land (Zone 3)	Specific parcels identified in Management Framework Plans	Consolidation of land holdings; enhancement of commodity production	Lands that are difficult to manage, with low resource values	Lands that are difficult to manage, with low resource values	Lands that are difficult to manage, with low resource values
Create additional rights-of-way "exclusion" zones (outside of WSAs)	None	None	Bitner and Massacre Rim ACECs (46,791 acres), and important wildlife habitat	None	Bitner ACEC (1,921 acres)
Create rights-of-way "avoidance" zones	None	All ACECs	Rahilly-Gravelly ACEC (927 acres)	Rahilly-Gravelly ACEC (927 acres)	Massacre Rim and Rahilly-Gravelly ACECs (45,827 acres) and important wildlife habitat
Allow development of existing utility corridors for expanded use	Use existing corridors up to 3 miles wide; develop those listed in management framework plans (MFPs)	Use existing corridors up to 3 miles wide: develop those listed in MFPs	No further development	Use existing corridors up to 1 mile wide	Use existing corridors up to 1 mile wide
Allow development of new utility corridors	No	Yes	No	No	Yes
Restrict development of existing communication sites	Use existing sites before new sites are developed	Use existing sites before new sites are developed	Prohibit development at existing sites	Confine to areas previously disturbed	Confine to areas previously disturbed
Allow development of new communication sites	Yes	Yes	No	No, except for BLM management and upgrade	Only for BLM management and upgrade

LIVESTOCK GRAZING

Management Common to All Alternatives:

- Maintain livestock grazing within 49 allotments on 1,445,443 acres.
- Comply with the Approved Northeastern California and Northwestern Nevada Standards and Guidelines for Livestock Grazing.
- Areas burned by wild or prescribed fire would be rested from livestock grazing for a minimum of two growing seasons.
- Comply with California BLM Supplemental Manual 1745 and Handbook 1745-1, Use of Native Plant Materials in California.
- Livestock salting would not be allowed within ¼ mile of springs, meadows, NRHP-quality archaeological sites, streams, and aspen areas. Location of salting stations would be determined by BLM in consultation with livestock permittees.
- Maintain 5,500 acres of existing livestock exclosures. Meadows and aspen stands of significant value to wildlife will receive priority for additional livestock exclusion. When fencing natural water sources, water would be provided outside fences for livestock, wildlife, and wild horses. Prescribed grazing may be allowed on these areas if needed to maintain vegetation vigor and diversity.
- Construct all new fences to comply with applicable wildlife standards.
- The needs of wildlife and wild horses would be considered in water developments for livestock grazing. Raptor perch sites would be minimized on fences and water developments in important sage grouse habitat. Water would be retained and provided at ground level in all livestock water developments. Natural riparian habitat, and a substantial portion of the surrounding cover, would be protected for wildlife use where water is developed from natural sources.
- Utilization levels (livestock, wild horses, and wildlife) will not exceed 40%–60% on key species of grasses, forbs, and shrubs. Guideline number 16 of the *Standards and Guidelines for Livestock Grazing* would be implemented on allotments not meeting Standards for Rangeland Health at current forage utilization levels.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Authorize annual animal unit months (number of AUMs)	92,465	92,465	40,685	92,465	92,465
Grazing system emphasis	Maintain existing livestock distribution and forage utilization patterns	Improve livestock distribution and enhance forage production	Restore native rangelands by resting from grazing every 2 of 3 years	Maintain existing livestock distribution and forage utilization patterns	Improve livestock distribution and forage production

LIVESTOCK GRAZING (continued)					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Maintain domestic sheep permits in specific grazing allotments (Tuledad, Selic-Alaska, and Red Rock Lake)	Yes	Yes, but convert sheep permits to cattle permits if there is evidence of disease transmission to bighorn sheep.	No, convert sheep permits to cattle permits	Yes, but convert sheep permits to cattle permits if there is evidence of disease transmission to bighorn sheep.	Yes, unless operator elects to convert or vacate allotment
Allow conversion of cattle permits to domestic sheep permits	Yes, if low potential for direct contact between domestic sheep and bighorn	Yes, only outside of occupied bighorn sheep habitat	No	Yes, if low potential for direct contact between domestic sheep and bighorn	Requests for conversion would be coordinated with operators and state game agencies
Allow trailing of domestic sheep	Yes in Tuledad, Selic Alaska, and Red Rock Lake Allotments and in areas that are allotments ≥ 9 miles from occupied bighorn habitat	Yes in Tuledad, Selic Alaska, and Red Rock Lake Allotments and outside of occupied bighorn habitat	No	Yes in Tuledad, Selic Alaska, and Red Rock Lake Allotments and in areas that are allotments ≥ 9 miles from occupied bighorn habitat	Evaluated on a case-by-case basis
Construct new livestock water developments	Yes, if development would be beneficial for wildlife	Yes, if development would improve livestock distribution	No, unless development is necessary to meet wildlife or recreation objectives	Yes, if development would improve livestock distribution	Yes, if development would be beneficial for wildlife

RECREATION AND VISITOR SERVICES

Management Common to All Alternatives:

- All areas not managed under a special designation would be managed as the extensive recreation management area.
- Manage recreational use within areas of critical environmental concern protect unique resource values.
- Special recreation permits would be allowed for events provided there is adequate resource protection.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Manage extensive recreation management areas for low impact activities	Yes	No, develop recreation sites and trails	Yes	Yes	Yes
Designate special recreation management areas (number)	0	2	0	0	0
Develop seasonal facilities for public viewing of wild horses (number)	0	2	0	1	3

RECREATION OPPORTUNITY SPECTRUM (ROS)

Management Actions Assign ROS classes to all lands:	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
'Semi-Primitive Non-Motorized' (acres)	448,394	448,394	450,636	448,394	450,636
'Semi-Primitive Motorized' (acres)	638,260	638,260	636,018	638,260	636,018
'Roaded Natural' (acres)	127,038	127,038	127,038	127,038	127,038
'Rural' (acres)	6,952	6,952	6,952	6,952	6,952

SOIL RESOURCES

Management Common to All Alternatives:

- Implement management practices to promote recovery of 49,894 acres of upland soils not meeting Standards for Rangeland Health.
- Ensure all management activities result in no net loss of soil mass or productivity within the management area.
- Consumptive uses and developments would be restricted to soils that are unproductive or most suitable for construction purposes.
- Livestock grazing would be managed to promote healthy watersheds; this necessitates productive soils, natural hydrologic function, biological integrity, and the preservation of biological crusts.
- Minimum two growing seasons rest from livestock grazing and other watershed-damaging activities following wildfires or prescribed burns.
- HMAs would be maintained at AML. An AML would be reduced if soils are being damaged by wild horses at an established AML.
- Minimize all uses and management activities within perennial and intermittent drainages where such activities would compromise normal watershed processes or function.
- Implement vegetation treatments on sites where undesirable invasive species are degrading the soil's ability to maintain proper function.
- Broad-scale vegetation treatment plans will specify appropriate levels of woody residue required for site protection.
- Prevent damage to high shrink-swell soils by limiting compacting activities to periods when soils are sufficiently dry to resist damage from the activity.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Implement management practices for soil protection based on specific objectives	Emphasize improved grazing strategies	Restore degraded soil resources to benefit commodity production	Emphasize natural recovery by limiting or excluding activities that damage soils	Emphasize improved grazing strategies	Emphasize improved grazing strategies, mitigation, and bio-engineering
Prioritize restoration treatments to improve soil condition	Implement best management practices on a case-by-case basis	Employ bio-engineering projects to achieve Proper Functioning Condition	Plant woody riparian vegetation; install in-stream structures and livestock exclosures	Implement best management practices on a case-by-case basis	Employ bio-engineering projects to achieve Proper Functioning Condition
Apply sediment intrusion buffer zones around sensitive resources (radius, in feet)	Case-by-case basis	≤ 50	100	Case-by-case basis	Case-by-case basis
Implement mitigation actions to offset soil and productivity losses within required distances of the original disturbance	Within Field Office area boundary	Within Field Office area boundary	Within same 6th-level watershed (conceptually 10,000 to 40,000 acres)	Within Field Office area boundary	Within same 5th-level watershed (conceptually 40,000 – 250,000 acres)

SPECIAL DESIGNATIONS

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACECs)

Management Actions Common to all Alternatives:

- Manage the Rahilly-Gravelly ACEC to conform to the Lakeview District Resource Management Plan, 2004.
- New right-of-trails would be avoided in ACECs, except where no reasonable option exists. All roads not designated as 'Open' would be signed 'Closed,' physically blocked, or rehabilitated.
- Livestock grazing would continue according to permit stipulations and allotment management plans.
- Wild horse Herd Management Areas (HMAs) would be managed within established appropriate management levels (AMLs). AMLs would be decreased if wild horse use is found to damage resources or conflict with other resource uses.
- Wildland fire would be managed by appropriate management response. Use of heavy equipment would be avoided, unless approved by line officer.
- Noxious weeds would be aggressively controlled in all ACECs & RNAs.
- Firewood, post, or pole cutting for commercial or domestic use will not be allowed in any proposed/designated ACEC or RNA.
- Commercial recreation (or any use requiring a special permit) proposed within an ACEC would be evaluated on a case-by-case basis.
- Disturbance of special status plants would be avoided in ACECs.
- An approved plan of operation is required for locatable minerals in an ACEC; other restrictions may apply for leasable or salable minerals. Where ACECs overlap WSAs, further constraints on mineral activities apply under the wilderness IMP.
- Acquired in-holdings or adjacent property would be managed in like manner to the surrounding ACEC.
- Traditional uses by Native Americans would be protected and tribal collecting of plants allowed within proposed/designated ACECs.

Massacre Rim ACEC					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Designate the Massacre Rim Area of Critical Environmental Concern (acres)	0	44,870	44,870	0	44,870
Allow construction of new rights-of-way	Yes	Avoided	Excluded as WSA; Avoided as ACEC only	Yes	Excluded as WSA; Avoided as ACEC only
Assign land tenure zone	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
Apply off-highway vehicle designations	Limited to Designated Routes	Limited to Designated Routes	Closed	Limited to Existing Routes	Limited to Designated Routes
Assign visual resource management class	Class I (II)	Class I (II)	Class I (II)	Class I (II)	Class I (II)
Allow public plant collecting within ACEC	Limited	Limited	Limited	Limited	Limited
Apply restrictions to energy and mineral exploration and development	Closed to leasable and saleable; Open with WSA restrictions for locatable	Closed to leasable and saleable; Open with WSA restrictions for locatable	Closed to leasable and saleable; Open with WSA restrictions for locatable	Closed to leasable and saleable; Open with WSA restrictions for locatable	Closed to leasable and saleable; Open with WSA restrictions for locatable
Bitner ACEC					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Designate the Bitner Area of Critical Environmental Concern (acres)	0	1,921	1,921	0	1,921
Assign land tenure zone	Zone 2	Zone 2	Zone 1	Zone 2	Zone 1
Allow construction of new rights-of-way	Yes	Avoided	Excluded	Yes	Excluded
Apply off-highway vehicle designations	Closed	Limited to Existing Routes	Closed	Limited to Existing Routes	Closed
Assign visual resource management class	Class II	Class II	Class II	Class II	Class II
Allow public plant collecting within ACEC	Yes	Yes, w/permit	No	Yes	No
Apply restrictions to energy and mineral exploration and development	Open to all mineral activities	Open to all mineral activities	Closed to all mineral activities	Open to all mineral activities	Open to all mineral activities; NSO for leasables

Rahilly-Gravelly ACEC					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Designate the Rahilly-Gravelly Area of Critical Environmental Concern (acres)	0	957	957	957	957
Assign land tenure zone	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
Allow construction of new rights-of-way	Yes	Avoided	Avoided	Avoided	Avoided
Apply off-highway vehicle designations	Open	Limited to Designated Routes	Limited to Designated Routes	Limited to Designated Routes	Limited to Designated Routes
Assign visual resource management class	Class II	Class II	Class II	Class II	Class II
Allow public plant collecting within ACEC	Limited	Limited	Limited	Limited	Limited
Apply restrictions to energy and mineral exploration and development	Open to all mineral activities	Open to all mineral activities	Closed to all mineral activities	Open to all mineral activities	Open to all mineral activities; NSO for leasables

WILD AND SCENIC RIVERS

Management Common to All Alternatives:

- Provide interim protection for the outstandingly remarkable values of eligible and suitable rivers and streams while awaiting congressional determination.
- A 2.2 mile section (457 acres) of Twelvemile Creek would be managed to protect and retain suitability for designation as a 'wild and scenic river.'
- Manage this section of Twelvemile Creek as VRM Class II.
- Pursue acquisition of non-federal lands along Twelvemile Creek to enlarge the eligible and suitable portion of this stream. This would be done on a voluntarily basis from willing sellers and/or exchange proponents.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Twelvemile Creek 2.2 mile segment (457 acres) would be recommended as suitable for potential designation by Congress as WSR with a tentative classification as 'recreational'.	No	No	Yes	No	Yes

WILDERNESS STUDY AREAS

Management Common to All Alternatives:

- The existing wilderness study areas (WSAs) and any proposed WSAs would be managed under the "Interim Management Policy for Lands under Wilderness Review":
  - Sheldon Contiguous — 23,700 acres
  - South Warner Contiguous — 4,500 acres
  - Massacre Rim — 101,290 acres
  - Wall Canyon — 46,305 acres
  - Buffalo Hills — 47,315 acres
- When management of a WSA overlaps another special designation the most restrictive management direction would be followed.
- Existing and new mining operations under the 1872 mining law would be regulated under 43 CFR 3802 only.
- Any new roads or trails that have been created or discovered would be closed to vehicle use, with the exception of approved right-of-trails.
- All proposals for uses and/or facilities within WSAs would be reviewed to determine whether the proposal meets the nonimpairment criteria or a permitted exception.
- Use of heavy equipment during wildland fires would require line officer approval and the presence of a qualified environmental specialist.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Prioritize acquisition of land parcels within and adjacent to wilderness study areas	No	No, only lands within WSAs	Yes	Yes	Yes
Assign off-highway vehicle designations in wilderness study areas (WSAs)	All WSAs: Limited to Existing Routes	All WSAs: Limited to Existing Routes	All WSAs: Limited to Designated Routes; all other routes closed	All WSAs: Limited to Existing Routes	Four WSAs: Limited to Designated Routes One WSA: Closed

TRAVEL MANAGEMENT

Management Common to All Alternatives:

- Manage off-highway vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.
- All management actions for those portions of ACECs within Instant Study Areas or WSAs would be governed by "Interim Management Policy for Lands under Wilderness Review".
- Existing scenic trails would be retained.
- Any roads designated for closure may be signed, physically barricaded, and/or restored.
- Commercial, competitive, and other organized OHV activities would be managed with special recreation permits.
- OHV management would follow the recommended guidelines established by the Northeast California Resource Advisory Committee, Appendix C.
- An OHV special recreation management area would be developed if the need arises.
- Road maintenance would continue at a rate of 30 to 75 miles per year.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Assign off-highway vehicle use area designations: (acres)					
• **'Open'**	491,845	1,037,509	0	491,845	0
• **'Limited to Designated Routes'**	728,819	183,155	1,170,807	728,819	1,208,670
• **'Closed'**	0	0	49,857	0	11,994
Assign off-highway vehicle designations in proposed ACECs	Open	Massacre and Bitner: Limited to Existing Routes; Rahilly-Gravelly: Open	Massacre and Bitner: Closed Rahilly-Gravelly: Limited to Existing Routes	Open	Massacre and Rahilly-Gravelly: Limited to Designated Routes; Bitner: Closed
Assign off-highway vehicle designations in wilderness study areas	All WSAs: Limited to Existing Routes	All WSAs: Limited to Existing Routes	All WSAs: Limited to Designated Routes; all other routes closed	All WSAs: Limited to Existing Routes	Four WSAs: Limited to Designated Routes One WSA: Closed
Manage total routes designated for use (miles)	1,120	139	1,797	1,120	1,809
Manage existing routes in "Open" OHV areas (miles)	781	1,762	0	781	0
Implement permanent route closures within WSAs (miles)	0	0	104	0	92

VEGETATION

Management Common to All Alternatives:

- Vegetation manipulation would be prioritized to sagebrush-steppe communities with juniper encroachment, decadent big sagebrush and greasewood stands, and low elevation brush communities dominated by exotic annual grasses.
- Vegetation manipulation will seek to restore natural ecosystems, establish wildfire fuel breaks, and increase forage production for livestock and wild horses.
- All vegetation manipulation areas will be managed following treatment to ensure that noxious and invasive weeds do not become established.
- Mechanical juniper shearing and chipping operations will comply with conservation measures.
- All chemicals used in vegetation treatment will be approved for use on public lands, and all applicable guidelines for application will be followed.
- Salting of livestock will not be allowed within ¼ mile of springs, streams, meadows, archaeological sites, and aspen stands. Location of salting stations would be determined by BLM in consultation with livestock permittees.
- Native juniper woodlands would be maintained on approximately 17,500 acres.
- Quaking aspen woodlands would be maintained on at least 1,800 acres.
- Curlleaf mountain mahogany woodlands would be maintained on at least 9,100 acres.
- Areas burned by wild or prescribed fire would be rested from livestock grazing for a minimum of two growing seasons.
- Utilization levels (livestock, wild horses, and wildlife) of key species (grasses, forbs, and shrubs) on native rangeland will not exceed moderate (40%-60%) amounts in order to maintain the health of native upland and riparian plant communities.
- Hedging levels of key browse species will not exceed form class 2.25.
- Maintain 4,568 acres of existing post-wildfire seedings.

Sagebrush-Steppe and Other Native Plant Communities

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Restore shrub–steppe communities (acres/year)	600	500–3000	500–3000	100–2000	500–4000
Prioritize restoration of sagebrush–steppe communities, based on the following objectives:					
Promote rapid recovery of desired plant community	Yes	No	Yes	Yes	Yes
Enhance important wildlife habitat	Yes	No	Yes	Yes	Yes
Increase livestock forage	No	Yes	No	No	Yes

Sagebrush-Steppe and Other Native Plant Communities (continued)					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Prioritize restoration treatment methods for shrub–steppe communities	Prescribed fire and manual treatments	Prescribed fire, mechanical, manual, chemical treatments	Prescribed fire, mechanical, manual treatments	Prescribed fire, mechanical, manual treatments	Prescribed fire, mechanical, manual, chemical treatments
Restore grassland communities (acres/year)	40	50–100	100–500	up to 100	50–100
Prioritize treatment methods for restoration of grassland communities	Prescribed fire and mechanical treatments	Prescribed fire, mechanical, chemical treatments	Prescribed fire and mechanical treatments	Prescribed fire, mechanical, chemical treatments	Prescribed fire, mechanical, chemical treatments
Treat/harvest invasive juniper sites (acres/year)	500–1500	500–3000	500–6000	75–500	500–5000
Prioritize restoration of communities encroached by invasive juniper based on the following objectives:					
• **Promote rapid recovery of desired plant community**	Yes	No	Yes	No	Yes
• **Enhance important wildlife habitat**	No	No	Yes	Yes	Yes
• **Increase livestock forage**	No	Yes	No	No	Yes
• **Promote public woodcutting**	No	Yes	No	No	Yes
• **Enhance biomass production**	No	Yes	No	No	Yes
Prioritize restoration treatment methods for removal of invasive juniper	Prescribed fire, manual, chemical treatments	Prescribed fire, mechanical, chemical, manual treatments	Prescribed fire, mechanical and manual treatments	Prescribed fire, manual and chemical treatments	Prescribed fire, mechanical, chemical, manual treatments
Prioritize restoration treatment methods for removal of invasive juniper within riparian areas	Prescribed fire and manual treatments	No treatments; except where special status species are present	Manual treatments	Prescribed fire, manual, and mechanical treatments	Prescribed fire, manual, and mechanical treatments
(acres/year)	25	0	100–200	0-100	50–100
Prioritize restoration treatment methods for removal of invasive juniper within quaking aspen stands	Prescribed fire and manual treatments	No treatments; except where special status species are present	Manual treatments	Prescribed fire, manual, and mechanical treatments	Prescribed fire, manual, and mechanical treatments
(acres/year)	30	0	100–200	100	10–100

Seedings					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Prioritize planting of new seedings based on the following objectives:					
• **Fire stabilization and rehabilitation**	Yes	No	Yes	Yes	Yes
• **Enhance important wildlife habitat**	Yes	No	Yes	Yes	Yes
• **Increase livestock forage and authorizations**	No	Yes	No	Yes	Yes
Maintain 36,740 acres of existing crested wheatgrass seedings in good condition	Yes	Yes	No, allow seedings to return to native communities	Yes, use both native and non-native species	Yes
Manage and/or restore 8,400 acres of existing crested wheatgrass seedings in poor condition	No treatments implemented	Restore to crested wheatgrass	Allow seedings to return to native communities	Restore to native and non-native species	Restore to native species
Quaking Aspen and Mountain Mahogany					
Prioritize restoration treatment methods for quaking aspen and mountain mahogany:					
• **Mechanical and manual juniper and brush reduction**	Yes	No	Yes	Yes	Yes
• **Prescribed fire**	Yes	No	Yes	Yes	Yes
• **Livestock utilization restrictions**	Yes	No	Yes	Yes	Yes
• **Improve livestock grazing systems**	No	No	Yes	No	Yes
Construct new livestock exclosures (acres)	20	20	40	40	20
Restore historic aspen stands using seeds, roots, or saplings (acres)	0	0	20	0	20
Allow pole-cutting in aspen stands (outside of WSAs, RNAs, and ACECs)	Yes	Yes	No	Yes	Yes
Allow fuelwood cutting of dead mountain mahogany (outside of WSAs, RNAs, and ACECs) (total cords/year)	Yes No limit	Yes 30	No 0	Yes 10	Yes 30
Allow fuelwood cutting of invasive mountain mahogany	No	Yes	No	No	No
Require additional rest from livestock grazing in burned quaking aspen and mountain mahogany stands greater than 2 acres in size until recovery criteria are met	Yes	No	Require 3 years rest on burned stands ≥ 0.5 acre	Yes	Yes

Western and Utah Juniper					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Protect native juniper woodlands during treatments of invasive juniper	Yes	No, except where historically significant trees or special status species are present	Yes	No	Yes
NOXIOUS WEEDS and INVASIVE SPECIES					
Management Common to All Alternatives: • Integrated Weed Management will continue to promote education and prevention as well as cultural, physical, biological, and chemical treatments. • All hay, straw, or mulch used on BLM-administered lands must be certified as free from noxious weed seed. • Cooperative weed control programs will continue on the Upper Alkali Lake restoration project, the Snake Lake experimental medusahead project and on watershed restoration projects in Wall Canyon.					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Prioritize areas for noxious and invasive weed control using integrated weed management (IWM):					
• **Employ treatments on disturbed areas: roads, rights-of-way, livestock watering sites and trailing routes**	Yes	No	Yes	Yes	Yes
• **Emphasize sites that produce commodity resources**	No	Yes	No	No	No
• **Emphasize early detection and rapid response to new infestations**	No	No	No	No	Yes
• **Emphasize restoration of infested sites to native vegetation**	No	No	Yes	No	No
Conduct IWM inventories in coordination with adjacent weed management areas for early detection of new infestations	Yes	Accelerate inventories for early detection of new infestations	Yes	Yes	Yes

SPECIAL STATUS PLANTS

Management Common to All Alternatives:

- Manage all special status species habitats or occurrences (populations) so that BLM actions do not contribute to the need to list these species as federally threatened or endangered.
- Site specific management of all special status species habitats and occurrences (populations) would be in accordance with conservation plans, recovery plans, habitat management plans, conservation recommendations, and best management practices, as appropriate for the species.
- Allow for no more than 20% (by plant species) elimination of occupied habitat and no greater than 20% total decrease in any plant species occurrence, except as directed in biological assessments, biological evaluations, habitat management plans, and conservation strategies/species management guides for specific species.
- Reduce or eliminate impacts to special status species and their habitat when conducting ground disturbing activities.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Re-establish populations on suitable sites that are currently unoccupied	No	No	Yes	No	No
Activities allowed within special status plant habitat: • **Public woodcutting** • **Commercial woodcutting** • **Mechanical treatment**	 Yes Yes Yes	 Yes Yes Yes	 No Yes Yes	 Yes Yes Yes	 No Yes Yes
Require stipulations during surface disturbing activities to protect special status plant habitat: • **Limit road construction,** • **Require rubber tracked vehicles for cross-country travel,** • **Rehabilitate all access points to prevent the establishment of trails**	No; except where threatened and endangered species are present	No; except where threatened and endangered species are present	Yes	No; except where threatened and endangered species are present	Yes
Limit or exclude off-highway vehicle use to protect special status plant habitat	South FO: Limited to Existing Routes; North FO: No, but exclude use from special status plant habitat where adverse impacts occur	No, but exclude use from special status plant habitat where adverse impacts occur	Limited to Existing Routes	No, but exclude use from special status plant habitat where adverse impacts occur	Limited to Designated Routes

Special Status Plants (continued)					
Acquire lands from willing sellers that support unprotected populations of special status plants	No	No	Yes	No	Yes
Provide additional protection measures to 'special interest' species to prevent them from becoming listed as special status plants	No	No	Yes	No	Yes

VISUAL RESOURCES MANAGEMENT

Management Common to All Alternatives:

- Manage all wilderness study areas and the Madeline Plains Watershed as VRM Class I.
- Should a WSA not be designated by Congress, the area would return to the original VRM class designation or be reclassified if it overlaps a special area designation.

Management Actions: VRM Class Designations (acres)	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
VRM Class I	Not established	Not established	183,587	Not established	183,587
VRM Class II	Not established	Not established	437,553	Not established	437,553
VRM Class III	Not established	Not established	227,134	Not established	227,134
VRM Class IV	Not established	Not established	372,390	Not established	372,390

WATER RESOURCES

Hydrologic Function and Water Quality

Management Common to All Alternatives:

- Achieve measurable progress toward proper functioning condition (PFC) or desired future condition (DFC) on 53 miles of perennial and intermittent streams and 2,500 acres of riparian/wetland areas.
- Complete PFC assessment throughout the field office area, with periodic reassessment to gauge progress toward meeting goals and objectives.
- Implement restorative measures to improve water quality and progress toward meeting state standards within 20–50 years on non-compliant streams.
- Amend CA and NV basin plans to reflect appropriate water quality standards.
- Implement integrated weed management practices on watersheds where riparian/wetland areas are significantly degraded by weeds.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Prioritize restoration treatments to improve hydrologic function and water quality:					
• **Employ bio-engineering treatments**	No	Yes	Yes	No	Yes
• **Allow natural recovery of sites**	No	No	Yes	No	Yes
• **Improve livestock grazing strategies**	Yes	No	No	Yes	Yes
• **Construct fences or exclosures to protect springs, streams, and riparian areas**	No	No	Yes	No	No
• **Plant woody riparian vegetation**	No	No	Yes	No	Yes
• **Install in-stream structures**	No	No	Yes	No	Yes

Water Supply					
Management Common to All Alternatives: • Maintain existing water sources and manage to promote wildlife habitat, improved distribution of livestock and wild horses, and provide for recreational uses. • Selectively develop springs and construct fencing to protect associated riparian ecosystems, where protection is required. • Assert water rights where necessary to protect federal investments and assure a reliable water supply for resource programs. • Projects that involve inter-basin transfer of water would be coordinated with local and regional governments.					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Prioritize development of new water sources based on the following objectives:					
• **Improve water availability for recreation uses**	No	Yes	No	No	No
• **Improve livestock distribution**	Yes	Yes	No	Yes	No
• **Provide water for wild horses**	Yes	No	Yes	No	No
• **Extend seasonal water availability for wildlife**	Yes	No	Yes	No	Yes
• **Provide water for commercial energy development**	No	Yes	No	No	No
• **Allow new developments only if they benefit desired ecosystems**	No	No	Yes	No	Yes
Withdraw state-appropriated water rights on waters that are not 'waters of the state'	No	Yes	Yes	Yes, on stock pond permits	Yes
Assert in-stream flow rights in Nevada and riparian rights in California on all perennial and important intermittent streams	No	No	Yes	No	Yes

WILD HORSES AND BURROS

Management Common to All Alternatives:

- Maintain herd management area (HMA) populations within established appropriate management levels (AMLs) by conducting periodic gathers.
- Eliminate unnecessary fences and minimize construction of new fences in HMAs that prevent seasonal wild horse movement or migration.
- Implement fertility control in some or all of the HMAs (based on funding) to assist in maintaining populations at AMLs.
- Adjust AMLs when monitoring data indicates wild horse populations are not achieving a thriving natural ecological balance.
- Remove wild horses found outside HMAs.

Management Actions	No Action Alternative	Alternative 1 Economic	Alternative 2 Ecosystem	Alternative 3 Traditional	Preferred Alternative
Manage wild horses within established herd management areas (number)	8	8	Withdraw Carter Reservoir HMA: 7	8	8
(acres)	445,595	445,595	422,172	495,821	495,821
Develop seasonal facilities for public viewing of wild horses (number)	0	2	0	1	3
Prioritize selection of animals returned after gathers based on specific traits:					
• **Select for historical traits**	Yes	Carter Reservoir HMA only	No	Yes	Carter Reservoir HMA only
• **Select younger horses to be entered into the adoption program**	Yes	No	Yes	No	No
• **Select traits desirable by public for adoption (color, size and conformance)**	No	Yes	No	Yes	Yes
Adjust herd management area boundaries	No	No	No	Enlarge Fox-Hog boundary to 145,244 acres	Enlarge Fox-Hog boundary to 145,244 acres
Manage select herd management areas as a complex	No	No	Nut Mountain, Bitner, Fox-Hog, Massacre Lakes, Wall Canyon,	No	Nut Mountain, Bitner, Wall Canyon and Massacre Lakes

WILDLIFE AND FISHERIES

Management Common to All Alternatives:

- Develop GIS database to document and track wildlife information.
- Design and locate new livestock water developments to avoid dewatering natural springs or wetland areas. Outfit all livestock troughs with wildlife access ramps. Strive to provide water at ground level for wildlife at all developments, as feasible.
- Retain vegetation buffers for wildlife cover at water sources, wetlands, and riparian sites.
- Build new fences according to species requirements. Remove fences determined to be heavily impacting wildlife, as well as those determined unnecessary for resource management actions.
- Limited operating periods (LOPs) and buffer zones would be implemented as necessary to reduce disturbances to wildlife.
- Acquire lands from willing sellers that contain important habitat for special status and special interest species. Retain lands with important breeding habitats.
- Apply Standards for Rangeland Health when no specific habitat or species guidelines exist.
- Close and rehabilitate cherry stem and temporary project roads where feasible to reduce disturbances to wildlife.
- Implement habitat treatments so that they do not conflict with the life history of resident species.

Federal, State and BLM Listed Terrestrial and Aquatic Species

Management Common to All Alternatives:

- Follow management guidelines within applicable biological opinions and conservation strategies.
- Cooperate with other agencies to provide incentives to private landowners to assist in improving their land for listed species.
- Implement seasonal protection measures and buffer zones as appropriate for permitted activities (see Table 2.22-1).

Ungulates

Management Common to All Alternatives:

- Implement seasonal protection measures and buffer zones as appropriate for permitted activities (see Table 2.22-1).
- Reduce invasive juniper where it threatens meadow systems and quaking aspen stands.
- Remove invasive juniper from bighorn lambing habitat.
- Cooperate with state game agencies in construction of additional guzzlers east of Surprise Valley to discourage bighorn sheep from crossing to the Warner Mountains.
- Coordinate bighorn sheep augmentation and reintroduction efforts with game agencies. Provide appropriate habitat throughout the planning area except for the Warner Mountains and Coppersmith Hills.
- If Rocky Mountain elk become established within the field office area, coordinate with state wildlife agencies and other cooperators, including livestock operators, to develop and implement management plans.

Ungulates (continued)					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Maintain domestic sheep permits in specific grazing allotments (Tuledad, Selic-Alaska, and Red Rock Lake)	Yes	Yes, but convert sheep permits to cattle permits if there is evidence of disease transmission to bighorn sheep	No, convert sheep permits to cattle permits	Yes, but convert sheep permits to cattle permits if there is evidence of disease transmission to bighorn sheep	Yes, unless operator elects to convert or vacate allotment
Allow conversion of cattle permits to domestic sheep permits	Yes, if low potential for direct contact between domestic sheep and bighorn	Yes, only outside of occupied bighorn sheep habitat	No	Yes, if low potential for direct contact between domestic sheep and bighorn	Requests for conversion would be coordinated with operators and state game agencies
Allow trailing of domestic sheep	Yes in Tuledad, Selic Alaska, and Red Rock Lake Allotments and in areas that are allotments ≥ 9 miles from occupied bighorn habitat	Yes in Tuledad, Selic Alaska, and Red Rock Lake Allotments and outside of occupied bighorn habitat	No	Yes in Tuledad, Selic Alaska, and Red Rock Lake Allotments and in areas that are allotments ≥ 9 miles from occupied bighorn habitat	Evaluated on a case-by-case basis

Sagebrush-Obligate and Associated Species

Management Common to All Alternatives:

- Locally developed conservation strategies or plans developed for sage-grouse, pygmy rabbit, burrowing owl and other special status species would be used to identify high-priority treatment and fire suppression areas.
- Implement appropriate measures from Partners In Flight "*Birds in a Sagebrush Sea*" and other pertinent conservation plans.
- Implement juniper reduction to enhance sagebrush ecosystems; focus on providing diverse composition and age classes of shrubs and healthy understory vegetation.
- Restore natural disturbance processes through forest and woodland thinning and prescribed burn projects.
- To the extent possible Utilize local native plants and seeds in seeding, restoration and rehabilitation projects, in accordance with BLM California's Native Seed Policy.

Sagebrush-Obligate and Associated Species (continued)					
Management Actions	**No Action Alternative**	**Alternative 1 Economic**	**Alternative 2 Ecosystem**	**Alternative 3 Traditional**	**Preferred Alternative**
Implement treatments to remove invasive juniper from important wildlife habitats (acres/year)	100–250	250–2,500	250–2,500	0–250	250–2,500
Other Native Wildlife Species					
Management Common to All Alternatives: • Reintroductions, augmentations and translocations of native species would be coordinated with state wildlife agencies, and adhere to BLM Manual 1745—Introduction, Transplant, Augmentation, and Reestablishment of Fish, Wildlife and Plants. • Retain and protect caves identified as important to bats. Limit disturbances near identified bat hibernacula and maternity colonies. • Maintain existing waterfowl nesting islands and structures. • Protect known raptor nesting trees from removal during project activities. • Manage migratory birds in accordance with the Migratory Bird Treaty Act and Migratory Bird Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds.* • Coordinate with game agencies in maintenance and construction of wildlife guzzlers. • Continue cooperative efforts to reintroduce native fauna back into the planning area and do not encourage non-native species introductions.					
Native and Non-Native Aquatic Species					
Management Common to All Alternatives: • Use BMPs prior to installing in-stream structures to repair incised creeks and improve fish habitat. • Remove non-native fishes where they are found to be severely impacting native fish. • Improve fishing opportunities and fish habitat along the east slope of the Warner Mountains (20-25 miles).					
Desirable Non-Native Species					
Management Common to All Alternatives: • Manage for exotic or domesticated species according to BLM Manual 1745—Introduction, Transplant, Augmentation, and Reestablishment of Fish, Wildlife, and Plants. • Coordinate with state agencies to ensure that chukar guzzlers are constructed to accommodate other game birds and small mammals.					

Impacts Summary Table

Air Resources				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Smoke from prescribed burning would result in negligible short-term adverse affects to air quality. Relatively low annual amounts of prescribed fire treatments (maximum of 1500 acres) would result in negligible to minor long-term beneficial effects from reduced wildland fire potential.	Smoke from annual prescribed burning (maximum of 3000 acres) would result in negligible to minor short-term adverse affects. A moderate long-term beneficial effect would result from actions implemented to reduce wildland fire potential.	Same as Alternative 1, except a maximum of 5000 acres would be treated annually with prescribed fire.	Same as Alternative 1, except a maximum of 500 acres would be treated annually with prescribed fire.	Smoke from annual prescribed burning (maximum of 5000 acres) would result in negligible to minor short-term adverse affects. A moderate long-term beneficial effect would result from actions implemented to reduce wildland fire potential.

Cultural and Paleontological Resources				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
The No Action Alternative would result in moderate to major adverse effects to cultural resources. No designations of areas of critical environmental concern (ACECs) or cultural resource management areas (CRMAs) would be made to protect sensitive and unique cultural areas. Additional adverse impacts would result from granting of rights-of-way, development of roads, continued current livestock management, 'Open' off-highway vehicle (OHV) use, and open public woodcutting. The closure of wilderness study areas (WSAs) to leasable and saleable energy and minerals, soil management projects, and vegetation restoration projects would all provide minor beneficial effects to cultural resources.	Alternative 1 would result in moderate adverse impacts to cultural resources from granting of rights-of-ways, development of communication sites, increased 'Open' OHV use, wild horse grazing, livestock grazing, water developments, power production, and commercial harvest of juniper. Minor to moderate beneficial impacts would result from the development of six cultural on-site interpretive areas, and three cultural ACECs. Vegetation and fuels projects would benefit cultural resources by restoring vegetation, stabilizing soil, and reducing fuel loading in and adjacent to cultural resource sites.	Alternative 2 would result in negligible to minor adverse impacts, and provides moderate to major beneficial effects to cultural resources. Three interpretive sites, two CRMAs, and three ACECs would be designated providing increased protection and management of cultural resources. Livestock grazing areas would be rested 2 out of every 3 years, reducing damage to individual sites. Vegetation, fuels, and water quality restoration projects would also benefit cultural resources. No new rights-of-way would be developed and energy and mineral development would be highly restricted.	Impacts resulting from Alternative 3 are similar to the No Action Alternative, with the following exceptions: woodcutting would be developed to target locations with invasive western juniper to aid in fuels reduction and would therefore be subject to Section 106 procedures. Cultural resource sites would be avoided or impacts mitigated as required.	The Preferred Alternative would result in negligible to moderate adverse impacts, and provides moderate beneficial effects to cultural resources. Negligible to moderate adverse impacts would result from livestock and wild horse grazing from trampling damage to individual sites. Moderate beneficial effects to cultural resources would result from the designation of three interpretive sites, two CRMAs, and three cultural ACECs, providing increased protection and management of cultural resources.

Energy and Minerals				
Energy and Minerals / Leasable				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Under the No Action Alternative the combined impact to leasable energy and mineral activities is expected to be minor due to the relatively low number of acres that are closed, fall under permanent no surface occupancy rules, or require restrictive stipulations. A total of 1,035,706 acres (85%) of BLM-administered lands would be 'Open' to mineral leasing under standard lease terms.	Under Alternative 1 the combined impact to leasable energy and mineral activities is expected to be negligible to minor due to the relatively low number of acres that are 'Closed', fall under permanent no surface occupancy rules, or require restrictive stipulations. A minor beneficial effect would potentially occur due to realty actions, new road construction, and additional lands 'Open' to leasable minerals if wilderness study areas are released from Congress. A total of 1,007,519 acres (82%) of lands would be 'Open' to mineral leasing under standard lease terms.	Leasable energy and mineral exploration, development, and extraction under Alternative 2 would have moderately adverse impacts because of increased restrictions on acres that are 'Closed', fall under permanent no surface occupancy rules, or require restrictive stipulations. Alternative 2 would reduce the total lands 'Open' to mineral leasing under standard lease terms from 1,035,706 acres (85%) of BLM-administered lands to 688,278 acres (56%).	Under Alternative 3 the combined impact to leasable energy and mineral activities is expected to be negligible to minor due to the relatively low number of acres that are 'Closed', fall under permanent no surface occupancy rules, or require restrictive stipulations. Under this alternative, 919,085 acres (75%) of BLM-administered lands would be 'Open' to mineral leasing under standard lease terms.	Leasable energy and mineral exploration, development, and extraction under the Preferred Alternative would have negligible to minor adverse effects because of the few acres that are 'Closed', fall under permanent no surface occupancy rules, or require restrictive stipulations. Under this alternative 980,442 acres (80%) of BLM-administered lands would be 'Open' to mineral leasing under standard lease terms. Conflicts with other resources would be resolved by applying mitigation measures or by closing specific parcels to mineral leasing. BLM would address mitigation measures by incorporating them into stipulations in permits and leases. A minor benefit could result from realty actions and additional lands 'Open' to leasable minerals if wilderness study area designations are released by Congress.

Energy and Minerals / Locatable				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
The combined impact to locatable mineral activities is expected to be negligible, due to all of the BLM-administered lands within the field office area being 'Open'. A total of 1,220,644 acres (100%) of BLM-administered lands would be 'Open' to locatable mineral activities. Existing wilderness study areas (WSAs)–183,581 acres (15%)–would continue to be regulated by the Wilderness Interim Management Policy.	The combined impact to locatable mineral activities is expected to be negligible to minor due to the relatively low acreages with wilderness study areas (WSAs) and the minor mitigation measures required by NEPA procedures. A minor beneficial effect would occur from realty actions, road construction, and less restrictions if wilderness study area designations are released by Congress.	The combined impact to locatable mineral activities is expected to be minor due to an increase in acres 'Closed' and additional restrictions and stipulations increasing time and costs. This reduces total lands available to locatable minerals from 1,220,644 acres (100%) of lands to 1,173,943 acres (96%) of lands. Lands included within proposed ACECs have low potential for locatable mineral extraction.	Same as No action Alternative.	The Preferred Alternative would have negligible to minor adverse effects on locatable mineral exploration, development, and extraction because no lands are 'Closed' and restrictive mitigation would be limited. Conflicts with other resources would be resolved through mitigation measures. A minor benefit could result from realty actions and less restrictions if wilderness study area designations are released by Congress.

Energy and Minerals / Saleable				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
The No Action Alternative would have minor adverse impacts to saleable mineral activities. Only wilderness study areas (WSAs) would be 'Closed' to saleable mineral disposal. A total of 1,037,063 acres (85%) of BLM-administered lands would be 'Open' to saleable mineral activities. The existing WSAs–183,581 acres (15%)–would continue to be regulated by the Wilderness Interim Management Policy (IMP).	Alternative 1 would have negligible to minor adverse effects to saleable mineral activities because of the relatively few acres with WSA designations and the minor restrictions and mitigation measures that would be required from site-specific NEPA review. A total of 1,037,063 acres (85%) of BLM-administered lands would be 'Open' to saleable mineral activities. A minor benefit could result from realty actions, new roads and the release of WSAs from wilderness study.	Alternative 2 would have minor adverse effects on saleable mineral exploration, development, and extraction because of the increased acreage 'Closed' and added restrictions and stipulations that would increase time and costs. Alternative 2 would reduce the total lands 'Open' to saleable minerals activities from 1,220,644 acres (100%) of BLM-administered lands to 990,362 acres (81%).	Same as Alternative 1.	The Preferred Alternative would have negligible to minor adverse effects on saleable mineral exploration, development, and extraction because no lands would be 'Closed' to saleable mineral activities outside of WSAs, and restrictive mitigation measures would be limited. 1,037,063 acres (85%) of BLM-administered lands would be 'Open' to saleable minerals activities. Conflicts with other resources would be resolved through mitigation measures. A minor benefit could result from realty actions and if Congress releases WSAs from wilderness study.

Energy and Minerals / Renewable Energy				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
The No Action Alternative is expected to have minor to moderate site-specific adverse effects on renewable energy development, primarily because 15% of the field office (WSAs) would be excluded for renewable energy development. In addition, 64% of the field office would be managed to meet VRM Class I, II and III objectives.	Alternative 1 is expected to have minor to moderate site-specific adverse effects on renewable energy development, primarily because 19% of the field (WSAs and ACECs) office would be excluded or avoided for renewable energy development. In addition, 69% of the field office would be managed to meet VRM Class I, II and III objectives. Minor beneficial effects may accrue from realty actions, and if Congress releases WSAs from wilderness study.	Alternative 2 is expected to have moderate to major site-specific adverse effects on renewable energy development, primarily because 19% of the field office (WSAs and ACECs) would be excluded or avoided for renewable energy development. In addition, 69% of the field office would be managed to meet VRM Class I, II and III objectives. Minor beneficial effects may accrue from realty actions, and if Congress releases WSAs from wilderness study.	Same as No Action Alternative.	The Preferred Alternative is expected to have minor to moderate site-specific adverse effects on renewable energy development, primarily because 19% of the field office (WSAs and ACECs) would be excluded or avoided for new development. In addition, 69% of the field office would be managed to meet VRM Class I, II and III objectives. Minor beneficial effects may accrue from realty actions and if Congress releases WSAs from wilderness study.
Environmental Justice				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Impacts on environmental justice communities from the proposed management actions are not expected to be significant and would not differ among alternatives.	Same as No Action.	Same as No Action.	Same as No Action.	Same as No Action.

Forestry				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
The No Action Alternative does not include actions for timber harvest. Moderate adverse impacts would result to forestland health from accumulation of fuels throughout non-commercial forests, increasing the probability of large wildfires. Minor to moderate benefits would result from hazardous fuels reduction treatments on <1500 acres per year. Prescribed fire and mechanical treatments would be used to restore 30 acres of commercial forestland annually. Post-fire timber salvage sales on commercial forestlands would not be allowed. Forest and woodlands within wilderness study areas (WSAs), roaded natural areas (RNAs), and areas of environmental concern (ACECs) would receive moderate benefits, as these areas would be closed to public woodcutting to preserve the natural setting.	Major short-term adverse impacts would result from production and harvest of all 700 acres of commercial forestland over the life of the plan. Forest treatments to improve timber production would include chemical pest control, and fuels reduction treatments. Reforestation efforts would be employed following harvest. Post-fire timber salvage sales on commercial forestlands would be allowed. Minor beneficial impacts would result to low-site forests, woodlands, and other juniper encroached lands from reforestation activities, and the use of prescribed fire and other fuels reduction treatments, up to 3,000 acres annually.	Alternative 2 would result in negligible adverse, and moderate to major beneficial impacts to commercial and low-site forestlands. No commercial timber production or harvest would be allowed. Management focus would be on improvement of forest health and wildlife habitat through natural recovery processes and reforestation in selected areas. Fuels reduction in commercial and low-site forests would only take place on an as-needed basis. Post-fire timber salvage sales on commercial forestlands would be allowed, but limited to existing roads and low impact methods. Forest and woodlands within all sensitive sites and special designations would be closed to public woodcutting to preserve the natural setting.	Moderate to major short-term adverse impacts would result from production and harvest of 500 acres of commercial forestland over the life of the plan. Forest treatments to improve timber production would include fuels reduction on up to 30 acres per year, and reforestation efforts. Negligible to minor beneficial impacts would result to low-site forests, woodlands and other juniper encroached lands from use of prescribed fire and other fuels reduction treatments up to 500 acres annually. Post-fire timber salvage sales on commercial forestlands would not be allowed. Forest and woodlands within WSAs, RNAs, and ACECs would receive moderate benefits, as these areas would be closed to public woodcutting to preserve the natural setting.	The Preferred Alternative would result in negligible adverse impacts and moderate to major beneficial impacts, similar to Alternative 2. No commercial production or harvest would be allowed. Management focus would be on forest health improvements and fuels reduction treatments. Reforestation efforts would be employed where needed to improve forest health. Post-fire timber salvage sales on commercial forestlands would be allowed. Beneficial impacts would result to low-site forests, woodlands, and other juniper encroached lands from the use of prescribed fire and other fuels reduction treatments, up to 5,000 acres annually. All WSAs, RNAs, ACECs, and areas of special status and special interest species would be closed to public woodcutting.

Fire and Fuels				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Negligible to minor adverse impacts to the fire and fuels program, due to full suppression AMR, moderate amounts of fuels reduction treatments, and several acres of 'Open' OHV areas. 100% of the field office area would use full suppression management, resulting in continued buildup of fuels, increasing the probability of large wildfires. Juniper and other fuels reduction treatments would occur at a rate of 500-1500 acres annually, resulting in restoration of 30,000 acres of native plant communities over the life of the plan. Livestock grazing would occur at present levels, resulting in negligible beneficial effects of restoring natural fire regimes. Routes within 491,845 acres would be 'Open' for OHV use, which would pose an increased risk of human-induced wildfire.	This alternative would result in minor adverse impacts to the fire and fuels program, due to full suppression AMR, and increased 'Open' OHV areas. 100% of the field office area would use full suppression management, resulting in the continuation of the buildup of fuels, increasing the probability of large wildfires. Juniper and other fuels reduction treatments would occur at a rate of 500–3,000 acres annually, restoring up to 60,000 acres of native plant communities over the life of the plan. Livestock grazing would occur at present levels, resulting in negligible beneficial effects of restoring natural fire regimes. The entire field office area would be 'Open' to OHV travel, posing greater risk of human-induced wildfire than any of the other alternatives.	This alternative would provide negligible adverse effects and moderate beneficial impacts, as the use of 'adaptive management' and AMR for wildland fire suppression is emphasized, livestock grazing is reduced, and OHV use is restricted. 96% of the field office area would be managed as AMR. The remaining 4% of the area would be designated for WFU. Natural fire regimes would be restored in the WFU areas, reducing probability of large wildfires and enhancing ecological recovery. Fuels reduction would be the most aggressive, occurring at a rate of 500–5,000 acres annually, restoring of up to 100,000 acres of native plant communities over the life of the plan. Areas grazed by livestock would be rested 2 out of every 3 years, which would support the restoration of native plant communities, leading to re-establishment of natural fire regimes. This impact would be moderate and widespread throughout the planning area. OHV travel would be 'Limited to Designated Routes', substantially minimizing the risk of human-induced ignitions.	Alternative 3 would result in negligible to minor adverse impacts to the fire and fuels program. Slightly more beneficial impacts would occur than the No Action Alternative, due to OHV restrictions; but fewer beneficial impacts would result than the remaining alternatives, due to low amounts of fuels reductions. 100% of the field office area would use full suppression management, and livestock grazing would occur at present levels, similar to the No Action Alternative. Juniper and other fuels reduction treatments would be lower than under the other alternatives, at 75 – 500 acres annually, resulting in restoration of only 10,000 acres of native plant communities over the life of the plan. OHV travel would be 'Limited to Designated Routes', substantially minimizing the risk of human-induced ignitions.	The Preferred Alternative would provide negligible adverse effects, and moderate beneficial impacts to fire and fuels management, similar to Alternative 2. All actions are the same as described under Alternative 2, except that livestock grazing would occur at present levels. Major improvements to livestock grazing strategies and land health would be made, resulting in restoration of native plant communities, causing minor beneficial effects by restoring natural fire regimes.

Lands and Realty				
Land use Authorizations				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Under the No Action Alternative acquisition of previously identified parcels would be pursued from willing sellers. These parcels are inholdings within wilderness study areas (WSAs) and small parcels which have known cultural resource values. The No Action Alternative would negligibly affect the lands and realty program.	Alternative 1 emphasizes disposal of lands for local economic purposes and limits acquisition to inholdings in WSAs. Impacts are similar to the No Action Alternative.	Alternative 2 emphasizes acquisition of high resource values lands from willing sellers and would impact other resources with increased acreage. Lands purchased would be managed to improve, enhance, and maintain wildlife, cultural and other high value resources. Impacts are similar to the No Action Alternative.	Alternative 3 allows for acquisition of WSA and special management area inholdings and for parcels with high resource values that would benefit the public, emphasizes retention or exchange within the large contiguous block for management efficiency and public access. Disposal is considered in the Disposal Zone 3 for local community economic growth. Impacts are similar to the No Action Alternative.	The Preferred Alternative would result in negligible adverse impacts and minor beneficial effects to lands and realty. Beneficial effects would result from the acquisition of WSA inholdings, and of other parcels with high resource values that would benefit the public. BLM would emphasize retention or exchange within the large contiguous block for management efficiency and public access. Disposal is considered in Zone 3 for local community economic growth.

Rights-of-Way				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Negligible to minor adverse impacts would result to new rights-of-way, as this alternative would result in the most amount of land being open with the least restrictions for right-of way (ROW) applications of all the alternatives. Existing communications site ROWs would be maximized before BLM designates new sites. Use of existing designated corridors would also be maximized. The existing wilderness study areas WSAs (183,581 acres) and new wild and scenic river segments (2.2 miles) would be 'Open' with restrictive stipulations for ROWs only for access to private inholdings. All realty actions would be allowed in the Bitner and Massacre Areas of Environmental Concern (ACECs).	Negligible to minor adverse impacts would result as this alternative requires the least restrictions realty actions, and allows for the most development of new sites. Under Alternative 1, new permanent transportation routes would be established for recreational access. ROWs for non-Federal Government routes would preclude other resource uses. ROWs within ACECs would be avoided where possible, or major mitigation would be applied to protect resources. Disposal of lands for community and economic growth could decrease public access for recreation. Requirements to meet visual resources management (VRM) class objectives could impose stipulations that would modify communication and renewable energy development.	Alternative 2 would result in major short and long term adverse impacts as it requires restrictions and stipulations that would modify or preclude new rights-of-way, communications, and potential renewable energy development. Realty actions would not be allowed in ACECs, except for private access ROWs, which would impose economic hardships on any realty project. Requirements to meet VRM objectives would result in major impacts to realty actions that involve building structures (powerlines, wind energy) because such structures would not be allowed within 5 miles of existing roadways. Soil management would require a 100-foot buffer around vulnerable resources and would potentially impose a severe restriction and add to costs of other realty actions when access options are limited.	Alternative 3 would result in negligible adverse impacts, as it imposes the fewest restrictions on realty actions and would not hinder development. Disposal of lands would potentially block public access to field office areas. Requirements to meet VRM objectives would impose stipulations that might hinder communication and renewable energy development.	The Preferred Alternative would result in negligible to minor adverse impacts to realty actions. Requirements to meet VRM objectives could restrict development of communications and renewable energy. Land tenure actions would either (1) restrict access when BLM acquires high-value resources for protection or (2) allow access over former private lands that were previously closed. Closure of two ACECs to realty actions would cause minor adverse impacts because these areas are either small or remote.

Livestock Grazing				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Negligible to minor adverse impacts to livestock grazing operations would occur. Forage available annually would remain unchanged, and existing non-native seedings would be maintained. However, 80% of the planning area would be closed to sheep grazing. Wild horse grazing on 36% of lands would continue to have moderate adverse impacts on livestock grazing opportunities, due to competition for forage resources. Additional use of dispersed recreation areas in remote areas would also impact livestock grazing at minor to moderate levels. Site-specific utilization restrictions would be required on 5% of the grazed area.	Minor to moderate beneficial impacts would result to livestock grazing operations, as forage available annually would increase by 5-10%, and existing non-native seedings would be maintained or restored. Additional forage would be made available through restoration of native vegetation. Adverse impacts from wild horse grazing, and additional use of dispersed recreation areas is similar to No Action. Site-specific utilization restrictions on 5% of the planning area would be slightly more stringent than in No Action.	Major adverse impacts would occur to livestock grazing operations due to increased restrictions and associated costs. Forage and grazing flexibility would be reduced. All grazing areas would be rested two out of every three years, resulting in a 56% reduction in the amount of forage available for livestock grazing each year. Existing seedings would be restored to native species, subject to moderate utilization restrictions and rested two out of every three years. Sheep grazing would not be permitted. The reduction in available forage and loss of flexibility would most likely result in a large portion of the smaller operations becoming economically unfeasible. Larger permit holders, including non-local corporate operations, would absorb most of the smaller permits. As a result, the total number permittees would be reduced. Alt 2 would also directly impact county revenue through loss of possessory interest tax levied on grazing permits.	Minor adverse impacts to livestock grazing operations would occur, as forage available annually would remain unchanged. However, existing non-native seedings would be restored and maintained to native species that provide less flexibility for livestock grazing systems. 80% of the area would be closed to sheep grazing. Site-specific utilization restrictions would be required on 5% of the area. The amount of area grazed by wild horses would be increased from about 36% to about 40% of the planning area, resulting in increased competition for forage resources.	The Preferred Alternative would result in negligible to minor adverse impacts to livestock grazing operations. Forage available annually would increase slightly, existing non-native seedings would be maintained, and additional forage would be made available through native vegetation restoration efforts. 85% of the area would be closed to sheep grazing. Areas subject to site-specific utilization restrictions would increase to 15%. Approximately 2000 acres of new exclosures would be required to mitigate livestock impacts on special habitats and archaeological sites as a result of increased livestock distribution. The amount of area grazed by wild horses would be increased from about 36% to about 40% of the planning area, resulting in increased competition for forage resources.

Recreation and Visitor Services				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Moderate adverse effects to recreation due to 'Open' OHV use, livestock grazing, and restrictions to some recreation activities to improve water quality. 'Open' OHV use in the northern portion of the management area would result in degradation of resources reducing the recreational opportunities. Livestock use and grazing of wild horses would degrade individual sensitive sites and affect the visual quality of these areas. Minor benefits would result from restoration of water quality and riparian habitats that would enhance recreational opportunities and improve scenic quality. OHV use in the southern portion of the field office would be 'Limited to Existing Routes' which would have long-term direct beneficial impacts by limiting resource degradation, reducing resource use conflicts, and responding to demand for this activity. New roads for mineral activities would provide recreational access to previously inaccessible areas. There would be NSO requirements for the Rahilly-Gravelly ACEC, and all WSAs would be closed to mineral leasing which would benefit recreation by preserving the natural and cultural settings in the WSAs.	Moderate adverse effects to recreation due to increased 'Open' OHV use, livestock grazing, and timber harvest. OHV use would be 'Open' except in areas managed for sensitive biological habitat, CRMAs, and WSAs. Uncontrolled OHV use would result in major adverse affects to recreation resources. Timber harvests may result in damage to wildlife habitat, cultural resource sites, watersheds, vegetation, and soils, adversely affecting recreation resources, especially the visual quality in site specific areas. Increasing areas available to livestock grazing would lead to further resource degradation in site-specific areas, degrading the recreational experience. Minor benefits would result from development of six new interpretive sites for cultural resources which would enhance interpretive and education opportunities. Designation of the Massacre Rim, Bitner, and Rahilly-Gravelly ACECs could restrict some dispersed recreation activities on about 47,000 acres to protect resource values, but the impacts are not expected to be significant. Beneficial effects could be realized from reducing user conflicts. New roads built for timber harvests would benefit recreation by providing access to recreation areas.	Moderate beneficial effects to recreation due to increased areas of special management, reduction in livestock grazing, and restrictions to OHV use and minerals development. Three ACECs would be designated, in which the Massacre Rim and Bitner ACEC would be closed to OHV use, which would benefit non-motorized activities by enhancing the natural setting. Development of three new interpretive sites for cultural resources would increase education opportunities from current conditions, but less so than under Alternative 1. OHV use in Massacre, Sheldon Contiguous, and Wall Canyon WSAs would be 'Limited to Designated Routes'. 90 miles of routes would also be closed in these WSAs, benefiting recreation experiences. Reduction in livestock AUMs would benefit recreation by moderating the impacts to natural and cultural resources, and visual quality. Energy and mineral development would be most restrictive under this alternative.	Moderate adverse effects to recreation, and is similar to the No Action Alternative with the following exceptions: Timber harvests may result in damage to wildlife habitat and other sensitive resources. Minor benefits would result, similar to No action, with additional restrictions to energy and minerals development.	Negligible adverse effects to recreation, and moderate beneficial effects, similar to Alternative 2. Three seasonal viewing areas would be developed for wild horse viewing, increasing recreational opportunities. Most OHV use would be 'Limited to Designated Routes', which would enhance recreation experiences by protecting natural settings and reducing user conflicts. Three ACECs would be designated to protect the natural resources and recreation settings in these unique areas. No areas in the field office jurisdiction would be immediately designated as 'Open' to OHV use, similar to Alternative 2, except that 'Open' areas could be designated in the future based on demand so that the loss of cross-country opportunities would not be significant. Major improvements to livestock grazing strategies and land health would be made, resulting in restoration of native plant communities and the natural setting.

Social and Economic Conditions				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Combined management actions from the No Action Alternative would be expected to generate approximately seven jobs and $208,000 in annual personal income. Total employment in the three-county study area would increase by approximately 0.003%, and total personal income would increase by 0.002%. The increase in economic activity in the three-county study area attributable to management actions under the No Action Alternative would be very small, and is considered a negligible impact.	Alternative 1 would be expected to generate approximately 14 jobs and $406,300 in annual personal income. Total employment in the three-county study area would increase by approximately 0.005% and total personal income would increase by 0.003%. Impacts are similar to No Action.	Alternative 2 would result minor to moderate adverse impacts to local industries due to a net loss of approximately 389 jobs and a reduction of $3.8 million in annual personal income. All of the loss in employment and personal income is attributable to the reduction in commercial livestock grazing. Although serious impact would result to individual operators, total employment in the three-county study area would be reduced by approximately 0.2%. Alt 2 would also directly impact county revenue through loss of possessory interest tax levied on grazing permits. Total personal income would be reduced by approximately 0.2%. Employment and income would increase as a result proposed treatment of fuels, vegetation management, and timber harvesting.	Alternative 3 would generate approximately 2 jobs and $66,107 in annual personal income. Total employment in the three-county study area would increase by approximately 0.007% and total personal income would increase by 0.004%. Although not quantified, other management actions also would slightly increase regional economic activity. Impacts are similar to No Action.	The Preferred Alternative would generate the most employment, 26 jobs, and the most annual personal income, $739,500 of any alternative. Total employment in the three-county study area would increase by approximately 0.01% and total personal income would increase by 0.005%. The increase in economic activity in the three-county study area would be a negligible to minor positive impact.

Soils				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Minor to moderate adverse impacts from extensive public access, OHV use, livestock and wild horse grazing, and potential minerals development that would affect soil resources through increased exposure to ground-disturbing activity. However, no net loss of soil productivity would be allowed, hence impacts are not expected to be significant. The proposed Lake Sand Dunes SRMA would result in moderate long-term adverse impacts from 'Open' OHV travel. OHV travel would be unrestricted in the northern portion of the field office area, contributing additional adverse impacts. Buffer use would result in beneficial effects, but less so than Alternative 1 and 2 because they would be applied only on a case-by-case basis, with resulting potential for degradation at sites where threats to soil resources exist but have not been identified.	Moderate to major adverse impacts would result from increased development that would affect soil resources through increased exposure to ground-disturbing activity. These include: the development of two SRMAs; six cultural interpretive areas; new roads for commercial wood harvesting; increased livestock grazing and associated watering facilities; expansion of recreation sites and trails; and the elimination of restoration efforts on woodcutting trails. Moderate beneficial effects would result from the implementation of 50-foot buffers around all sensitive sites, and restoration of existing seedings. Actions associated with the designation of 3 ACECs would reduce soil disturbance associated with development of ROWs, cross-country travel, and surface disturbance associated with mining.	Minor adverse impacts from ground-disturbing activities as enhanced protection measures would be put into place. Moderate beneficial effects from the implementation of 100-foot buffers around all sensitive sites. The area subject to leasable mineral extraction would be the smallest of all alternatives. Major beneficial impacts would result from closing Massacre Bench and Bitner ACEC to OHV travel. Lands would be rested from livestock grazing 2 out of 3 years, meadows and aspen stands would be fenced, and no new water developments would be constructed, all providing more protection than any other alternative. Soil protection measures would be incorporated in the development of two SRMAs. Fewer cultural interpretive areas would be developed, resulting in less visitor traffic. Woodcutting trails used by the public be rehabilitated. Seedings restoration and designation of three ACECs would result in moderate beneficial impacts, as in Alternative 2.	Minor adverse impacts from ground-disturbing activities, such as energy and minerals development, similar to Alternative 2, due to enhanced soil protection measures. Beneficial impacts to soil resources would be similar to Alternative 2 but somewhat reduced due to fewer acres under protection. OHV use restrictions would lessen impacts to soils, although no areas would be designated as closed or 'Limited to Designated Routes'. In addition, some new roads may be developed, which could adversely affect soils. Two cultural resources interpretive areas would be developed, but no SRMAs would be developed. Buffer use would result in beneficial effects, but less so than Alternative 1 and 2 because they would be applied only on a case-by-case basis.	Minor adverse impacts from ground-disturbing activities, such as increased public access, livestock and wild horse grazing, and potential minerals development. No net loss of soil productivity would be allowed; hence impacts are not expected to be significant. Prescribed fire and vegetation treatments could adversely affect soils in the short term but would lead to improved long term ecosystem health. Moderate beneficial impacts as several enhanced protection measures are put into place. OHV use within the entire field office area would be 'Limited to Designated Routes', limiting adverse impacts to soils from cross-country travel. Leasable minerals development would be closed within WSAs and the Bitner ACEC. Actions associated with the designation of 3 ACECs would reduce soil disturbance associated with ROW development, cross-country travel, and surface disturbance associated with mining.

Special Area Designations				
Areas of Critical Environmental Concern				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
No ACECs would be designated. Minor adverse impacts would result in that identified relevant and important values within these areas would not be protected from multiple use activities. The area within the proposed Massacre Rim WSA would continue to be managed according to the IMP.	Minor to moderate adverse effects and moderate benefits through the designation of three ACECs. Identified relevant and important values within these areas would be protected from multiple use activities through restrictions to new ROWs, OHV use, and mineral development. OHV use would be 'Limited to Existing Routes' in the Massacre and Bitner ACECs. Increased livestock authorizations under this alternative would affect elements of the ACEC by causing disturbance through trailing, wallowing, trampling and overgrazing in areas were sensitive cultural and historic resources are found. Three interpretive areas would be established within the ACECs, and have the potential to attract visitors to the area, which may impact resources that require special protection.	Negligible to minor adverse effects and moderate to major beneficial effects to the identified relevant and important values within three ACECs. Additional restrictions and more intensive management would be implemented, including closures to new ROWs and OHV use, and additional restrictions on plant collection, livestock grazing, and mining. OHV use and all mineral development would be 'closed' in Massacre and Bitner ACECs. The Rahilly-Gravelly ACEC would be 'Limited to Existing Routes'. Livestock grazing would be rested 2 out of every 3 years, which would enhance the restoration of certain native plant communities.	Same as the No Action Alternative.	Minor adverse effects and moderate to major beneficial effects to the identified relevant and important values within three ACECs. All ACECs (outside of WSAs) would be managed as VRM Class II to protect scenic resources. Improvements to livestock grazing strategies and land health would be made, resulting in the restoration of native plant communities within the ACEC areas. 1,921 acres would be designated as the Bitner ACEC. Several use restrictions would result in reduced ground-disturbing practices and additional protection for unique resources. Plant collection by the public would not be allowed; the area would be excluded to new ROWs; OHV use would be 'Closed'; and leasable minerals would be managed under NSO restrictions. 957 acres would be designated as the Rahilly-Gravelly ACEC. Several use restrictions would result in reduced ground disturbing practices and additional protection for unique resources. Plant collection by the public would not be allowed; the area would be an avoidance area for new ROWs; OHV use would be 'Limited to Designated Routes'; and leasable minerals would be managed under NSO restrictions. 44,870 acres would be designated as the Massacre Rim ACEC. Several use restrictions would result in reduced ground disturbing practices and additional protection for unique resources. Plant collection by the public would not be allowed; the area would be an avoidance area for new ROWs; and OHV use would be 'Limited to Designated Routes'.

Wild and Scenic Rivers				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Twelvemile Creek would not be recommended for Wild and Scenic River designation. Actions would continue to be guided by the Endangered Species Act for management of the Warner Sucker.	Same as the No Action Alternative.	Twelvemile Creek would be recommended for designation as a Wild and Scenic River under the 'recreational' classification. This would result in moderate short and long term beneficial impacts, supplementing the protection already in place under the Endangered Species Act.	Same as the No Action Alternative.	Twelvemile Creek would be recommended for designation as a Wild and Scenic River under the 'recreational' classification. This would result in moderate short and long term beneficial impacts, supplementing the protection already in place under the Endangered Species Act.
Wilderness Study Areas				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Under the No Action Alternative all resource actions would be guided by the Wilderness Interim Management Plan (IMP), which insures the preservation of wilderness characteristics that each wilderness study area (WSA) contains. Negligible adverse impacts are anticipated under this alternative. Off-highway vehicle (OHV) use in all WSAs is 'Limited to Existing Routes'. Acquisition of land parcels within and adjacent to wilderness study areas would not be prioritized.	Negligible adverse impacts are anticipated under this alternative, similar to No Action. Minor benefits would be realized through the designation of one ACEC within the Massacre Rim WSA, which would result in enhanced protection of the wilderness values within the ACEC. Acquiring lands within WSAs would be prioritized and managed according to the wilderness IMP, benefiting wilderness characteristics of the area.	Impacts from Alternative 2 are the same as Alternative 1, with the following exceptions: OHV use would be 'Limited to Designated Routes', and all other routes would be closed. These actions would result in moderate to major beneficial impacts to WSAs. Acquisition of land parcels within and adjacent to wilderness study areas would be prioritized on a willing-seller basis.	Impacts from Alternative 3 are similar to the No Action Alternative, except that more benefits would be realized in that acquisition of land parcels within and adjacent to wilderness study areas would be prioritized on a willing-seller basis.	Negligible adverse impacts are anticipated under this alternative, as in all other alternatives. Moderate to major benefits would be realized through the designation of one ACEC within the Massacre Rim WSA, which would result in enhanced protection of the wilderness values within the ACEC. Acquiring lands within and adjacent to WSAs would be prioritized, benefiting wilderness characteristics of the area. OHV use within four WSAs would be 'Limited to Designated Routes' and 'Closed' within one WSA.

Travel Management				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Negligible to moderate adverse effects and moderate beneficial impacts to travel management and OHV use. OHV use in the northern half of the management area would be 'Open' (491,845 acres) and 'Limited to Existing Routes' (728,819 acres) in the southern half and within WSAs. Effects of these restrictions on motorized access would vary with the area, and range from negligible to moderate. The northern portion of the field office area would be 'Open' to OHV use, resulting in benefits to OHV activities. No routes within the 1,901 miles of existing routes would be closed. An OHV SRMA would potentially be developed in the Lower Lake Sand Dunes if visitor use justifies this need.	Alternative 1 would allow increased 'Open' OHV use throughout the SFO area (1,037,509 acres) except in areas managed for sensitive biological habitat, cultural resource management areas, ACECs, and WSAs. The loss of motorized access in some areas would have a minor adverse effect on OHV users considering the 'Open' use throughout the rest of the field office area. Overall, this alternative would result in moderate to major benefits to travel management. One OHV SRMA would be developed in the Lower Lake Sand Dunes in the near future. No routes within the 1,901 miles of existing routes would be closed.	Under Alternative 2, OHV use would be 'Limited to Existing Routes' on 1,170,807 acres, which could result in adverse effects from the loss of cross-country travel opportunities. OHV use in Massacre Rim, Sheldon Contiguous, and Wall Canyon WSAs would be 'Limited to Designated Routes', which would provide about 46 miles of routes available for motorized activities, but would close about 90 miles of routes. The loss of motorized opportunities would be a minor to moderate adverse effect on OHV recreation. The Massacre and Bitner ACECs would be designated and both areas would be 'closed' to OHV use. Closures would occur on 104 miles of existing routes.	Same as the No Action Alternative.	The Preferred Alternative would result in minor adverse impacts and moderate beneficial impacts to travel management. OHV travel would be 'Limited to Designated Routes' within 1,208,670 acres, and entirely 'Closed' to motor vehicle use within 11,994 acres, reducing motorized travel opportunities when compared to No Action and Alternatives 1 and 3. Travel route designations within the Buffalo Hills WSA would be 'Closed'; however, areas proposed for motor vehicle closure do not contain a large number of routes. OHV use throughout the Massacre Rim and Rahilly-Gravelly ACECs would be 'Limited to Designated Routes'. Roads within the Bitner ACEC would be 'Closed'. Closures would occur on 92 miles of existing routes. Restricting OHVs to designated routes would result in beneficial effects by protecting the natural environment, enhancing existing non-motorized recreational experiences, and reducing user conflicts. The Preferred Alternative includes sufficient flexibility to designate 'Open' areas in the future (based on demand) so that some compensation for loss of cross-country recreational driving opportunities could be accommodated.

Vegetation				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
This alternative would result in moderate adverse impacts to vegetation from disturbances caused by livestock grazing, wild horse grazing, unrestricted cross-county off-highway vehicle (OHV) use and potential energy and mineral extraction. Existing non-native seedings would remain as such, and only 22,000 to 44,000 acres (15%) of degraded lands would be restored to native communities.	Moderate to major adverse impacts would occur to vegetation from disturbances caused by increased livestock grazing, wild horse grazing, OHV activities, and potential energy and mineral extraction. Livestock impacts would increase on 61,000 acres (5% of the planning area) that currently receive little use. Up to 122,000 acres (42%) of degraded lands would be restored to native plant communities.	This alternative would result in the least adverse impacts and the most benefits to vegetation. Minor adverse effects would occur from disturbances caused by OHV use, potential energy and mineral extraction, and wild horse grazing. Vegetation would be allowed to recover from livestock grazing impacts for two out of every three years. Maintenance and restoration of native vegetation and special habitats would be emphasized. Up to 170,000 acres (60%) of degraded lands would be restored. Existing non-native seedings in poor condition would be restored to native species.	The most significant adverse impacts would occur under this alternative. Similar to Alternative 1, moderate to major adverse impacts would occur to vegetation from disturbances caused by increased livestock grazing, wild horse grazing, OHV activities, and potential energy and mineral extraction. Additional adverse effects would result from reduced restoration efforts. Only 100,000 acres (35%) of degraded lands would be restored to native communities.	Minor to moderate adverse impacts to vegetation would result from disturbances caused by livestock grazing, wild horse grazing, and potential energy and mineral extraction. Impacts are expected to be less than Alternatives 1, 3, and No Action due to protective actions implemented for OHV use, livestock grazing, and restoration of degraded communities. Mitigation for adverse grazing effects would be increased. Minor to moderate beneficial effects would result from OHV travel 'Limited to Designated Routes', reducing impacts from cross-country travel. Up to 182,000 acres (63%) of the degraded lands would be restored; the most of any alternative.

Noxious Weeds and Invasive Species				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
The No action Alternative would result in minor to moderate adverse effects by allowing management activities would increasing noxious weed infestations. OHVs would continue to have minor to moderate adverse impacts by introducing new weeds from outside the planning area. A minimum nine mile buffer (or as developed through a cooperative agreement) between domestic sheep, goats and bighorn sheep habitat would continue to limit the use of sheep and goats as weed control agents resulting in minor adverse effects. Inventory would be conducted for all proposed ground disturbing projects. Emphasis would be on detection and control in existing disturbed areas. Integrated Weed Management (IWM) practices would continue to be incorporated in actions for vegetation, wildlife, grazing, and water resources.	Moderate to major adverse effects would result from substantial increases in ground disturbing practices and increased cross-country OHV travel. Commodity production and juniper reduction would be prioritized. Soil disturbance and visitor use would result from six new cultural resources interpretive areas, two new special recreation management areas and two additional wild horse viewing sites. This would produce minor to moderate adverse impacts by increasing transportation of new weeds into the area. An increase in water developments would have moderate adverse impacts as water sources support weed infestation. Inventories would be conducted for proposed ground disturbing projects, and IWM practices would continue in actions for vegetation, wildlife, and grazing and water resources.	Alternative 2 would result in negligible to minor adverse impacts, and major beneficial impacts. Reducing authorized animal unit months (AUMs) by 65% and resting all grazing areas for 2 out of 3 years would have a major beneficial impact. Eliminating one wild horse herd management area (HMA) and improving management of five of the remaining seven HMAs would provide moderate long-term benefits by reducing the number of wild horses while increasing the area they can inhabit. Limits on OHV travel would be greater than the No Action Alternative and Alternative 1, reducing risk of weed establishment from OHV travel. IWM practices would continue to be incorporated in actions for vegetation, wildlife, grazing, and water resources.	The projects and activities proposed under Alternative 3 are similar to those under the No Action Alternative and would have the same impacts to the weeds program, with the following exception: The Fox-Hog HMA would be expanded to encompass area actually in use. This would have negligible adverse impacts on the weeds program. The development of one wild horse public viewing area would produce minor adverse impacts from soil and vegetation disturbance.	The Preferred Alternative would result in negligible to minor adverse impacts, and moderate to major long-term beneficial impacts to the control of noxious weeds and undesirable species. Under the Preferred Alternative, the risk of weed introduction and establishment would decrease because control, monitoring, and public education would be expanded. In addition, a priority of this alternative is emphasizing early detection of and rapid response to any new infestation within the Surprise CWMA. Limitations on OHV travel would be greater than those in the No Action Alternative, but less restrictive than Alternative 2. A reduction of cross-country motorized travel would reduce the potential spreads of weeds. IWM practices would continue to be incorporated in actions for vegetation, wildlife, grazing, and water resources.

Special Status Plants				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
The No Action Alternative would result in negligible adverse effects and moderate benefits to special status plants. All project proposals would be reviewed to determine their impacts on special status plant species. Recommendations would be incorporated when necessary to avoid or minimize impacts.	Same as No Action Alternative.	Alternative 2 would result in negligible adverse effects and moderate benefits to special status plants. By emphasizing overall ecosystem health, this alternative would result in the most benefit for special status plants. Required rest for grazing allotments would accelerate progress toward meeting land health standards and proper functioning condition in some plant communities. Continued monitoring of special status plants would provide indirect benefits. Added knowledge on the status, distribution, and ecology of special status plants would also be useful for guiding future management.	Same as No Action Alternative.	The Preferred Alternative would result in negligible adverse effects and moderate benefits to special status plants. Improved grazing strategies would accelerate progress toward meeting land health standards and proper functioning condition in some plant communities. All project proposals would be reviewed to determine their impacts on special status plant species. Recommendations would be incorporated when necessary to avoid or minimize impacts. OHV use would be 'Limited to Designated Routes' throughout the planning area. This would result in minor beneficial impacts to those special status species that are vulnerable to OHV damage.

Visual Resource Management				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
Moderate overall adverse effects, primarily from unrestricted OHV use. 'Open' OHV use in the northern portion of the field office area would have moderate to major long-term adverse effects, resulting from degradation of natural areas through creation of new trails, as well as widening and expansion of existing trails, particularly on highly visible ridgelines and steep slopes. Prescribed fire and fuel reduction projects would have short-term adverse effects resulting in long-term benefits. Effects would not be significant because the area affected would be limited in size and activities would be planned to meet VRM class objectives. Most areas of the field office, except for WSAs, would remain 'Open' to mineral development. Despite this, potential for large-scale mineral development is generally low. Project planning must meet VRM objectives which would minimize visual impacts.	Major adverse affects to scenic quality from increased development and land use. 'Open' OHV use, increased livestock grazing, the expansion of recreation sites and trails, the development of two special recreation management areas, creation of six cultural interpretive areas, construction of new roads for commercial wood harvesting, development of new livestock watering facilities and public woodcutting trails would all contribute adverse impacts. Effects from prescribed fire and fuel treatments would be the same as the No Action Alternative. Designation of three ACECs would provide protection to visual resources in these areas. Additional benefits would result from restoration of seedings and potential acquisition of WSA inholdings.	Negligible adverse and moderate to major beneficial impacts to scenic quality, and provides the most protection to visual resources. OHV use in most of the area would be 'Limited to Existing Routes'. OHV use and all minerals development would be closed in both the Massacre Rim and Bitner ACECs. WSAs would also be closed to all mineral activity. Within WSAs, OHV use would be 'Limited to Designated Routes'. All other routes would be closed. Management within the three designated ACECs would not allow new rights-of-way. These management activities would be of major benefit to visual resources. Restoration of seedings and the rehabilitation of woodcutting trails would have additional benefits.	Moderate adverse effects, and is similar to the No Action Alternative, with the following exceptions: Development of a public wild horse viewing area would adversely affect the visual setting near the viewing area. However, the development would be planned to meet VRM class objectives. Beneficial impacts would result from the potential acquisition of WSA inholdings, similar to Alternative 2.	Minor adverse and moderate to major beneficial impacts to scenic quality, and is similar to Alternative 2. OHV use within most of the field office area would be 'Limited to Designated Routes', reducing visual impacts from cross-country travel. Continued livestock grazing under this alternative would result in some adverse impacts on riparian areas, soils, and vegetation, creating site-specific visual intrusions. However, major improvements to livestock grazing strategies and land health would be made, resulting in the restoration of native plant communities, and the natural setting. Development of additional livestock watering facilities and three wild horse viewing areas would create minor to moderate adverse impacts to scenic values, however, projects would be planned to meet VRM class objectives. Lands would be acquired from willing sellers within and adjacent to WSAs, ACECs, and WSR segments, as well as within or adjacent to conservation and scenic easements. VRM class for these areas would correspond to that of the surrounding special area designation (generally Class II), thus preserving the natural visual setting of these areas.

Water Resources				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
The No Action Alternative would result in water quality trends continuing along their current trajectory and are not anticipated to result in either adverse or beneficial effects relative to baseline conditions. Impacts to water resources would be temporary and limited to specific local areas. Prescribed burning and vegetation treatments would occur over very limited portions of the field office area, hence adverse impacts would be short-term. These activities would lead to improved ecosystem health, and would benefit water resources in the long-term through improved soil stability and hydrologic function. The potential for large-scale mineral development in the field office area is generally low; however, planning projects to maintain water quality would ensure that impacts are minimized.	Alternative 1 would foster the greatest degree of active use and development, resulting in minor to moderate adverse affects overall on water resources. Many of these uses could slow progress toward achieving Land Health Standards. Livestock grazing would be increased, and no additional fencing would be provided for livestock grazing improvements. Maximizing water developments to increase livestock distribution could result in increased impacts over a larger area, with moderate effects on water resources. The designation of the Massacre SRMA as a natural area would focus management attention on the natural resources of that area and likely would benefit water resources. Limitations of OHV use to designated routes in the Massacre Rim and Bitner ACECs, and in all WSAs, would eliminate erosion impacts in those areas associated with cross-country travel benefiting water resources.	Major beneficial effect on water resources overall, resulting from a substantial degree of environmental protection, including many measures that would specifically protect water resources. In some cases, however, the focus on natural processes would preclude the use of needed management action, resulting in the unintended consequence of impairing progress of water bodies toward meeting Land Health Standards. Allowing grazing in only 1 of 3 years would greatly benefit water resources through increased vegetative cover, improved channel condition, improved hydrologic function, and reduced water quality contaminants originating from livestock. No new water developments would be allowed under Alternative 2, and existing water developments in springs would be removed or fenced and piped off site. Significant restrictions on OHV use would reduce potential impacts on water resources from cross-country travel. More restrictions on mineral development in the form of closures or NSO stipulations also would reduce potential impacts on water quality in these areas. Beneficial effects would also result from implementing 100-foot buffers zones and restricting new construction to locations with the least impact on water resources.	Alternative 3 is generally similar to Alternative 1, although it does not include as many actions that could adversely affect water resources. Therefore, Alternative 3 would result in minor adverse effects, and minor to moderate beneficial effects.	Provides many measures to improve land health—similar to Alternative 2, and would result in minor adverse effects and moderate to major beneficial impacts to water resources. Management actions related to water quality and hydrologic function would be similar to those under the No Action Alternative. Additional focus on a variety of management practices to achieve PFC would result in increased progress toward meeting Land Health Standards. Exclosures around springs, riparian areas, and contributing uplands would result in additional beneficial effects. Assertion of instream flow and riparian rights would result in benefits to water resources overall. A larger variety of management practices would be used to manage fisheries, including removal of cattle from areas where they are affecting water quality and stream channel condition. This approach is expected to result in substantial short-term and long-term beneficial effects on water resources in these areas. Major improvements to livestock grazing strategies and land health would be made, resulting in the restoration of riparian areas and springs.

Wild Horses and Burros				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
This alternative would generally have minor adverse effects on wild horses. The proposed amounts of prescribed fire and vegetation treatments in this alternative are relatively low, and would have greater effects in those herd management areas (HMAs) likely to be encroached by juniper (Coppersmith, Carter Reservoir and Buckhorn). The low emphasis on maintaining and implementing new water developments would have minor impacts to existing wild horse appropriate management levels (AMLs).	Alternative 1 would have minor to moderate adverse and minor beneficial impacts to wild horses. This alternative focuses on increasing livestock production through water developments, and to improve livestock utilization of available forage. Effects of water development would vary by herd management area. Proposed juniper treatments would provide greater amounts of forage over the No Action Alternative. But, livestock would receive higher priority than wild horses in allocating available forage. These actions would have moderate effects on AMLs. Management of other resources would be negligible effects to wild horses.	Alternative 2 would result in moderate to major adverse effects, and moderate beneficial impacts to wild horses. This alternative would have a major adverse effect on the Carter Reservoir HMA by establishing an AML of zero. Reducing livestock by 1/3 would increase forage and water for wild horses, therefore improving the overall health of the remaining 7 herds. However, given the emphasis on ecosystem management, AMLs would not change. Beneficial impacts would include the long-term improvement of wild horse habitat due to reduced livestock grazing and vegetation treatments.	Alternative 3 is expected to result in minor to moderate adverse effects and minor benefits to wild horses. The amount of acres managed to reduce and prevent juniper encroachment under Alternative 3 are lowest among all the alternatives. Other resource programs would provide modest increases in forage availability, relative to other alternatives, but the overall effect is a loss of forage due to continued juniper encroachment in the long-term. Continued encroachment would locally affect water availability to horses in the long-term. Overall effects of this alternative would be minor for the health of horse populations but could require slight reductions in AML or management at the low end of the existing AML range to meet Land Health Standards.	The Preferred Alternative would result in minor adverse effects and moderate beneficial impacts to wild horses. This alternative conducts higher levels of vegetation treatment that would offset juniper encroachment and substantially reverse past encroachment effects on forage quality. Allocation of any additional forage increases would be shared equally between livestock and wild horses. The boundary of the Fox-Hog HMA would be expanded to include areas (pastures) where horses are currently and have historically inhabited. This administrative boundary change would have negligible effects on herd management or AML.

Wildlife and Fisheries				
No Action Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Preferred Alternative**
The No Action Alternative will continue to have a minor to moderate adverse impact to wildlife. The programs most responsible for this include livestock and wild horse grazing, wildland fire management, and OHV use. With grazing, wild horses, and wildland fire, most effects have already taken place such as juniper encroachment, lack of vegetation diversity, and competition for forage and water. About 122,000 acres would continue to see heavy livestock use and wild horses would continue grazing across the planning area. OHV impacts would increase from expanded use over longer time periods. Areas 'Open' to OHV would remain the same. Although the potential for energy development is low, the low number of acres dedicated to closures for wildlife could be detrimental to some populations. Beneficial long term effects to wildlife are expected from juniper reductions and sagebrush improvement projects.	The combined actions within Alternative 1 will have moderate adverse impacts to wildlife. These effects are most attributable to livestock and wild horse grazing, wildland fire management, OHV use, and utilities development. Livestock grazing would increase in some currently lightly used areas and about 122,000 acres would continue to be heavily grazed under this alternative. The OHV program would cause adverse impacts due to increased harassment and loss of habitat in the north half of the planning area. Utilities are anticipated to increase, and this alternative has the most total land 'Open' to mineral and utility use. Beneficial long term effects are expected from juniper reduction and sagebrush improvement projects.	The combined actions within Alternative 2 are expected to have negligible to minor adverse impacts, and moderate benefits to most wildlife. Major beneficial impacts may occur to some specific species. These effects are most attributable to livestock grazing, wild horse management, wildland fire management, OHV use restrictions, and utilities. Limiting full suppression to 73% of the planning area would help provide the basis for increased structural diversity of habitats. The OHV program would mitigate adverse impacts by keeping OHV travel 'Limited to Existing Routes'. Energy and minerals development has the most acreage restrictions associated with seasonal and permanent closures related to special status species than any other alternative. The reduction in competition for forage, water, and space associated with livestock grazing would have the greatest overall positive impacts to wildlife.	Alternative 3 is similar to the No Action Alternative, with the following exceptions: this alternative is expected to have minor to moderate negative impacts to wildlife although slightly more positive impacts than the No Action Alternative. Compared to the No Action Alternative there is less acreage 'Open' to mineral development, with more seasonal and No Surface Occupancy (NSO) stipulations in place. Tighter restrictions would apply to utility corridors. Grazing impacts would be the same as the No Action Alternative except that bighorn sheep would see slightly more benefits. Positive effects to wildlife are expected from juniper reduction and sagebrush improvement projects and are expected to be greater than the No Action Alternative due to the greater number of acres treated.	The Preferred Alternative would result in minor adverse impacts, and minor to moderate benefits to wildlife. OHV use would be 'Limited to Designated Routes' across the planning area but is expected to increase over the life of this plan. The number of acres 'Open' to leasable minerals is less than the No Action Alternative and Alternative 1 and provides seasonal and NSO restrictions, although less than Alternatives 2 or 3. Tighter restrictions on new utility corridors than the No Action Alternative and Alternative 1 also would benefit wildlife. Livestock and wild horse grazing would result in adverse impacts to wildlife from increased grazing into lightly used areas. Positive effects to wildlife are expected from juniper reduction and sagebrush improvement projects, and are expected to be greater than all other alternatives due to more acres treated.

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