



United States Department of the Interior
Bureau of Land Management



Battle Mountain Field Office
Battle Mountain, Nevada

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APPROVED
RESOURCE MANAGEMENT PLAN AMENDMENT
FOR
FIRE MANAGEMENT
with
Environmental Assessment
NV61-EA97-071
and
Decision Record

Shoshone-Eureka Planning Area

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SUMMARY

The Battle Mountain Field Office proposes a change in fire management direction. Historically, the management approach taken over the approximately 4.3 million acres of public land within the Shoshone-Eureka Planning Area (Planning Area) managed by the Battle Mountain Field Office has been one of full or modified suppression for all **wildland fires**¹. Very limited use of **prescribed fire** has occurred. The Planning Area averaged nearly 5,900 acres burned by **wildfires** per year over the ten years period from 1988 to 1998.

The Battle Mountain Field Office proposes to improve fire management within the Planning Area by restoring fire as an integral part of ecosystems, improving diversity of vegetation and reducing fire fuel hazards. By bringing fire back into the ecosystem via prescribed fire and fire ignited by lightning where an **appropriate management response** is taken, it is expected that the size and severity of future fires would be reduced.

From 1988 through 1998 the Field Office averaged 33 wildfires burning an average of 5,900 acres per year within the Planning Area. The 1999 fire season far exceeded these averages, with 84 wildfires burning 279,990 acres. The 2000 fire season also exceeded the 1988-98 average, with 71 wildfires burning 7,440 acres (See synopses below for 1999 and 2000). Under the Proposed Action, up to 21,000 acres within the Planning Area may be burned or mechanically treated in any given year. This figure includes acres burned by wildfire, acres burned using prescribed fire, and acreage where fuels are reduced by mechanical means. Although some improvement should be noticed within 5 to 10 years, it may take up to 100 years to move toward historic pre-European settlement conditions. (A full return to pre-European settlement conditions is considered unlikely, given the much larger population now in the area and large number of introduced species.)

1999 FIRE SEASON

The 1999 season was of significant proportions not only for the Battle Mountain Field Office, but also for all of Nevada. The El Niño weather patterns affected Nevada during the years 1997 through 1999. This weather pattern consists of a warm, wet winter with significant lack of snowfall but well above average precipitation, which creates a huge growth of cheatgrass in the lower lying valley bottoms. Grass fuel loadings of up to 2,000+ pounds per acre contrasted with the normal growth of 200 to 350 pounds per acre.

A total of 279,990 acres of land managed by the Battle Mountain Field Office burned during the 1999 fire season. Of this, approximately 260,000 burned during the period of July 30th through August 8th. Intense lightning storms moved through northern Nevada during this time frame (on August 4th, in particular) and the ignitions overwhelmed the **initial attack** firefighting forces.

¹ Terms in **bold** typeface are defined in the Glossary.

2000 FIRE SEASON

The 2000 fire season was also active with 7,440 total acres burned. The number of ignitions was again higher than the historic levels, with 71 ignitions versus the 1988-1998 average of 42 ignitions annually. It was a dry warm winter, but the large dry lightning storms that provided the ignitions in 1999 were lacking this year.

These years were comparable to the 1963 and 1985 fire seasons – 75,000 acres were burned in 1985, for example. However, 1999 and 2000 differed from 1963 and 1985 in that continued cheatgrass expansion over the years and its luxuriant growth from two warm wet winters provided an unprecedented amount of fuel for wildfires in the lower valleys. Unless changes are made, these years may be only a sample of what might be expected in future years.

CURRENT PROPOSAL

The Proposed Action is designed to address management of wildland fire, prescribed fire, and mechanical and chemical fuels management treatments that would result in the most beneficial effects and the least impact to the environment in the Planning Area. New National direction and Congressional funding explicitly provides funds to address the **wildland urban interface (WUI)** fire management challenges.

As a result of the 1999 and 2000 wildland fire seasons, emphasis has been added to wildfire rehabilitation, WUI programs, as well as the Congressionally funded **Great Basin Restoration Initiative (GBRI)**, which addresses the expansion of non-native vegetative species and environmental degradation.

Fire is an important component of ecosystem sustainability including its interrelated ecological, economic, and social components. “Desired future conditions sought in land management plans are sometimes not achievable because the role and influence of fire have not been adequately considered in the planning process.” (*Review and Update of the 1995 Federal Wildland Fire Management Policy*, January 2001)

NO ACTION ALTERNATIVE

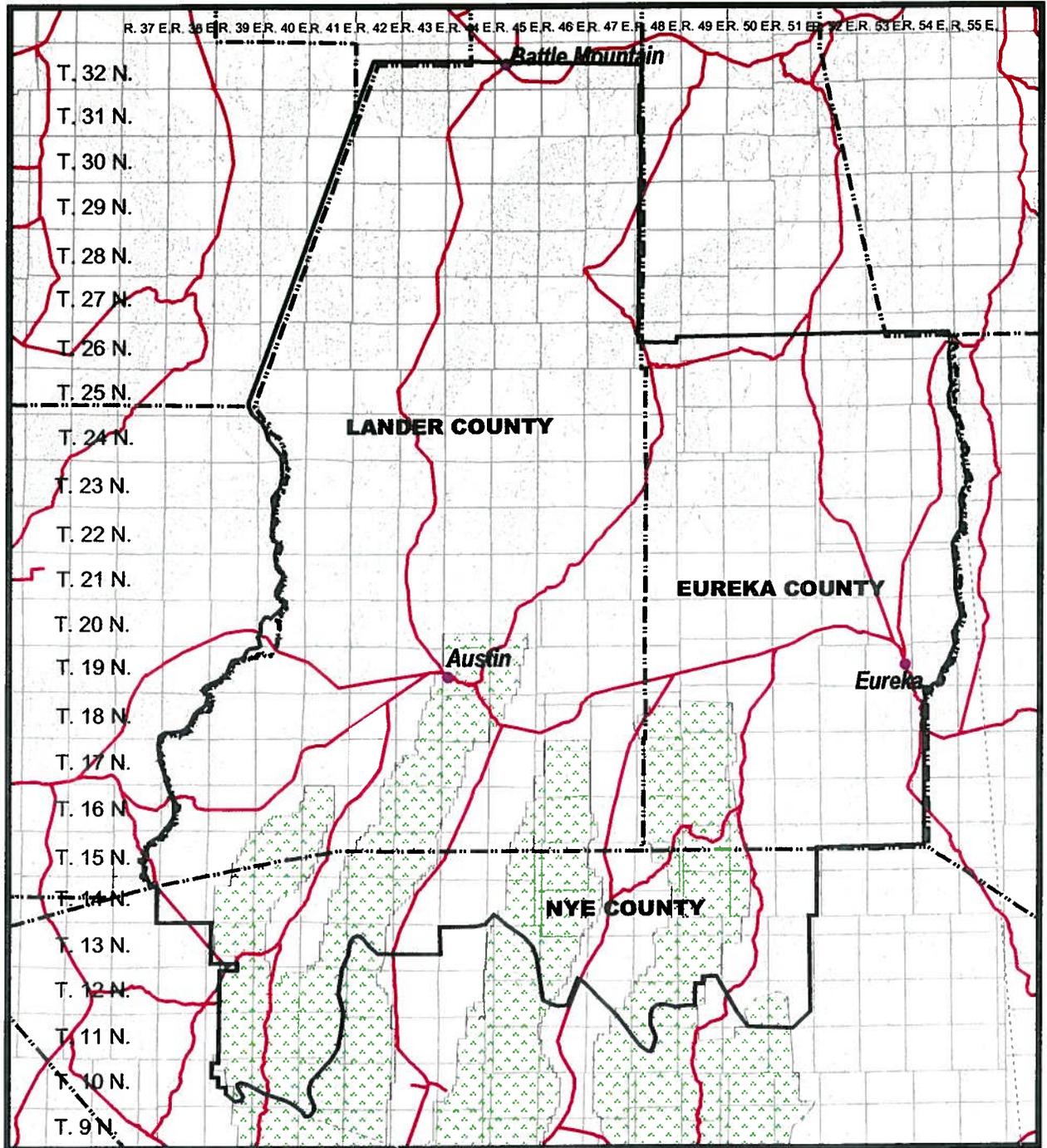
The No Action Alternative is the continuation of current fire management objectives. Current fire management direction calls for full suppression of all wildland fire. It provides little opportunity for prescribed fires and other fuels treatment methods. The only factor shared by the No Action Alternative and the Proposed Action is protection of established recreational sites, those areas involving urban interfaces, and private properties such as the towns and private ranches.

A resource management plan amendment/environmental assessment is necessary to address implementation of the proposed change in fire management direction and to disclose the potential impacts from implementing the proposed change in fire management. This

environmental assessment is a programmatic document that addresses environmental impacts at a general level because of the broad land area over which those impacts might occur.

The following resources would be impacted by the Proposed Action and by the No Action Alternative: Air Quality, Water Resources, Soils, Vegetation, Noxious Weeds, Special Status Species, Wildlife, Forestry, Recreation, Social and Economic Values, Cultural Resources, Ethnography, and Land Use Authorizations.

SHOSHONE-EUREKA PLANNING AREA



LEGEND:

- County Boundary
- Major Roads
- Cities/Towns
- National Forest



Figure 1



1998

INTRODUCTION

On July 6, 1994, fourteen Federal firefighters died on Storm King Mountain in Colorado. An investigation by a team of local, state and Federal fire fighting and land management agencies, the Interagency Management Review Team (IMRT), resulted in conclusions and recommendations ultimately formalized in December 1995 by the Secretaries of Interior and Agriculture as the *Federal Wildland Fire Policy and Program Review* (Policy). This became the policy for wildland fire management in the two departments.

The IMRT concluded that human influence on native vegetation, including 100+ years of fire suppression and the concurrent introduction of non-native plant species across the U.S., has generally resulted in an unnatural fuels situation. It also recognized the importance of fire in the ecosystem; many plant and animal communities require periodic fire for survival. In January 2001, the Policy was reviewed and updated (*Review and Update of the 1995 Federal Wildland Fire Management Policy*, January 2001).

The updated Policy states

“Fire exclusion efforts, combined with other land-use practices have in many places dramatically altered fire regimes so that today’s fires tend to be larger and more severe. It is no longer a matter of slow accumulation of fuels; today’s conditions confront us with the likelihood of more rapid, extensive ecological changes beyond any we have experienced in the past. To address these changes and challenges they present, we must first understand and accept the role of wildland fire, and adopt land management practices that integrate fire as an essential ecosystem process.” (Chapter 1, page 2 #3).

It goes on to state, *“where wildland fire cannot be safely reintroduced because of hazardous fuel build-ups, some form of pretreatment must be considered . . .”* (Chapter 1, page 3 #6).

Each Field Office in Nevada has been required to develop plans to safely reintroduce fire and other vegetative treatments into respective Field Office land management strategies. The BLM believes that by safely reintroducing fire into the ecosystem, healthier, more productive public lands may be achieved. In addition, by safely reintroducing fire into the ecosystem, the BLM expects to reduce danger to fire fighters and, over the long term, to reduce fire suppression costs.

There are inherent risks in this strategy. Some prescribed fires and some fires ignited by lightning, where an appropriate management response is implemented, may be difficult to control. However, any fire that burns outside of pre-established parameters would be immediately declared a wildfire and full and appropriate suppression measures would be taken.

This change in policy provides the BLM a unique opportunity to work with private landowners. The BLM is committed to protecting private property from devastating wildfire. Prescribed fire, mechanical and other hazard fuel treatments, jointly funded by the BLM and the private property owner, are possible under this policy.

The purpose of this amendment is to ensure the RMP is in compliance with the Policy. This EA is a programmatic document that addresses environmental impacts at a general level because of the broad land area over which those impacts might occur.

All fire and fuels management activities in the Battle Mountain Field Office are covered by a **Fire Management Plan** that has been revised to address implementation of the new policy. As part of this revision, the Risk Assessment and Mitigation Strategies (RAMS) process was used as a tool to identify fuels management and fire education/prevention projects for the area.

RELATIONSHIP TO STATUTES, REGULATIONS, OR OTHER PLANS

Public lands are managed under the Federal Land Policy and Management Act of 1976. The Act emphasizes that the public lands will be managed in a manner that will protect the quality of scenic, ecological, environmental, and archeological values; preserve and protect public lands in their natural condition, provide feed and habitat for wildlife and livestock and provide for outdoor recreation. The Act also stresses harmonious and coordinated management of the resources without permanent impairment of the environment.

Guidance and procedures for management and treatment of renewable resources, including utilization of management prescribed fire and emergency fire rehabilitation, are found in BLM Manual 1740 and BLM Manual Handbook H-1740-1. Guidance for emergency fire rehabilitation is found in Section 1742 of the BLM Manual. For all alternatives addressed in this EA, emergency fire rehabilitation measures to prevent accelerated soil erosion and establishment of noxious weeds are incorporated. Fire line rehabilitation would include restoration of surface contours and closure to vehicles.

This EA is tiered to the RMP/Environmental Impact Statement. It is also tiered to the *Vegetation Treatment on BLM Lands in Thirteen Western States Environmental Impact Statement*, which analyzes the general impact of prescribed burning and manual fuels treatments on public lands and to the *Review and Update of the 1995 Federal Wildland Fire Management Policy*. All documents are available for review at the BMFO, 50 Bastian Road, Battle Mountain, NV, 89820.

SCOPING AND PUBLIC PARTICIPATION

Federal Register Notice

August 19, 1997 – Notice of Intent to prepare a plan amendment and environmental analysis and invitation for public participation through September 30, 1997.

Meetings

August 25, 1997 – Lander County Commissioners

September 2, 1997 – Public Meeting held in Battle Mountain (4 people attended)

September 4, 1997 – Public Meeting held in Eureka (2 people attended)

October 1, 1997 – Public Meeting held in Crescent Valley (18 people attended)

October 2, 1997 - Public Meeting held in Austin (no participants)

Comment Letters

Five letters were received from the public during the scoping period for this EA. The following are some of the issues identified in the letters:

- clarification of the Proposed Action
- method of selecting 21,000 acre goal
- timing, scale, locations of fire prescriptions and mechanical treatments
- sage grouse issues
- length of time burned area is given for rest
- wildland fire use versus prescribed fire
- mechanisms which shaped existing conditions (e.g. fire suppression, growth and development, grazing, or the spread of noxious plants)
- air quality impacts, including smoke management and smoke dispersion model
- impacts of fire on breeding, nesting, cover and foraging habitats
- designation & description of fire management strategies (fire management classes)
- fire in riparian areas and in WSAs
- rehabilitation – difficulties and cost, fencing and livestock exclusion
- impacts to cultural resources
- desire for maintenance of mid-seral stage to provide for greater species diversity

Copies of the letters and BLM responses to them are in Appendix 1.

NO ACTION ALTERNATIVE

The No Action Alternative is the continuation of current fire management objectives (Figure 2). Current fire management direction calls for full suppression of all wildland fire. It provides little opportunity for prescribed fires or mechanical fuels treatments. The only commonality between this alternative and the Proposed Action is protection of established recreational sites and urban interfaces and private properties, such as the towns of Battle Mountain, Eureka, and Austin and private ranches.

PROPOSED ACTION

The BMFO proposes to improve ecosystem management using fire within the Planning Area by:

1. Restoring fire as an integral part of ecosystems;
2. Using mechanical treatments such as **green strips, shaded fuel breaks** and tree thinning to reduce wildfire fuel hazards;
3. Improving diversity of vegetation.

Under the Proposed Action, up to 21,000 acres within the Planning Area would be burned or mechanically treated in any given year. The goal of 21,000 acres was brought forward from Phase 1 of the current Fire Management Plan. This figure includes acres burned by wildfire, acres burned using prescribed fire, and acreage where fuels are reduced by mechanical means. Should the Proposed Action be implemented (See Appendix 2 for Fire Management

Implementation Procedures), activity plans will be developed, with public participation, for each location or group of locations, under the criteria listed in Appendix 2. The activity plans, including site-specific environmental analysis by an interdisciplinary team, will identify issues at the ecological or vegetative site level.

The desired result is a healthy ecosystem characterized by a good distribution and proportion of successional stages such as would occur over time under a natural fire regime.

In the 1988 to 1998 period an average of 5,883 acres burned annually as a result of wildfires. The 279,900 acres burned in 1999 brought the 10-year average (1989-1999) to 33,577 acres per year. The 7,440 acres burned in 2000 brought the ten-year average (1990-2000) up to 34,278 acres per year. The 5,883 acre 1988-1998 average (rounded to 5,900 acres) is used in this analysis because the 1999 fire season is thought to be an anomaly. Over the past 20 years (excluding 1999), the acreage burned per year has fluctuated from 49 to 75,000 acres.

Cheatgrass encroachment on the low elevation lands (below 6500 feet) within the BMFO boundaries may cause the average acreage burned per year to increase as continued expansion of this vegetation type would increase the size and intensity of wildfires.

By bringing fire back into the ecosystem via prescribed fire and fire ignited by lightning, where an appropriate management response is taken, it is expected that the size and severity of future fires would be greatly reduced. Although some improvement should be noticed within 5 to 10 years, it may take up to 100 years to return to a healthy ecosystem reminiscent of historic pre-European settlement conditions. Effects may be mitigated through fuels management such as:

- prescribed fire
- green stripping**
- chaining**
- pre-planning**
- mechanical thinning**

FIRE MANAGEMENT CATEGORIES

The BMFO used an Interdisciplinary Team Approach in developing the desired fire management direction for the Planning Area. The interdisciplinary team identified a number of resource related concerns in developing the Fire Management Plan. These concerns and issues were used to guide the development of the fire management categories (Figure 3) subsequently utilized to develop the desired fire management direction. Issues covered the entire range of resources the BMFO manages. More information on the fire management categories can be found in the 2000 Fire Management Plan (prepared in 1998) available for inspection at the BMFO. The categories below are fire management categories, not resource categories. Within each fire management category is a wide range of resource categories that would be identified in subsequent activity plans. (See Appendix 2, "Implementation Procedures")

CATEGORY A – wildland fire not desired at all – full suppression

In general, maintain current fire management of full suppression on all wildfires with aggressive **initial attack**. Fires from a single ignition should not exceed 10 acres 90% of time. Mechanical treatment (*Vegetation Treatment on BLM Lands in Thirteen Western States Environmental Impact Statement*) is the method of choice for hazard fuels reduction in this unit.

Example – Urban interface areas around towns; private ranches

CATEGORY B – Unplanned fire is likely to cause negative effect, but these effects may be mitigated through fuels management.

In this category, prescribed fire by itself has limited use. It may be used in conjunction with other treatments to modify the vegetation. Mechanical treatments are normally preferred.

Example – Valley bottoms and low precipitation areas below 6500 in elevation where there has been or where there could be a conversion to cheatgrass.

CATEGORY C – Fire is desired, but there are constraints.

In this category, the need for prescribed fire is less and tends to be site-specific to accomplish protection or improvement goals. The desired future condition is a healthy ecosystem characterized by a good distribution and proportion of successional stages such as would occur over time under a natural fire regime. (Outcome of larger fires may be irregular shapes; fires exhibit varied intensities)

Example – High elevation areas above 6500 feet in elevation, mostly mountain ranges.

CATEGORY D – Fire is desired and there are no constraints.

Those areas where wildland fire should be allowed to burn in a mostly unrestricted fashion, with no acreage restriction, to achieve resource objectives. All fires receive a response and would be evaluated for potential threats or negative impacts.

Example – There are no proposed Category D fire management categories within the Planning Area.

SHOSHONE-EUREKA PLANNING AREA PROPOSED FINAL RMP AMENDMENT/ EA No Action - Fire Management Category

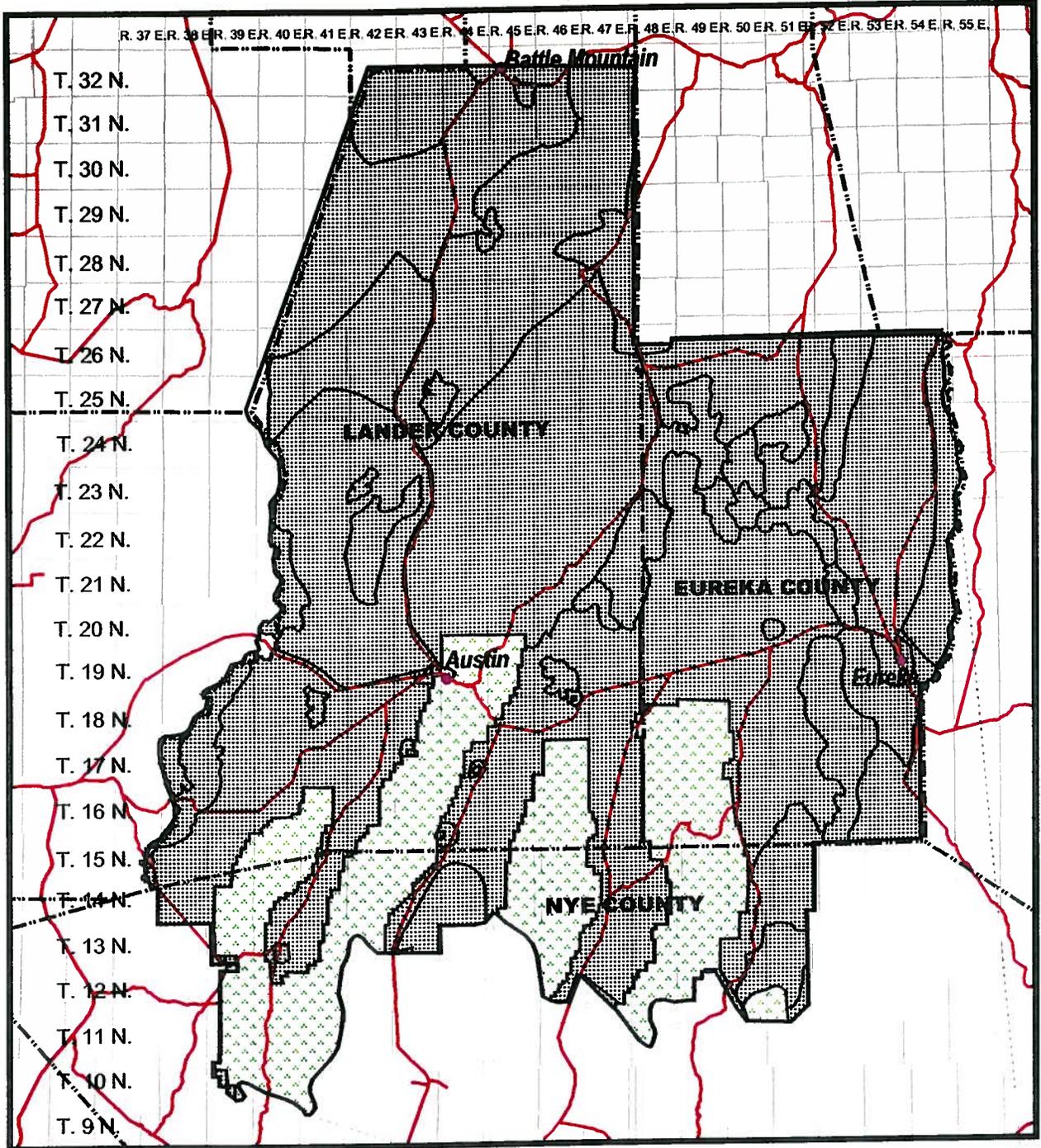
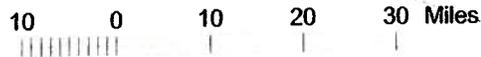


Figure 2

LEGEND:

- County Boundary
- Major Roads
- Cities/Towns
- Fire Management Category
- ▨ A
- ▭ National Forest



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4/17/01 KLG

SHOSHONE-EUREKA PLANNING AREA PROPOSED FINAL RMP AMENDMENT/ EA Proposed Action - Fire Management Categories

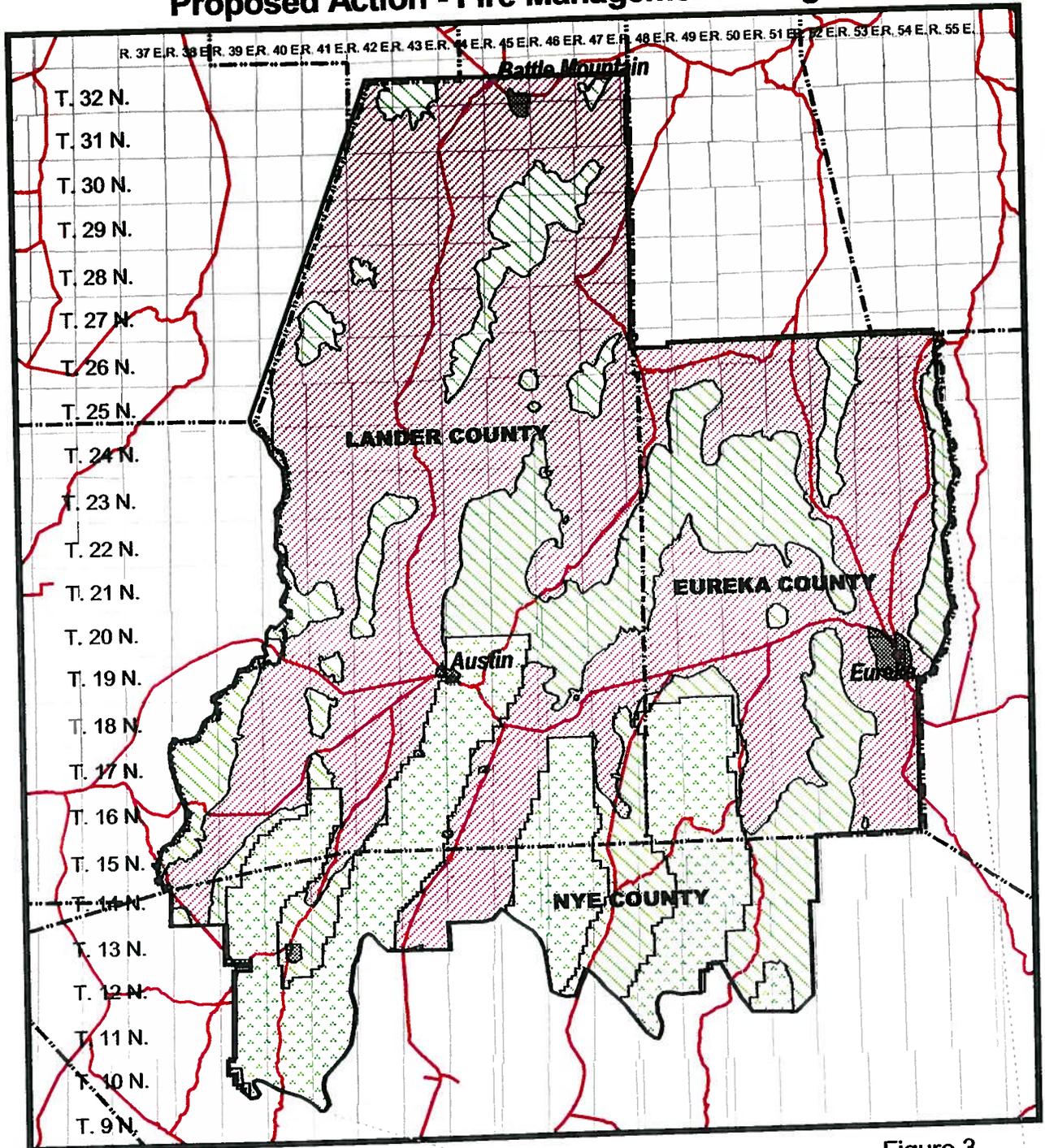


Figure 3

LEGEND:

--- County Boundary

— Major Roads

● Cities/Towns

Fire Management Categories
Shoshone Eureka Area

- A Approx. 30,117 Acres
- B Approx. 3,309,648 Acres
- C Approx. 1,606,312 Acres
- Totiyabe National Forest

10 0 10 20 30 Miles

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4/17/01 KLG

2001



STANDARD OPERATING PROCEDURES

The following continue to be the primary goals and objectives in any activity planning process:

- Protection of human life, safety of wildland firefighters, and protection of human safety and health;
- Protection of private property and natural and cultural resources, including preventing the destruction of cultural properties from suppression actions;
- Protection of riparian areas from devastating wildland fire effects;
- Protection of all fisheries, including existing Lahonton cutthroat habitat and historical Lahonton cutthroat habitat;
- Protection of important wildlife habitat from devastating wildland fire effects;
- Protection of threatened and endangered species habitat (where appropriate, and where the species does not rely on fire for part of its life cycle), as well as sensitive listed species and habitat;
- Protection of important raptor nesting habitat;
- Protection of Herd Management Area foaling areas during foaling seasons;

Light-hand-on-the-land tactics will continue to be used in wilderness study areas (WSAs) when suppression actions are required, in accordance with the *Interim Management Policy and Guidelines for Lands under Wilderness Review (7/5/95)*.

The potential effects on the local grazing permittee will be considered on all prescribed fires and fires ignited by lightning, where an appropriate management response is taken.

The *Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada* (October 2000) will be followed.

Fire effects, the known fire ecology of the involved plant communities and specific sites, fire history, fire occurrence, fire behavior, and fuel loading will be the compelling issues when preparing site-specific burn plans for prescribed fires and wildland fires.

Current standard operating procedures for environmental analysis will be followed. Fire planning at an activity plan level may require some level of environmental analysis. Both prescribed fires and lightning ignited fires (**wildland fire use**) would be used.

GENERAL FIRE BEHAVIOR

The site-specific resource objectives related to desired fire effects would guide all planning of prescribed fires. Appropriate management response prescriptions would be formulated. Fire intensities and fire duration ultimately impact the effects the resource manager desires in a specific ecosystem. The season of burn, fuel moisture, and firing patterns are additional parameters the resource manager must consider in determining the effects of fire on a regime.

Spring burns are relatively low intensity, “cool” fires, having fairly low rates of spread and short duration. Some wildlife areas, spring foaling horse areas, etc. would benefit from periodic spring burning.

As the summer season progresses and the fine fuels/cheatgrass communities cure (usually in mid to late June) and as the sagebrush approaches dormancy (usually in mid August), fire intensities increase, rates of spread increase dramatically, and fire effects can change from beneficial to detrimental. Stand replacement wildland fires (July/August/early September) can encourage the invasion of non-native plants, especially cheatgrass at the lower elevations (below 6500 feet). The recommendation is for full suppression actions during these mid-summer months or when the fire danger is in the **Staffing Level (Manning Class) III** or higher.

In high elevation areas, the plant physiology and soil/fuel moisture generally lags behind the low elevations, and prescribed fire or wildland fire use may be done during these mid-summer months if the weather, plant and fuels parameters indicate the probability of success.

Fall and winter burns after plants have gone into dormancy have been historically used in the prescribed fire program in Nevada. Burning during this time of year has been proven successful in reducing shrub and tree overstory and allowing native herbaceous vegetation to reestablish.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

Resources listed in the following table, including "critical elements (CE)" whose review is mandated by Executive Order, regulation, or policy, have been reviewed for the Proposed Action and the No Action Alternative. Those marked as not affected would not be impacted by the Proposed Action, or are not present in the area of the Proposed Action. Discussion of expected impacts follows the table.

CRITICAL ELEMENTS (CE) and OTHER RESOURCES	AFFECTED		CRITICAL ELEMENTS (CE) AND OTHER RESOURCES	AFFECTED	
	YES	NO		YES	NO
<i>AIR QUALITY (CE)</i>	X		<i>RECREATION</i>	X	
<i>WATER QUALITY AND QUANTITY (CE)</i>	X		<i>SOCIAL AND ECONOMIC VALUES</i>	X	
<i>WETLANDS/RIPARIAN ZONES (CE)</i>	X		<i>CULTURAL RESOURCES (CE)</i>	X	
<i>SOILS AND EROSION</i>	X		<i>NATIVE AMERICAN RELIGIOUS CONCERNS (CE)</i>	X	
<i>VEGETATION</i>	X		<i>ENVIRONMENTAL JUSTICE (CE)</i>		X
<i>INVASIVE NON-NATIVE SPECIES (CE)</i>	X		<i>LAND USE AUTHORIZATIONS</i>	X	
<i>SPECIAL STATUS SPECIES (CE)</i>	X		<i>HAZARDOUS/SOLID WASTES (CE)</i>		X
<i>WILDLIFE</i>	X		<i>PRIME/UNIQUE FARMLANDS (CE)</i>		X
<i>FORESTRY</i>	X		<i>PALEONTOLOGICAL RESOURCES (CE)</i>		X
<i>RANGE MANAGEMENT</i>	X		<i>AREAS OF CRITICAL ENVIRONMENTAL CONCERN (CE)</i>		X
<i>WILD HORSES AND BURROS</i>	X		<i>WILD AND SCENIC RIVERS (CE)</i>		X
<i>VISUAL RESOURCES</i>	X		<i>FLOODPLAINS (CE)</i>		X
<i>WILDERNESS/WILDERNESS STUDY AREAS (CE)</i>	X				

AIR QUALITY

AFFECTED ENVIRONMENT

The *Hydrographic Regions and Basins Map* (NDEP, 1992) is used to determine the air basins in the Planning Area. According to the Nevada Division of Environmental Protection, Bureau of Air Quality (NDEP, Bureau of Air Quality), air basins generally follow the hydrographic basin boundaries. The following air basins are within the Shoshone-Eureka Planning Area:

Lower Reese River Valley
Upper Reese River Valley
Middle Reese River Valley

Antelope Valley (Lander)
Carico Lake Valley
Smith Creek Valley

Big Smoky Valley (Northern Part)
Whirlwind Valley
Pine Valley
Jersey Valley
Diamond Valley
Monitor Valley (Northern Part)
Antelope Valley (Eureka & Nye)

Grass Valley
Crescent Valley
Buffalo Valley
Kobeh Valley
Little Fish Lake Valley
Monitor Valley (Southern Part)
Little Smoky Valley (Northern Part)

The largest community in the Planning Area is Battle Mountain, which is classified as an **Attainment Area** for air quality. There is one monitoring station in Battle Mountain. For a detailed description of air quality standards and attainment and non-attainment information, refer to the *Vegetation Treatment on BLM Lands in Thirteen Western States Environmental Impact Statement*, May 1991, page 2-21 through 2-24.

Areas are classified either as having attainment or non-attainment status, or they are unclassified for meeting air quality standards. Unclassified areas are generally treated as attainment areas. The airsheds in Nevada are only classified according to Federal standards. There are no non-attainment areas within the Planning Area.

All of the BLM-administered lands and private lands within the Planning Area are classified as PSD (Prevention of Significant Deterioration of Air Quality – Sections 160-169) Class II. The nearest air quality Class I area is the Jarbidge Wilderness, approximately 100 miles northeast of the Planning Area boundary.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

In the short term, there would likely be less impact to air quality under this alternative, due to fewer acres burning. Over the long term, this trend would tend to reverse. Impacts to air quality over the long term would be greater than those found under the Proposed Action because unnatural fuel loads would continue to accumulate, and wildfires would increase in size and severity. Limiting impacts to air quality under this scenario would be difficult to plan for or control.

Cumulative Impacts

It is not possible to predict cumulative impacts at this analysis level, and any prediction of cumulative impacts at a site-specific level would not be reliable.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

Potential residual impacts would be the same as described for long term impact in the direct and indirect impact section for this alternative.

Proposed Action

Direct and Indirect Impacts

Up to 21,000 acres may be treated within the Planning Area per year. This figure includes the average of 5,900 acres that would burn annually due to wildfire under the No Action full suppression alternative. Prescribed fires and lightning ignited fires, where an appropriate management response is taken, are expected to help restore ecosystem health and stability and to remedy problems created by fire exclusion.

Smoke from prescribed fires and fires ignited by lightning would impact air quality. Every prescribed fire and lightning ignited fire, where an appropriate management response is taken, has the potential to exceed the National Ambient Air Quality Standards (NAAQS). Prescriptions would be written to ensure that the NAAQS would not be exceeded. Full fire suppression would be implemented on any prescribed fires and fires ignited by lightning that escape the fire prescription plan. Should an exceedence occur, reasons why a fire prescription did not go as planned would be submitted to NDEP for evaluation.

Mechanical fuels treatments involving plowing, discing, and planting of areas may temporarily increase dust particles in the air during the mechanical treatment. Additional dust may be generated by the wind until newly planted vegetation establishes itself.

Impacts to air quality can be best addressed and reduced in site-specific fire prescriptions. Smoke management techniques would be incorporated into all burn plans to the extent possible to mitigate impacts on air quality. These factors would include, but are not limited to, timing of fire, limiting smoldering stage, and reducing fire intensity.

Cumulative Impacts

There are no viable or scientifically accurate methods for analyzing smoke emissions on a regional or local basis, especially at this level of analysis. Cumulative impacts can and will be addressed for individual burn plans to determine whether a prescribed fire or lightning ignited fire in combination with other fires or activities/operations happening at the same time could cause a potentially significant cumulative impact.

Mitigation Measures

Air quality issues would be managed according to the following principal strategies of managing smoke from prescribed fires:

Avoidance – Considers meteorological conditions when scheduling burn projects to avoid incursion of smoke into smoke sensitive areas. This includes burning outside of the primary burning season to reduce combined effects on air resources; burning when wind is blowing away from smoke sensitive areas, and avoiding heavy public use periods.

Dilution - Includes burning when weather systems are unstable; venting smoke columns into a fog layer or low clouds; rotating burning among airsheds; avoiding days with low morning transport wind speeds.

Emission Reduction - Utilizes techniques to minimize the smoke output per area treated. Includes reducing burned acreage; reducing pre-burn fuel loadings; reducing fuel consumption; lowering emission factors by using higher fire intensity and piles; and using firing techniques to produce the least emissions.

Smoke emission modeling would be used to determine effects on sensitive receptors. This includes inhabited structures/ranches and major roads within 10 miles of the project site. If modeling shows an exceedence of air quality standards, the burn plan would be modified to reduce emissions. Prior to any burning, residents close to the project site would be notified to see if there are any smoke-related concerns. If a resident has health-related issues, the project would be modified to address those concerns. This could include offering temporary relocation to sensitive individuals in order to avoid smoke. Traffic control measures as well as road signing would also be utilized if there would be potential visibility issues on public roadways. Prescribed fires exceeding air quality parameters would have appropriate action taken to reduce smoke emissions.

The Nevada State Implementation Plan (SIP) for Air Quality and appropriate Environmental Protection Agency guidelines for prescribed fire would be followed.

Smoke sensitive areas would be identified and public notification procedures for those areas would be developed. Information regarding the possible health effects of smoke caused by prescribed burning as well as from wildland fires would be disseminated via news releases (radio, TV, newspapers, brochures, etc.)

Air quality modeling would be conducted in accordance with NDEP smoke dispersion and emissions modeling requirements at a level appropriate for the size of the planned fire.

Monitoring of air quality would be based on the size of the prescribed fire or wildland fire. Based on their review of specific BMFO burn plans, the NDEP Bureau of Air Quality would decide whether or not BLM would be required to use portable air monitoring equipment in conjunction with any given fire. The schedule for submitting data and a follow-up report would be determined by MOU with the State or possibly by regulation.

Additional mitigation may be necessary on a site-specific basis should impacts not be reduced enough under the standard operating procedures for minimizing impacts to air quality resulting from smoke (BLM Manual, Sections 9211.31 (E), Fire Planning, and 9214.33, Prescribed Fire Management). This procedure requires compliance with individual state and local smoke management programs that specify the conditions under which burning may be conducted.

Residual Impacts

As the long term benefits of implementing the Proposed Action are realized, there should be less impact to air quality than would be expected under the No Action Alternative.

WETLANDS/RIPARIAN ZONES/WATER QUALITY AND QUANTITY

AFFECTED ENVIRONMENT

Wetland/riparian areas make up approximately 0.1% of the Planning Area. Most are in less than good condition. Vegetation associated with these riparian areas includes but is not limited to sedges, rushes, willows, cottonwood and aspen. Trout occur in perennial streams within a number of these riparian areas. Lahontan cutthroat trout and historic cutthroat habitat can be found within the Planning Area.

Wetlands, as defined by the US Army Corps of Engineers and the US Environmental Protection Agency, are “*Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.*” Wetlands generally include swamps, marshes, bogs, and similar areas.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Impacts would be similar to those found under the Proposed Action, as standard operating procedures under both alternatives involves protecting riparian areas to the extent possible. Impacts to watersheds would be much greater than under the Proposed Action and include increased turbidity, siltation and alteration of the timing or peak flows from burned watersheds.

Cumulative Impacts

See residual impacts.

Mitigation Measures

No mitigation is recommended.

Residual Impacts

The threat of devastating wildfires would increase each year under this alternative. The potential for larger, more intense wildfires due to unnatural fuel loading conditions increases the likelihood for an adverse residual impact to riparian areas.

Proposed Action

Direct and Indirect Impacts

Fire could cause an indirect impact to riparian areas due to erosion. Where much of the overstory foliage is destroyed, interception and evapo-transpiration would be reduced resulting in increased water reaching the ground. However, where the organic layer is minimal and the mineral layer is exposed, water infiltration and storage may be reduced, in the short term, causing erosion and runoff.

There is potential for moderate to heavy sheet erosion causing increased sediment loading to streams, springs and seeps. Impacts to watersheds may include increased turbidity, siltation and alteration of the timing or peak flows from burned watersheds.

Impacts to water quality can occur indirectly, especially in steeper locations associated with perennial and ephemeral stream drainages. Phosphates, nitrates, potash, and other chemical compounds released by fire have the potential to degrade water quality in the short term. For this reason, there is a potential to exceed state water quality standards, in the short term.

Reestablishment of herbaceous and woody vegetation would reduce the runoff of topsoil and chemical constituents to levels that should meet standards. Stream flow may increase in the long term.

Prescribed fire can be used effectively in riparian areas to reduce certain vegetation, such as cattails, that can cause areas to fill in with vegetation and surface water to disappear. This should not cause a detrimental effect.

Cumulative Impacts

Cumulative impacts are difficult to predict at this level of analysis is difficult, but would be expected to mirror the long-term effects described above. Assessment of cumulative impacts will be included in site-specific activity planning.

Mitigation Measures

Prescriptions and activity plans would be written to ensure state water quality standards are maintained.

Riparian area restrictions for natural and prescribed burning are in place under this alternative and well justified. Although fire is part of the natural cycle in riparian areas, there is not enough riparian area in the Planning Area to allow anything but restricted burning.

Where perennial water sources occur, vegetative treatment methods other than prescribed fire would be seriously considered. Water quality sampling stations may be required to accurately analyze the quantifiable impacts to water resources.

Residual Impacts

Indirect adverse residual impacts could occur should natural rehabilitation of burned areas not be successful. Indirect beneficial residual impacts to riparian areas would occur should natural rehabilitation of burned areas be successful. The cycling of organic matter into the surface soil would tend toward more natural conditions, with relatively diverse natural plant communities and a more natural rate of erosion surrounding riparian areas.

SOILS

AFFECTED ENVIRONMENT

Aridisols and molisols comprise the majority of the Planning Area. These are mineral soils that have developed in dry regions, are light to buff in color, low to moderate in organic matter, and may or may not have accumulations of salts and lime. For detailed information on soil types found within the Planning Area, refer to the *Soil Survey of Eureka County* and the *Soil Survey of Lander County*. Both are available at the BMFO, 50 Bastian Road, Battle Mountain, Nevada, 89820.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Short-term impacts to soil caused by fire would be less than that found under the Proposed Action because fewer acres would be allowed to burn. Under the No Action Alternative an average of 5,900 acres would likely burn in any given year compared to up to 21,000 acres treated per year under the Proposed Action. Continuation of a full suppression strategy of fire management may increase the long-term risk of surface layer soil losses due to the likelihood of large catastrophic wildfires. Short term, and potentially long term, impacts to soils in the form of surface disturbance caused by mechanized fire suppression equipment are expected to occur with continued implementation of full fire suppression activities. Impacts to soils would be much more difficult to control under this alternative.

Cumulative Impacts

Cumulative impacts are difficult to predict at this analysis level, but are expected to be similar to the long term impacts identified above.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

There is potential for adverse residual impacts to soils resulting from catastrophic fires

Proposed Action

Direct and Indirect Impacts

The potential for localized losses of surface soil layer in the short term are high. This would especially be true should precipitation and wind events immediately follow a prescribed fire. In the long term, the risk of losses to surface soil layers from large severe wildfires should decrease as the burn intensities of wildfires lessen. Indirect impacts to locations downhill from a fire, perennial streams for example, would be caused by loss of surface soil up-hill and would cause impacts downhill in the form of increased sediment loading and higher turbidity rates. Improved natural ground covers, both basal and canopy would tend to minimize the negative effects to the soil surface. This should also hold true in the pinyon-juniper zone, where canopies would be more open with increased under story vegetation and a more stable soil surface.

Effects to soils from burning attributed to fire intensity should be less for prescribed burning than for wildfire. Temperature, vegetation type and amount, thickness of litter layer, and soil moisture would be taken into account on a site-specific basis in order to keep impacts to soils at a minimum.

Mechanical treatments may temporarily disturb the soil leading to more wind and water erosion before the herbaceous vegetation reestablishes itself. After new vegetative cover establishes, the chances of wind and water erosion should be reduced.

Cumulative Impacts

Cumulative impacts of the Proposed Action are expected to be similar to the long term effects identified in the preceding paragraphs. Should further cumulative impacts be expected from any site-specific activity plan, a cumulative impact study area would be determined and a cumulative assessment conducted for the plan in question.

Mitigation Measures

Site-specific mitigation measures would be developed where necessary during the development of fire activity plans.

Residual Impacts

If rehabilitation of burned or treated areas is successful, the cycling of organic matter into the surface soil would tend to produce relatively diverse plant communities and a more natural rate of erosion. Unsuccessful rehabilitation could lead to increased erosion and associated problems.

VEGETATION

AFFECTED ENVIRONMENT

Plant species found within the Planning Area are typical of the Great Basin region. Vegetation within the Planning Area varies from the salt desert shrub community and sagebrush/ grass communities on the valley bottoms extending to the foothills, to the pinyon-juniper and mountain brush communities beginning in the foothills and extending up the mountain ranges and to limber pine on the highest reaches of the mountain ranges. For more specifics regarding vegetation in the Planning Area, please refer to the RMP.

The major vegetation type found within the Planning Area is sagebrush/grass. The following are the primary sagebrush species found in this vegetation type and the approximate fire return frequencies for each:

Wyoming big sagebrush (*Artemisia tridentata* spp. *wyomingensis*) – from 25 to 100 years. Where shrubs were small in stature and grass sparse due to low site productivity and precipitation, the frequency was closer to 100 years.

Basin big sagebrush (*Artemisia tridentata* spp. *tridentata*) – from 30 to 70 years during the pre-settlement period with dry sites burning at greater than 50 year intervals.

Mountain big sagebrush (*Artemisia tridentata* spp. *vaseyana*) – from 11 to 40 years, the sites closest to Nevada in SW Idaho with western juniper ecotones had an estimated fire return interval of 11 years

Black sagebrush (*Artemisia nova*) – estimated fire return intervals of 100 to 200 years.

Salt desert shrub is another major vegetative component within the Planning Area. Fire return frequencies were very infrequent within this vegetative type and fires were generally small.

Pinyon-juniper and mountain mahogany fire frequency in the pre-settlement period varied considerably. Highly productive sites with continuous grass cover probably had a fire frequency of approximately 10 years, restricting pinyon-juniper to rocky outcrops and sites without grass. Fire maintained a savanna plant community of grass with occasional trees. On moderately productive sites it is estimated that there were frequent surface fires ranging from 10 to 30 years with crown fires occurring every 200-300 years. Fires on low productivity sites with discontinuous grass cover probably were small, patchy, and infrequent (Miller, 1998).

Aspen, which is found in many mountainous areas, is usually killed by fire and regenerates by root suckers. Fire frequency is determined by aging the stand to see when it originated. In the intermountain west aspens mature and then start declining at 80 to 100 years. As the aspens mature they become susceptible to insects and disease. Stands may be lost when conifers invade and shade out the aspen. In sagebrush areas the stands may break up and convert to shrub dominated vegetation (Miller, 1998). Aspen is a fire dependent species requiring fire to rejuvenate the stand and to eliminate encroaching vegetation. Aspen is highly competitive on burned sites. Even when there is little detectable aspen on a site it may dominate after a fire.

There is a small component of mixed conifer within the Planning Area. The tree species present are limber pine, whitebark pine and bristlecone pine.

Limber pine is susceptible to fire when it is young. The older trees have bark up to 2 inches thick which acts as insulation and protects the trees from stem scorch. The terminal buds are somewhat protected from heat associated with crown scorch by tight needle clusters. The vulnerability of limber pine to fire is reduced by the open structure of the stand and the sparse understory. The fuel loadings are generally light, leading to low intensity understory fires. Studies in Montana show a fire frequency of 50 to 200 years. It is suggested that limber pine growing in open stands may be maintained by periodic surface fires, which reduce the undergrowth (FEIS).

Whitebark pine is a moderately fire resistant species and is favored by creeping ground or surface fires and severe stand replacement fires. Its susceptibility to fire is reduced by the open structure of its stands and its dry exposed habitat with a sparse understory. Whitebark pine is favored by severe stand-replacing fires, especially in moist sites where succession to more shade tolerant species such as white fir is apt to occur. Fire scar studies have shown a relatively infrequent 50 to 300 year fire frequency. With the lengthening of the fire return intervals, older stands are more susceptible to bark beetle infestations, which advance succession to shade

tolerant species. The regeneration of whitebark pine in small openings is probably due to surface fires. Whitebark pine's perpetuation in moist sites (where succession to shade tolerant species is rapid) is probably due to severe fires. (FEIS)

Bristlecone pine generally occurs in habitats where fuels to carry fire are basically non-existent. Fires with enough intensity to result in crown fires rarely occur in the grass-dominated understory. Surface fires in these areas are low intensity, slow burning and very infrequent (FEIS).

Mountain brush communities occur on upland terraces and in mountain valleys and slopes of all aspects. Areas of this community occur throughout the District often in association with mountain big sagebrush. Slopes range from 4 to 50 percent, but are mostly about 30 percent. Elevations are 6,000 to 9,000 feet. The primary species present are serviceberry (*Almelanchier utahensis*), antelope bitterbrush, curleaf mountain mahogany, oceanspray (*Holodiscus discolor*) and snowberry (*Symphoricarpos spp.*).

Serviceberry is damaged by wildland fire but is a vigorous re-sprouter that will resprout after a wildland fire. It can also remain in a suppressed state in a closed stand of conifers for a long time and canopy removal by fire will stimulate sprouting (FEIS).

Bitterbrush is often killed by fire. It either regenerates by sprouting after a fire or from on-site rodent caches and off-site seed sources. The erect form found in this part of the Great Basin is less likely to sprout than low lying forms found in other areas. Spring fires are less damaging to bitterbrush than either summer or fall burning. Even though bitterbrush is often killed by fire, it occurs in communities with a high fire frequency. Fire may be necessary to maintain populations of bitterbrush by providing bare mineral soil and in decreasing vegetative competition. Bitterbrush stands in juniper are sensitive to fire but the long-term survival appears to depend on seral, fire generated conditions (FEIS). Bitterbrush in a prescribed fire in the Stormy area of Elko District has been observed to sprout after a September prescribed fire.

Curleaf mountain mahogany is usually killed by fire. Seedlings do establish after a fire primarily by off-site seed and sometimes by resprouting. Studies in western and central Nevada on the Shoshone Range indicate that fire was infrequent in old growth stands probably due to the lack of surface fuels and also growing on extremely rocky "fire proof" sites. Burning is generally only recommended in sites that have been invaded by conifers, so that competition is reduced and mineral soil is made available for seedling establishment (FEIS).

Oceanspray is well adapted to fire. It is a vigorous re-sprouter and is generally resistant to fire mortality. Post-burn recovery is usually rapid, dependent on the amount of mineral soil exposed. Fall burning appears to have a more positive effect on this plant than burning at other times of the year (FEIS).

Snowberry is moderately resistant to fire and resprouting has been documented in Nevada. Spring burning in Idaho in mountain big sagebrush and Idaho fescue on sites similar to those found within the Planning Unit, has shown increased coverage of snowberry. Studies within

pinyon-juniper woodlands show a significantly higher occurrence of snowberry than on adjacent mature woodlands (FEIS).

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

In the short term, an average of 5,900 acres per year would be expected to burn due to wildfires. This would impact fewer acres of vegetation than under the Proposed Action where up to 21,000 acres of vegetation could be treated in any given year.

Under this alternative, the likelihood of catastrophic wildfire increases over the long term. Vegetation management objectives would not be met in specific areas. Managerial ability to select the most appropriate and cost-effective treatment method for specific vegetative conditions would be limited under this alternative. There would be long-term undesirable effects from no use of prescribed fire in nearly all vegetation analysis regions, where fire was historically an ecological factor.

Cumulative Impacts

See Range Management and Noxious Weeds No Action cumulative impacts sections.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

Potential residual impacts are the same as discussed for long term impacts in the No Action direct and indirect section.

Proposed Action

Direct and Indirect

In any given year, up to 21,000 acres may be treated within the Planning Area. This figure includes the average 5,900 acres that would burn due to wildfire under the No Action full suppression alternative.

In the short term, an increased acreage of pinyon-juniper and big sagebrush vegetation would convert to earlier successional grassland as a result of implementing the Proposed Action. The potential for large severe fires would continue in the short term. Prescribed burning and mechanical treatments (thinning) could help prevent wildfires by removing **fuel ladders** and excess litter accumulations. Prescribed burning might decrease total plant productivity on a site but shift species composition from dominance by woody species to dominance by herbaceous species and could stimulate new growth of certain woody species. Fire would significantly affect plant competition by changing the numbers and species of existing plants and altering site conditions. Perennial plants with existing root systems usually have an advantage over plants that must develop from seed. There would be short-term reduction in productivity of many species but longer term desired results on target species (*Vegetation Treatment on BLM Lands in Thirteen Western States Environmental Impact Statement*).

It is possible under this alternative for resprouters to reestablish on a burned site. Winterfat, snowberry, fourwing saltbush and horsebrush are examples of resprouters that occur in the Planning Area. Other plants, such as curlleaf mountain mahogany and antelope bitterbrush, are severely damaged by fire, although antelope bitterbrush can resprout if it has enough moisture.

Low intensity surface fires are thought to maintain limber and whitebark pines. Infrequent low intensity surface fires reduce competing vegetation and open up mineral soil for seedling establishment. The lack of fire has been shown to negatively impact whitebark pine in other areas of the west, leading to encroachment by other tree species.

Aspen is a fire dependent species. The Proposed Action would allow for existing decadent stands to reestablish themselves with younger, more vigorous stands. It would also allow for encroaching vegetation to be eliminated, improving stand composition and increasing aspen stand area.

The proposed action would favor the woody shrub species in mountain brush communities such as serviceberry, snowberry and ribes species (*Ribes spp.*). These species would resprout and reestablish because burning would occur under more favorable conditions.

Well planned prescribed fire, taking into account such factors as fire intensity, season of burn, plant size and soil moisture, can be a useful tool in big sagebrush communities as it reduces competition allowing grasses and forbs to establish. Prescribed burning in combination with other vegetative treatments is an effective tool for opening up decadent stands of pinyon and juniper.

In the long term, should rehabilitation be successful, a greater variety of successional stages would gradually appear on the landscape producing a variety of plant communities, beginning with the earlier successional grass and forb vegetation and progressing through shrub to young tree stages. Pinyon-juniper woodlands would grow in a greater variety of seral stages in association with greater variety of other plants. This would lower the risk of tree loss due to fire. This in turn helps to stabilize the ecosystem and reduce likelihood of catastrophic fires.

Fire rehabilitation success in the six- to ten-inch precipitation zones is low with significant risk of failure to obtain seedling establishment. Prescribed fires or fires ignited by lightning, where an appropriate management response is taken, would be planned in this zone only where it is possible to implement an intensive rehabilitation effort to combat the recurrence of such undesirable plant species such as cheatgrass. The majority of prescribed fire and appropriate management response planning would be done for areas where the potential is great to achieve successful rehabilitation.

Mechanical treatments would change the vegetative components. In cheatgrass dominated areas, mechanical treatments which would reduce cheatgrass composition

would lead to a less flammable fuel with reduced large fire potential. Thinning of trees would open up the canopies, reducing the risk of stand replacement crown fires, while providing additional niches for herbaceous vegetation establishment.

Cumulative Impacts

Cumulative impacts are expected to mirror the long-term impacts identified in the preceding paragraphs. Should further cumulative impacts be expected from any site-specific activity plan, a cumulative impact study area would be determined and a cumulative assessment conducted for the plan in question.

Mitigation Measures

There is a potential for undesirable plant species such as cheatgrass to invade a burned site in the lower elevation areas, so fires must be carefully planned and in most instances protected from livestock. In the B category areas below 6500 feet, prescribed fire would primarily be as part of an integrated treatment plan involving mechanical and chemical treatments.

Fencing of burned areas (especially aspen stands) may be necessary to allow desirable plant species to become established.

Residual Impacts

Successful rehabilitation of burned areas would result in the cycling of organic matter into the surface soil, producing more natural conditions, with relatively diverse natural plant communities and a more natural rate of erosion. Unsuccessful rehabilitation could lead to invasion by undesirable plant species and low species diversity.

INVASIVE NON-NATIVE SPECIES (NOXIOUS WEEDS)

AFFECTED ENVIRONMENT

Noxious weeds (including invasive and exotic species) are becoming a greater concern within the Planning Area with each passing year. At present, there is no complete non-native noxious species inventory for the Planning Area. A Field Office-wide non-native invasive plant inventory was begun in 1999. As the inventory is completed, a weed treatment and prevention plan will be developed. This plan would be used to identify the potential for invasive species encroachment and spread and eradication and prevention measures. Among the non-native invasive species of specific concern in the Planning Area are short and tall whitetop, knapweed, cheatgrass, and puncture vine. Non-native invasive plant species have the opportunity to gain a foothold on disturbed areas throughout the Planning Area, especially at lower the elevations (below 6500 feet).

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

An average of 5,900 acres per year burns due to wildfire situations. In the short term, impacts would be similar to those found under the Proposed Action. Over the long term,

acreage burned by wildfires has great potential to increase under the No Action alternative as unnatural fuel loading conditions worsen and fire intensity and severity escalate. The potential for successful rehabilitation under this scenario would be low. Beneficial impacts resulting from natural and management prescribed fires would not be realized. Full fire suppression limits opportunities to increase diversity and production of beneficial native perennial plant species. Without prescribed fire and mechanical fuel treatments, the sagebrush and pinyon-juniper vegetation out-competes native herbaceous vegetation, opening up niches in the understory for aggressive non-native weed species to establish. Once these weeds have colonized disturbed areas, the opportunity for them to spread into surrounding native communities is great

Cumulative Impacts

The size and intensity of wildland fires is expected to increase over time, leading to an increased potential for the spread of noxious or invasive plants, especially if weed prevention activities across the Planning Area are not successful.

Mitigation Measures

Should weed infestations be identified, appropriate treatment programs would be initiated. No other mitigation is proposed.

Residual Impacts

Potential residual impacts would be the same as the long term impacts discussion found above in the No Action direct and indirect impacts section.

Proposed Action

Direct and Indirect Impacts

In any given year, up to 21,000 acres may be treated within the Planning Area. This figure includes the 5,900 acres expected to burn from wildfires.

After a prescribed fire, mechanical fuels treatments, or a wildland fire use, the treated areas are vulnerable to invasion by non-native plant species. Unless rehabilitation measures are successful, noxious weeds or other invasive non-native species would have an opportunity to establish.

If rehabilitation of burned or treated areas is successful, invasive plant species would have little opportunity to become established. The cycling of organic matter into the surface soil would tend toward more natural conditions, with relatively diverse natural plant communities and a more natural rate of erosion. The average acreage burned in wildland fire situations should go down over time as a more natural fire regime is allowed to unfold within the Planning Area. In turn, this should minimize opportunity for establishment of noxious and invasive weeds.

Cumulative Impacts

The cumulative impacts of the Proposed Action are expected to mirror the long term impacts described in the preceding paragraphs.

Mitigation Measures

Weed risk factors and weed prevention would be part of the development and evaluation of site-specific prescribed fires, wildland fire use, and mechanical fuels treatments. Appropriate management response project planning would minimize the opportunity for noxious weeds to establish and or spread. Fire suppression and rehabilitation efforts would be planned to minimize weed spread.

Chemical and/or biological weed abatement treatments would be evaluated for effectiveness and appropriateness for use, especially on mechanical treatment areas.

In most instances burned areas would not be available for grazing for a minimum of two growing seasons to allow vegetation to recover, thereby limiting the chances for noxious weeds to become established in a burned area. Prescribed burning or prescribed burning in combination with other vegetative treatments would also reduce opportunities for noxious weeds to establish.

Should weed infestations should be identified, appropriate treatment programs would be initiated.

Residual Impacts

See long-term impacts above in direct and indirect impact sections.

SPECIAL STATUS SPECIES

AFFECTED ENVIRONMENT

BLM is required by the Endangered Species Act of 1973, as amended, to ensure that no action on the public lands jeopardizes a threatened, endangered, or proposed species. In addition to Federally designated species, BLM protects other special status plants and animals (Appendix 3). The list includes certain species designated by the state of Nevada, as well as species designated as "sensitive" by the Nevada BLM State Director. A sensitive species of particular importance in this Planning Area is the sage grouse. Until new direction is promulgated, the BMFO will use the *Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada* (October 2000) in evaluating any proposed prescribed fire/fuels treatment project and its possible impact on sage grouse habitat. These guidelines are a Nevada BLM, habitat-specific adaptation of the *Draft Western Association of Fish and Wildlife Agencies (WAFWA) Guidelines*.

The threatened bald eagle (*Haliaeetus leucocephalus*) winters at low density in northeastern and north central Nevada. The bird is an opportunistic feeder and a portion of its foraging habitat was degradation by the expansive range fires of 1999. The threatened Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*) inhabits only one stream (Pete Hanson Creek, Roberts Mountains) in the Shoshone-Eureka Resource Area. The proposed mountain plover (*Charadrius montanus*) is occasionally sighted in the Shoshone-Eureka Resource Area, but it is not a regular inhabitant.

In their research, Hessler and Spackman (1995) found that of 146 threatened, endangered, and rare plants found in the lower 48 states for which there is specific information on fire effects, 135 species benefit from wildland fire or are found in fire-adapted ecosystems.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

In the short term an average of 5,900 acres per year would be expected to burn due to wildfires. This would impact fewer acres of wildlife habitat than the Proposed Action where up to 21,000 acres could be treated in a year.

Under this alternative, the likelihood of catastrophic wildfire increases over the long term. Habitat management objectives would not be met in specific areas. Managerial ability to select the most appropriate and cost-effective treatment method for wildlife habitat would be limited under this alternative. In the long term, there would be habitat degradation in nearly all vegetation and wildlife analysis regions where fire was historically an ecological factor.

Cumulative Impacts

As noted above, the incidence of catastrophic wildfires could increase under the No Action alternative. No other cumulative impacts were identified at this analysis level.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

See long-term impacts above in direct and indirect impact sections of this alternative.

Proposed Action

Direct and Indirect Impacts

Potential impacts are similar to what has been analyzed in the Vegetation and Wildlife sections. The Proposed Action would not impact Lahontan cutthroat trout habitat, as it would remain under full fire suppression. In the long term, the Proposed Action is expected help maintain the diversity of habitat used by special status species and to decelerate its conversion to fire-prone annual weed species.

There could be a potential for sage grouse to be impacted if site-specific activities are not well planned. More specifics on sage grouse or sagebrush habitat can be found in *Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada* (October 2000).

Cumulative Impacts

Cumulative impacts are expected to reflect the long term impacts discussed in the preceding paragraphs. Further assessment of cumulative impacts will be included in site-specific activity planning.

Mitigation Measures

Each proposed project would be individually analyzed on a site-specific basis for possible impacts to sensitive species. Prescribed fire and wildland fire use prescriptions would include appropriate measures to protect or limit impacts to special status species as a standard operating procedure. Mechanical and/or chemical fuels treatments would be modified as necessary avoid impacts to these species.

Burned or treated areas would be rehabilitated in order to increase species diversity and improve the habitat.

Residual Impacts

Successful rehabilitation would result in increased species diversity and a more stable ecosystem. If rehabilitation of burned areas is not successful, noxious weeds could invade, decreasing sensitive species habitat.

WILDLIFE

AFFECTED ENVIRONMENT

The Diamond, Roberts and Simpson Park Mountain Ranges as well as Mount Callahan in the Shoshone Mountain Range, are the wildlife areas of major importance within the Planning Area. For a detailed description of wildlife and wildlife habitat within the Planning Area, refer to the RMP.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

An average of 5,900 acres per year will burn on average due to wildfire situations. In the short term, impacts would be similar to that found under the Proposed Action. Over the long term acreage burned as a result of wildfires has great potential to increase under the No Action Alternative as unnatural fuel loading conditions worsen and fire intensity and severity escalate. The potential for successful rehabilitation under this scenario would be low. Beneficial impacts resulting from natural and management prescribed fires would not be realized. Full fire suppression limits opportunities to increase diversity and production of good native perennial plant species.

Cumulative Impacts

As the potential for wildfires to increase in size and intensity becomes greater over time, the potential for a large-scale loss of wildlife habitat would increase.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

Potential residual impacts would be the same as the long term impacts discussion found above in the No Action direct and indirect impacts section.

Proposed Action

Direct and Indirect Impacts

In any given year, up to 21,000 acres may be treated within the Planning Area. This figure includes the average of 5,900 acres that would burn due to wildfire under the No Action full suppression alternative.

There would be short and long term habitat alteration in terms of vegetation type. Impacts to wildlife from forage and habitat reductions would likely be temporary and localized, except when permanent vegetation type conversion is planned. Direct kills of small animals and destruction of active nests could result from prescribed fires and fires ignited by lightning where an appropriate management response is implemented.

Well-planned small mosaic prescribed fires (< 100 acres) can improve sage grouse habitat. In order to improve sage grouse habitat while at the same time achieving fire goals, it may be necessary to combine prescribed fires with other types of vegetative treatments (analyzed in the *Environmental Impact Statement for Vegetation Treatments on BLM Lands in the Thirteen Western States* referenced for this analysis.)

Bitterbrush is a high value wildlife resource that may benefit from a properly managed prescribed fire under which only the understory is removed.

Cumulative Impacts

The expected long-term cumulative effect of the proposed action would be more frequent but less catastrophic fires, resulting in a mosaic of vegetational succession, a deceleration of invasion of native ranges by exotic annual weed species, and increased diversity of habitats for wildlife.

Mitigation Measures

No mitigation is proposed at this analysis level. Fire prescriptions and other treatment plans would include the need to protect or limit impacts to wildlife on a site-specific basis.

Activity plans would address potential impacts to migratory birds in the project area. To the extent possible, site-specific activity plans would be designed to avoid nests and nesting seasons of migratory birds. Should this not be feasible, other mitigation measures as appropriate would be employed in order to minimize unintentional take

Residual Impacts

Should natural or seeded rehabilitation of burned areas be successful, the cycling of organic matter into the surface soil would tend toward more natural conditions, with relatively diverse natural plant communities and a more natural rate of erosion. Unsuccessful rehabilitation would be expected to allow invasion by undesirable species and associated impacts.

FORESTRY

AFFECTED ENVIRONMENT

There are approximately 600,000 acres of pinyon-juniper woodland classified as forest available for woodland products management in the Planning Area. Of this, less than 20 percent or 120,000 acres is currently accessible for woodland harvest. Demand for woodland products has been steadily increasing. (RMP, 1986) See RMP Figure 2-5 for a map of the Planning Area pinyon-juniper woodlands and noncommercial pine nut areas. There are stands of aspen throughout the planning unit. At the higher elevations within the Roberts, Fish Creek, Desatoya, and Simpson Park mountains, there are small isolated stands of bristle cone, limber and whitebark pine.

The Fiscal Year 1998 demand for woodland products was approximately 1,200 cords of firewood, 1,300 Christmas trees, 500 juniper posts, and 40,000 pounds of pine nuts.

A forestry management plan that includes the entire Planning Area is currently being drafted. This plan would include more accurate community delineations for the forest and woodland communities.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

An average of 5,900 acres will burn per year from wildfire situations. In the short term, the impact would be less than those discussed under the Proposed Action.

Over the long term, acreage burned as a result of wildfires has great potential to increase under the No Action alternative as unnatural fuel loading conditions worsen and fire intensity and severity escalate. Aging closed canopy stands of pinyon-juniper are much more prone to crown fires and woodland loss than open mixed aged stands. The potential for successful rehabilitation under this scenario would be low. Beneficial impacts resulting from prescribed fires and fires and mechanical treatments, where an appropriate management response is implemented, would not be realized. Full fire suppression reduces the opportunities to increase diversity and production of native herbaceous perennial plant species. See Vegetation section for a more complete discussion.

Cumulative Impacts

Woodland areas would tend to increase in size as they encroach upon the sagebrush/grass and mountain brush communities as a result of fire suppression. As the potential for wildfires to increase in size and intensity becomes greater over time, the potential for negative cumulative impacts would increase.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

As no mitigation is developed under this alternative, residual impacts would be the same as the long term impacts discussion found above in the No Action direct and indirect impacts section.

Proposed Action

Direct and Indirect Impacts

In any given year, up to 21,000 acres may be treated within the Planning Area. This figure includes the average 5,900 acres that would burn due to wildfire under the No Action full suppression alternative.

In the short term, an increased acreage of pinyon-juniper and big sagebrush vegetation should convert to earlier successional grassland as a result of implementing the Proposed Action. There is a potential for invasion of unwanted species such as cheatgrass and noxious weeds. For many years, the potential for large, severe wildfires would continue to exist.

Pinyon-juniper tree complexes often benefit from cooler spring or early summer burns. Small fires open the understory to sunlight and moisture, permitting the establishment of a mosaic, open pattern of forbs and grasses.

In pinyon-juniper stands, the application of sound silvicultural treatments such as selective tree removal and other fuels management methods would reduce the threat of severe fire. Such treatments would increase the stability and longevity of the forest ecosystem and associated resource values.

Pine nuts would be destroyed if there is a crown fire, causing a loss of dollars to the BLM if a pine nut contract area is burned. The same would apply for designated commercial wood cutting areas. The public could be denied desired amounts of pine nuts, firewood, Christmas trees, and posts. Some protection of pine nut and commercial wood cutting areas is possible, and would be factored into the site-specific planning process.

Aspen, limber pine and whitebark pine are species adapted to fire. These forest types would benefit from increased fire and mechanical treatments to reestablish these stands. See Vegetation section for a more complete discussion.

Cumulative Impacts

Mechanical and prescribed fire treatments of woodland and forest vegetation would open up these stands, reducing the long-term risk of crown replacement fires and encroachment by other vegetation. In addition, forest health would improve because of increased age class diversity, reduced fuel accumulations, and trees being restored to their historic range of variability.

Mitigation Measures

Pinyon pine stands identified by Native Americans as traditional seed collection areas would not be modified to the extent that pine nut collection is adversely affected.

In mixed conifer sites (limber pine, whitebark pine) where fuel loadings are high, mechanical thinning would be done prior to reintroducing fire.

Other mitigation measures would be developed as needed during site-specific analysis of a proposed project.

Residual Impacts

Should natural or seeded rehabilitation of burned areas be successful, the cycling of organic matter into the surface soil would tend toward more natural conditions, with relatively diverse natural plant communities and a more natural rate of erosion. Unsuccessful rehabilitation would be expected to allow invasion by undesirable plant species.

RANGE MANAGEMENT

AFFECTED ENVIRONMENT

As of the writing of the RMP, there were forty-eight allotments within the Planning Area and sixty-four livestock permittees authorized to graze livestock within those allotments. The average Planning Area allotment size is 128,386 acres. See RMP Figure 2-4 for the Planning Area livestock grazing allotment boundaries. In consultation with grazing operators, there have been some changes in the allotment boundaries over time.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

An average of 5,900 acres will burn per year due to wildfire situations. In most instances burned areas would not be available for grazing for a minimum of two growing seasons to allow vegetation to recover. In the short term, there would be fewer instances where livestock would be excluded from burned areas than under the Proposed Action.

If all burned areas are closed to grazing this would equate to approximately 453 AUMs per year (13 Acres/AUM). At the present figure of \$1.43 per AUM, this is approximately \$648 per year or \$1,296 for the average two-year closure.

In the long term, there would likely be greater impact to range management conditions than under the Proposed Action. Over the long term, acreage burned as a result of wildfires has great potential to increase under the No Action Alternative as unnatural fuel loading conditions worsen and fire intensity and severity escalate. The potential for beneficial impacts resulting from use of prescribed fires and fires ignited by lightning, where an appropriate management response is implemented, would not be realized. Full fire suppression limits opportunities to increase forage production of good native perennial plant species.

The greater potential for loss of AUMs under this alternative can be illustrated by comparing the 1996 fire season, when 45,000 acres burned, and 1999, when 279,990 acres burned. A total of 3,462 AUMs were lost as a result of the 1996 fire season, while the 1999 season caused approximately 20,000 AUMs to be lost through fire closures.

Cumulative Impacts

The No Action Alternative would lead to increased fuel build-up, fire severity, and fire intensity. Continued cheatgrass expansion would lower AUMs as native perennial species decrease and could result in eventual reduction in authorized grazing.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

Potential residual impacts would be the same as the long-term impacts described in the direct and indirect impact section above.

Proposed Action

Direct and Indirect Impacts

In any given year, up to 21,000 acres may be treated per year. This figure includes the average 5,900 acres expected to burn due to wildfires. In most instances burned areas would not be available for grazing for a minimum of two growing seasons, to allow vegetation to recover, a loss of approximately 1,615 AUMs over the two year period.

Excluded areas would impact livestock distribution in the short term. Should 5,000 acres or more be burned, or a combination of burning with other vegetative treatments, within any given allotment, this may cause a negative short term (approx. 3 years) economic impact to permittee(s) due to temporary reduction of forage.

In the long-term there is the potential for an increased forage base. Prescribed burning or prescribed burning in combination with other vegetative treatments would also reduce physical obstructions, such as dense stands of sagebrush, allowing for greater grazing capacity and access to forage resources.

Should natural or seeded rehabilitation of burned areas be successful, the cycling of organic matter into the surface soil would tend toward more natural conditions, with relatively diverse natural plant communities and a more natural rate of erosion. Unsuccessful rehabilitation would be expected to allow invasion by undesirable plant species and associated loss of palatable forage. The average acreage burned in wildfire situations should go down over time as a more natural fire regime is allowed to unfold within the Planning Area.

Cumulative Impacts

Increasing vegetative diversity and creating green strips to limit the size of wildfires may increase desired vegetative production with a possible long-term increase in rangeland

health. Other cumulative impacts identified on a site-specific project level would be addressed during development of site-specific proposals.

Mitigation Measures

Burned areas may be fenced to allow their recovery. Each treated area would have a site-specific grazing plan developed during the project design phase to allow for establishment of desired plant species. Supplemental re-seeding to meet range management objectives may be done and would be identified as site-specific proposals are developed. Other site-specific mitigation measures may be developed during the environmental analysis phase.

Residual Impacts

Potential for adverse and beneficial impacts is the same as predicted under the long term impact portion of the above direct and indirect impacts section.

WILD HORSES AND BURROS

AFFECTED ENVIRONMENT

There are 14 designated wild horse and burro herd areas within the Planning Area (refer to RMP figure 2-4). There are approximately 3700 wild horses and 35 wild burros within the Planning Area. The burros are part of a U.S. Forest Service managed herd territory near Hickison Summit. Wild horses and burros make seasonal movements within herd areas based on weather and forage. If there is plenty of forage and the weather is amenable to their needs, seasonal migrations of wild horses and burros are minimal.

Under normal circumstances, wild horses will eat grasses almost exclusively. Wild burros have a more diverse diet that includes grasses, forbs, and shrubs. Because of this type of diet, wild burros are more adapted to desert environments, including cold desert environments, than wild horses.

Every three years a census is conducted and a schedule formulated for necessary gathering.

Wild horses tend to avoid dense stands of pinyon and juniper trees due to limited forage and vulnerability of foals to predation by mountain lions.

Peak foaling is from March 1 through June 30. The critical time of year nutritionally for the herds tends to be from late winter through the foaling season.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Short-term impacts to wild horse and burro herd areas are similar to those discussed under the Proposed Action. The long-term tendency for fires to increase in size and severity would reduce forage and cover available for wild horses and burros. Herd areas

would be disrupted and movement patterns would be interrupted by large-scale fire rehabilitation efforts.

Cumulative Impacts

There is potential for greater disruption of herd areas as a result of continued full fire suppression, very limited prescribed burning, increased fuel build-up, fire severity and fire intensity. Cumulative impacts could result in removal of wild horses if the forage base cannot support them.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

See direct and indirect and cumulative impacts.

Proposed Action

Direct and Indirect Impacts

The Proposed Action would result in a temporary reduction in available forage for wild horses and burros. The impact would be greater if the treated area is favored for forage, foaling, or cover. Ultimately, there should be increased plant diversity and a healthier forage base. This should extend the period of time wild horses and burros can use any given area.

Wild horses and burros are creatures of habit, accustomed to their forage territories and water sources. Should fencing be necessary, it could impact wild horses and burros if areas they typically use are within the fence.

Cumulative Impacts

Cumulative impacts are expected to mirror the direct and indirect impacts described above.

Mitigation Measures

Under the Proposed Action scenario, no prescribed fire or fire ignited by lightning, where an appropriate management response is implemented, should be allowed to burn extensive areas of any given herd management area.

The peak foaling period is from March 1 through June 30. Burning should be restricted during this period in HMAs.

Should a water source be cut off from wild horse and burro access, it would be necessary to pipe water to the animals at a point somewhere along their normal grazing to water route. An alternative to this would be to develop a new water source for the animals outside of the fenced area.

Since the grazing/water routes for the animals are known, it is possible to understand impacts to on a site-specific basis and to monitor behavior as a result of prescribed

burning. Wild horse and burro inventory forms are available for resource specialist to take in the field. The completion of those forms would help in the monitoring of wild horse and burro behavior following any given prescribed burn.

Emergency gathers may be required if treatment or rehabilitation efforts disrupt areas routinely used by wild horses or burros.

Residual Impacts

Should natural or seeded rehabilitation of burned areas be successful, the cycling of organic matter into the surface soil would tend toward more natural conditions, with relatively diverse natural plant communities. Unsuccessful rehabilitation would be expected to reduce or alter forage and cover. The average acreage burned in wildfire situations should go down over time as a more natural fire regime is allowed to unfold within the Planning Area.

VISUAL RESOURCE MANAGEMENT

AFFECTED ENVIRONMENT

The visual resource contrast rating system is used to analyze potential visual impacts of proposed projects and activities on public land. As a result of a visual resource inventory that consists of scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones, BLM-administered lands are placed into one of four visual resource inventory classes. Visual resource management (VRM) objectives are established for each class (*Appendix 2 of BLM Manual H-8431-1.*)

Class I Objective: The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, 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 Objective: 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 the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III Objective: 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 Objective: 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 viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

All BLM-administered public land within the Planning Area falls into VRM Classes II – IV, predominantly Class IV. All three WSAs in the Planning Area are managed as VRM Class I.

The following areas have been designated Class II:

- East side of Ravenswood portion of Shoshone Range
- Devil's Gate
- Pinto Canyon

The following areas have been designated Class III:

- Cortez Canyon
- East and west sides of Garden Valley
- Road Canyon
- Trout Creek
- Hickison Summit Campground
- Portions of Simpson Park Range
- Portions of Shoshone Range
- Upper Reese River Valley
- Portions of Antelope Range
- Portions of Big Smoky Valley

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Short-term impacts to visual resource values are similar to those discussed under the Proposed Action (below). Long-term impacts include unnaturally high fuel loading resulting in fires that become larger and additional intense over time. Currently, the average acreage that burns in wildfire situations per year is 5,900 acres. This number would likely increase over time under this alternative.

Cumulative Impacts

Continued cheatgrass expansion following large acre fires would change the color and texture of the landscape. No other cumulative impacts are expected at this analysis level.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

See long-term impacts under direct and indirect impact section for this alternative.

Proposed Action

Direct and Indirect Impacts

In any given year, up to 21,000 acres may be treated annually. This figure includes the average 5,900 acres expected to burn from wildfires. Short-term visual degradation is expected until vegetation has recovered. Site-specific project development would ensure that impacts caused by fire or other treatments do not exceed the VRM objectives of any given area.

Should natural or seeded rehabilitation be successful, more diverse and productive plant communities would exist creating a natural appearing landscape in the long term. The average acreage burned in wildfire situations lessen over time as a more natural fire regime is allowed to unfold within the Planning Area. VRM objectives may not be met should natural or seeded rehabilitation of burned areas not be successful.

Cumulative Impacts

Should there be a potential for cumulative impacts at a site-specific level, a cumulative analysis study area would be determined and an analysis conducted.

Mitigation Measures

No mitigation is proposed at this analysis level.

Residual Impacts

Potential residual impacts are the same as those addressed in the direct and indirect impacts section above, specifically, long-term impacts.

WILDERNESS/WILDERNESS STUDY AREAS

AFFECTED ENVIRONMENT

There are no designated wildernesses in the Planning Area. There are three wilderness study areas (WSAs) – Roberts, Antelope and Simpson Park – within the Planning Area. A portion of the Augusta and Desatoya WSAs are also in the Planning Area. These WSAs are managed by the Winnemucca and Carson Field Offices, respectively.

Guidance for fire management in WSAs is established in the *Interim Management and Policy for Lands under Wilderness Review*. Fire is considered a natural and desirable element in WSAs. Interim guidance directs BLM to rely on methods least damaging to wilderness values, and to limit surface disturbance to the protection of life and private property. All WSAs are managed as VRM Class I areas in accordance with interpretation of the *Interim Management Policy and Guidelines for Lands under Wilderness Review*. (7/5/95)

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Short-term impacts to WSAs are similar to those discussed under the Proposed Action (below). In the long term, unnatural fuel loading could result in fires becoming larger

and more intense. Currently the average acreage that burns per year in wildfire situations is 5,900 acres. This number would likely increase over time under this alternative.

Cumulative Impacts

Cumulative impacts could include larger scale, more intense fires that disrupt and alter the native vegetative community within WSAs.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

See long-term impacts under the direct and indirect impact section.

Proposed Action

Direct and Indirect Impacts

In any year, up to 21,000 acres may be treated. This figure includes the average 5,900 acres expected to burn from wildfires. Some of this acreage may be burned within the WSA boundaries in compliance with the interim guidance for managing WSAs, for the purpose of enhancing wilderness values.

Short-term visual degradation is expected. Site-specific project development would ensure that impacts do not exceed the VRM objectives of any given area and comply with interim guidance for managing WSAs.

The average acreage burned in wildfire situations should go down over time as a more natural fire regime is restored within the Planning Area. This would decrease the potential for impacts to WSAs from wildfire situations and decrease the opportunities for noxious or invasive non-native plant species to gain a foothold in the WSAs.

Cumulative Impacts

Under the Proposed Action there would be a more natural mosaic of vegetation patterns with vegetation more closely resembling the historic range of variability found in pre-settlement era.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

Potential residual impacts would be the same as the long-term impact analysis under the direct and indirect impact section above.

RECREATION

AFFECTED ENVIRONMENT

Recreation in the Planning Area is of a generally dispersed nature. There is a growing participation in recreation such as camping, backpacking, rock hounding, horseback riding,

hunting, exploring, photography, sightseeing, and rock climbing, within the Planning Area. There are two designated campgrounds within the Planning Area – Hickison and Mill Creek Campgrounds.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Both Hickison Campground and Petroglyph Site and Mill Creek Campground are in full suppression areas under either alternative. No impacts to either site are expected.

In any given year, an average of 5,900 acres are expected to burn in wildfire situations across the Planning Area. Over time this average is expected to increase as unnatural fuel loading conditions continue resulting in larger, higher intensity wildfires. Some areas that would burn could be very difficult to rehabilitate, and undesirable and noxious weeds would have more opportunity to invade. These changes might be perceived by some recreationists as decreasing the quality of the recreational experience.

Cumulative Impacts

Cumulative impacts are expected to reflect direct and indirect impacts described above.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

Potential for residual impacts is the same as analyzed above for direct and indirect impacts.

Proposed Action

Direct and Indirect Impacts

In any year, up to 21,000 acres may be treated. This figure includes the average 5,900 acres expected to burn each year from wildfires. There should be no impact to Mill Creek Campground or the Hickison Campground and Petroglyph Site from natural and management prescribed fires, as the Fire Management Plan calls for full suppression at both sites.

There is potential for a negative visual impact in the short term to dispersed recreationists. This should develop into a beneficial impact over time should natural revegetation of burned areas be successful. Successful rehabilitation of burned areas should cause less impact from undesirable plant species and allow for a more diverse, productive vegetative community. Both beneficial and negative impacts would be analyzed when an activity plan that includes the Mill Creek or Hickison area is developed. The potential for impacts from unwanted wildland fires at our recreation sites would continue over the short term with a potential to lessen as a more natural fire regime unfolds over time reducing fire size and intensity.

Cumulative Impacts

Cumulative impacts are expected to be an extension of impacts described above under direct and indirect impacts.

Mitigation Measures

No mitigation is proposed. As activity plans are developed and analyzed, appropriate site-specific mitigation would be implemented.

Residual Impacts

Residual impacts would be the same as direct and indirect long-term impacts.

SOCIAL AND ECONOMIC VALUES

AFFECTED ENVIRONMENT

The Planning Area includes most of Lander and Eureka counties and a small portion of Nye County. Towns within the Planning Area are Battle Mountain, Eureka, and Austin. Mining, agriculture, construction, trade, services, and government are the main employment categories within the Planning Area, with the mining industry providing the highest level of income and employment. According to the 2000 Census, the populations of Lander, Eureka and Nye counties are 5,794, 1,651, and 32,485, respectively.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

In the short term, impacts may be expected to be less than under the Proposed Action. In any given year it is expected that an average of 5,900 acres will burn within the Planning Area due to wildfires. Full fire suppression would continue under this alternative. Over time wildfires would tend to grow larger in size, intensity, and severity due to unnatural fuel loading conditions. This is likely to cause detrimental effects to the livestock industry. It would be more difficult to protect communities and private parcels from fire than under the Proposed Action, which allows for a more natural fire regime over time where fire is not as frequent or as intense.

Cumulative Impacts

See Range Management for a discussion of cumulative impacts on vegetative conditions and fire closure loss of AUMs that may affect the livestock industry. No other cumulative impacts can be identified at this level of analysis. Cumulative impacts would be addressed during development of site-specific projects and a cumulative analysis conducted, if warranted.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

Residual impacts would be as described above under the direct and indirect impacts in a long term scenario.

Proposed Action

Direct and Indirect Impacts

Full suppression would continue (see fire suppression category A) within surrounding communities and, to the extent possible, on private parcels. Private landowners may enter into agreements with the BLM on a site-specific basis where both the public and the private landowner may benefit from prescribed fire.

Some short-term impacts to the ranching community could result from exclusion of livestock from burned areas. See Range Management for a discussion of cumulative impacts on vegetative conditions and fire closure loss of AUMs that may affect the livestock industry. In most instances it would be necessary to exclude livestock from burned areas for a minimum of two growing seasons.

Cumulative Impacts

See the Range Management section for a discussion of cumulative impacts expected at this level of analysis. Cumulative impacts would be addressed during fire planning on a site-specific basis.

Mitigation Measures

No mitigation is proposed. Where appropriate, mitigation measures may be incorporated into management actions proposed for site-specific treatment plans.

Residual Impacts

No residual impacts are expected.

CULTURAL RESOURCES

AFFECTED ENVIRONMENT

Humans have inhabited Central Nevada for at least 12,000 years. Remains from human activities in the past and present may be found throughout the Planning Area. Because cultural resource inventory has not been done on vast areas of the Planning Area, the cultural resource database gets larger each year as inventories are conducted as part of permitting activities on public land.

Planning Area cultural resources are divided into four management types:

- prehistoric – open, rock shelter or cave, and rock art;
- historic – Euro-American (or other immigrant groups) and aboriginal;
- isolated finds – single artifacts (prehistoric or historic) and
- sacred sites and traditional cultural properties (generally geographic areas).

As of the writing of the RMP, there were no recorded sacred sites in the Planning Area. (*RMP, 1986*). Since then, Native American coordination and consultation has identified possible Traditional Cultural Properties. Potential TCPs in the Planning Area include locations associated with Western Shoshone beliefs about their creation, how they learned to live off the land, landmarks on major trails, and areas where traditional plant resources were/are collected.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Under the No Action Alternative, full fire suppression would continue as would the potential for wildfires of a much more intense nature. Until the positive effects of prescribed burning are well established under the Proposed Action, impacts to cultural resources would likely be fewer under the No Action Alternative. Cultural inventory that would be possible under the Proposed Action would not happen under this No Action Alternative. In the long term, the potential for unplanned fires to increase in size and severity over time is greater under No Action and therefore the impacts would be greater as well.

Cumulative Impacts

Mechanized equipment, especially bulldozers, causes the greatest fire-related impact to cultural resources. Mechanized equipment use would increase as wildfire size and intensity increases, potentially negatively impacting all cultural sites. The sites most impacted by an increase in fire size and intensity would be historic sites that are more likely to contain perishable items that could be destroyed by fire. Historic sites most likely affected are mining camps, farming and ranching sites, and charcoal production sites. Of these, the charcoal sites are most likely to be affected because of their wide distribution in the pinyon and juniper tree areas.

Mitigation Measures

BLM would continue to assign resource advisors to wildfire suppression teams in order to minimize impacts from fire suppression activities.

Residual Impacts

There would be increased loss and or disturbance of cultural sites due to increased fire intensity and size.

Proposed Action

Direct and Indirect Impacts

Prescribed burning or other vegetative treatment could disturb or destroy cultural sites in the treatment area. Prescribed fire and wildland fire use should not impact prehistoric sites as they have probably burned in the past and will burn again. Historical sites, which may contain combustible materials, have a greater chance of being impacted by prescribed fire.

Cumulative Impacts

Cumulative impacts to cultural resources over the Planning Area cannot be accurately assessed at this analysis level. During the analysis for each site-specific activity, a cumulative study area would be determined and a cumulative analysis conducted.

Mitigation Measures

Cultural surveys would be completed during the planning stages of prescribed fire and fuels management treatment projects. No prescribed burning or other fuels management treatment would be authorized until specific impacts to cultural resources had been considered and mitigated. In keeping with BLM policy, proposed activities would be modified to minimize adverse effects on cultural resources.

Fire crews would be encouraged to use existing roads, when possible, in order to minimize the impacts to cultural resources that might be caused by off road travel.

Residual Impacts

Some loss of cultural information would occur, even with the best of mitigation.

NATIVE AMERICAN CONCERNS (ETHNOGRAPHY)

AFFECTED ENVIRONMENT

The Planning Area lies within the traditional ethnographic range of the Western Shoshone. Prior to Euro-American contact, the Western Shoshone were hunter/gatherers who utilized a wide range of plant foods, with pinyon pine nuts providing the bulk of the plant foods collected. If fire or other appropriate vegetative treatments are not used periodically within stands of pinyon, the groves may become decadent.

Native American coordination and consultation for this and other projects has indicated that there may be Traditional Cultural Properties (TCPs) in the Planning Area. Potential TCPs in the Planning Area include locations associated with Western Shoshone beliefs about their creation, how they learned to live off the land, landmarks on major trails and areas where traditional plant resources were/are collected. Further evaluation of potential TCPs has not been done at this time.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Under the no action alternative, formal Native American consultation would not take place. Without site-specific coordination, impact analysis is very limited. The potential for impacts to areas of cultural and religious importance to Native Americans would be similar to the Proposed Action in the short term, but greater in the long term. (See Cultural Resources Section)

Cumulative Impacts

The incidence of decadent pinyon groves would increase, with a resultant decrease in pine nut production. Other cumulative impacts cannot be accurately identified at this analysis level.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

The expected increase in wildfires would most likely impact areas of cultural and religious importance to Native Americans. The magnitude of such impacts cannot be assessed at this analysis level.

Proposed Action

Direct and Indirect Impacts

Prescribed fire and other fuels management treatments could impact areas of cultural and religious importance to Native Americans, but the magnitude of such impacts cannot be predicted at this analysis level. Site-specific activity plans would be designed so as to minimize such impacts.

There would be potential for impacts to possible Traditional Cultural Properties during implementation of site-specific activity plans. Letters were sent to Tribal Chairs and other interested Native Americans in September 1997. Follow-up telephone contacts were made in October 1997. No concerns regarding specific traditional use areas within the boundary of Proposed Action (the Planning Area) were identified at that time. The view of Tribal governments relative to an area's traditional, religious or cultural significance would be considered in development of site-specific activities.

Although no specific concerns were identified during the coordination with Native American representatives, pinyon pine trees are an important resource to Native Americans, so impacts to the trees are a general concern throughout the Planning Area. In addition, other medicinal or economic plants could be lost, and sacred areas could be damaged by prescribed burning or by mechanized fuels management treatments.

In the long term, fire and mechanical treatments should cause a beneficial impact to pinyon stands by reducing tree crowding, thereby allowing increased pine nut production.

Cumulative Impacts

Cumulative impacts to Native American Religious Concerns cannot be identified at this analysis level. If there is a potential for cumulative impacts on a site-specific basis, a cumulative assessment study area would be determined and a cumulative analysis conducted.

Mitigation Measures

No mitigation is proposed at this analysis level. When activity plans are developed, appropriate mitigation would be identified in a site-specific environmental analysis.

Residual Impacts

While mitigation measures would be developed on a site-specific basis to minimize impacts to areas important to the Native Americans, the possibility remains that some areas of importance could be affected.

ENVIRONMENTAL JUSTICE

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low Income Populations*, was issued on February 11, 1994. The order states in part:

“ . . . each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low income populations in the U.S. . . . ”

This order requires that Federal agencies make achieving environmental justice part of their mission. The EPA created the Office of Environmental Justice in 1992, commissioned a task force to address environmental issues, and is making progress towards a more equal environmental community.

AFFECTED ENVIRONMENT

There is a higher percentage of Native American people in the Planning Area than in the State of Nevada, as a whole. Native Americans constitute approximately 1.3 percent of Nevada's total population. However, they represent 4 percent of the population in Lander County, 1.6 percent of Eureka County, and 2 percent of Nye County's population. (*U.S. Department of Commerce, Bureau of the Census, 2000 U.S. Census*)

In accordance with EPA's Environmental Justice Guidelines (EPA 1997), minority populations should be identified when:

- The minority population of the affected area exceeds 50 percent; or
- The minority population of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Although the population of Native Americans does not exceed 50 percent, their population in portions of the analysis area is “meaningfully greater” than the minority population in the general population, in this case, the State of Nevada. Therefore, for the purposes of screening for environmental justice concerns, a minority population, as defined in EPA's guidance (EPA 1997), exists within the analysis area. (*Personal communication with Richard DeLong, of Environmental Management Associates, Inc. (EMA)*)

The Euro-American population in the analysis area is also much higher than for the State of Nevada, with the analysis area counties having Euro-American populations comprising 84 to 89 percent of the total population. In comparison, the State of Nevada has a Euro-American population comprising 75 percent of the total.

The Planning Area has much lower populations of other minority groups than the State of Nevada as a whole. (*U.S. Department of Commerce, Bureau of the Census, 2000 U.S. Census*)

Median incomes for the population living in the analysis area are substantially higher than those in the State of Nevada. The incidence of poverty tends to be higher for the Native American

population than for the population as a whole. Data indicate that the Native Americans are a low-income population group, as defined in EPA's guidance (*EPA 1997*), for the purposes of screening for environmental justice concerns. (*Personal communications with Richard DeLong, of Environmental Management Associates, Inc. (EMA)*)

The BLM's mailing list for the Planning Area includes various Native American groups and tribes who traditionally occupied or currently occupy areas within the Planning Area, including communities such as Battle Mountain, Eureka and Austin.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Under this alternative, impact analysis would be the same as that for the Proposed Action.

Cumulative Impacts

No cumulative impacts are expected.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

No residual impacts are expected.

Proposed Action

Direct and Indirect Impacts

Initial analysis concluded that the Proposed Action is not expected to disproportionately affect any particular population. Environmental effects such as air quality would affect the area's population equally, without regard to nationality or income level.

Because there is no disproportionate effect on an identified minority population as a result of the Proposed Action, no further environmental justice analyses are required.

Cumulative Impacts

No cumulative impacts are expected.

Mitigation Measures

No mitigation is proposed.

Residual Impacts

No residual impacts are expected.

LAND USE AUTHORIZATIONS

AFFECTED ENVIRONMENT

There are utility corridors, rights-of-way, and other land use authorizations throughout the Planning Area. These include but are not limited to power lines, pipelines, telephone lines,

access roads, communication sites, Recreation and Public Purposes leases, airport leases, and other permits.

ENVIRONMENTAL CONSEQUENCES

No Action

Direct and Indirect Impacts

Short-term impacts should be minimal. An average of 5,900 acres per year would burn in the Planning Area due to wildfires. Full suppression of these fires would continue. The potential for wildfire situations to grow in size and intensity over time under this alternative are great. In the long term, this would mean be a greater incidence of unplanned fires and greater difficulty in controlling those fires. This could result in damage to facilities developed under BLM land use authorizations.

Cumulative Impacts

It is expected that unplanned fires would increase in size and intensity, potentially damaging facilities permitted under BLM land use authorizations.

Mitigation Measures

No mitigation measures are proposed. Mitigation development on a site-specific basis would be limited due to unplanned nature of fire under this scenario.

Residual Impacts

Potential residual impacts would be similar to long-term impacts discussed above under this alternative.

Proposed Action

Direct and Indirect Impacts

In any given year, up to 21,000 acres could be treated, including the average of 5,900 acres expected to burn in wildfire situations. There should be no impact to land use authorizations from prescribed fires or treatment plans since these are planned for and potential impacts can be avoided on a site-specific basis. There should be minimal impacts (where mitigation is implemented) caused by fire ignited by lightning, where an appropriate management response is implemented, as the areas where this type of scenario would be allowed are also planned for in advance. Impacts from unwanted wildland fires would gradually lessen as a more natural fire regime unfolds over time, reducing fire size and intensity.

Cumulative Impacts

The expected cumulative effect of the Proposed Action is the gradual lessening of wildfires and the impacts associated with them.

Mitigation Measures

Holder of land use authorizations (right-of-way, lease and permit holders) would be notified when a prescribed fire or mechanical treatment is planned.

Residual Impacts

Minimal residual impacts are expected. A long-term beneficial residual impact would be the reduced risk of uncontrolled fire damaging or destroying an improvement authorized by a right-of-way or other land use authorization.

PREPARERS

<u>Name/Title</u>	<u>Responsibilities</u>
Walt Brown, Geologist, BMFO	Visual Resources, WSAs
Mary Craggett, Planning & Environmental Coordinator, BMFO.....	overall document preparation
Duane Crimmins, Wildlife Management Biologist, BMFO	Wildlife
Dave Davis, Fire Management Officer, BMFO	technical oversight, overall document preparation
Pam Jarnecke, Planning & Environmental Coordinator, BMFO	overall document preparation
Steve Kramer, Outdoor Rec. Planner, Tonopah Field Station	Recreation, Wilderness
Craig MacKinnon, Team Lead, Range Management, BMFO	Range Management, Vegetation
Roberta McGonagle, Cultural Heritage Specialist, BMFO	Cultural Resources, Ethnography
Robert E. Means, Zone Fire Ecologist, BMFO	overall document preparation
Paul Myers, Regional Economist, Nevada State Office.....	Social & Economic Values, Environmental Justice
Joe Ratliff, Soil Scientist, BMFO	Forestry, Soil, Air, Water
Lynn Ricci, Planning & Environmental Coordinator, BMFO	overall document preparation
Kathy Sladish, Land Law Examiner, BMFO	Land Use Authorizations
Mike Stamm, Wildlife Management Biologist, BMFO	Special Status Species
John Winnepenninx, Wild Horse and Burro Specialist, BMFO	Wild Horses and Burros

REFERENCES

- Bureau of Land Management. October 2000. *Management Guidelines for the Sage Grouse and Sagebrush Ecosystems in Nevada*.
- _____. 1986. *Appendix 2, Visual Resource Contrast Rating, BLM Manual Handbook H-8431-1*
- _____. 1995. *Interim Management and Policy for Lands and Wilderness Review*.
- _____. 1994. *Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low Income Populations*
- _____. 1997. *Narratives, Fiscal Year 2000 Fire Management Plan*.
- _____. 1986. *Shoshone-Eureka Resource Management Plan and Environmental Impact Statement*
- _____. 1997. *Ruby Hill Final Environmental Impact Statement*.
- _____. 1991. *Vegetation Treatment on BLM Lands in Thirteen Western States Final Environmental Impact Statement*
- Environmental Management Associates. *Personal Communication with Richard Delong*. Fire Effects Information System (FEIS), [Online]. In: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences laboratory (2001 February) at <http://www.fs.fed.us/database/feis/>
- Hessl, A. & S. Spackman. 1995. *Effects of fire on threatened and endangered plants: an annotated bibliography*. U.S. Department of the Interior, National Biological Service, Information and Technology Report 2.
- Miller, Melanie. 1998. *Landscape Fire Return Intervals in the West*. Proceedings of the Prescribed Fire/Fuels Management Workshop, Boise Idaho Feb. 24-26, 1998. Bureau of Land Management, National Office of Fire and Aviation.
- Natural Resource Conservation Service (NRCS). 1989. *Soil Survey of Eureka County, Nevada*.
- _____. 1992. *Soil Survey of Lander County, Nevada, North Part*.
- U.S. Department of Commerce, Bureau of the Census, 2000 *U.S. Census*
- U.S. Department of the Interior. December 18, 1995. *Federal Wildland Fire Management Policy & Program Review*.
- U.S. Department of the Interior. January, 2001. *Review and Update of the 1995 Federal Wildland Fire Management Policy*.

GLOSSARY

Appropriate Management Response – Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

Attainment Area – A geographic area that is in compliance with the standards set forth in the National Ambient Air Quality Standards (NAAQS) for the criteria pollutants (PM10, ozone, lead, sulfur dioxide, carbon monoxide, and nitrogen dioxide).

Blacklining – The practice of burning out the vegetation next to a fire control line, road or natural barrier to increase its width to prevent fire from crossing the line.

Chaining – A vegetation removal and seed bed preparation method in which an anchor chain is connected to two Caterpillar-type vehicles and dragged across the land. Seeding can precede or follow the chaining.

Ecotone – An ecological community of mixed vegetation formed by overlapping of adjoining communities.

Fire Management Plan – A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

Fuel Ladders – The vertical fuel arrangement of combustible plant material that enable fire to move upward from the surface to the crowns of trees and shrubs.

Great Basin Restoration Initiative (GBRI) – A program begun after the 1999 fire season to start the restoration of degraded lands within the Great Basin in an attempt to restore the native vegetative communities and re-introduce fire as appropriate into fire dependent ecosystems. This program is dependent on continued funding.

Green Strips – Areas of wildland fuels that are manipulated to change their combustible characteristics to make an area less flammable and to provide protection to human development or areas of high resource concern.

Initial Attack – An aggressive suppression action consistent with firefighter and public safety and values to be protected.

Light-Hand-on-the-Land – Wildfire suppression tactics that minimize disturbance by hand or mechanical firefighting methods. Primarily used in wilderness and WSAs, and other areas of critical resource concern

Mechanical Thinning – The removal of trees by mechanical means (e.g. chain saw, mechanized tree harvester, etc.) to reduce the number of trees per area. Normally done as part of a prescription to enhance tree growth or to reduce wildland fuel loadings.

Non-Attainment Area – A geographic area which is not in compliance (does not meet) for one or more of the standards set forth in the National Ambient Air Quality Standards (NAAQS) for the criteria pollutants.

Pre-planning – The phase of wildland fire suppression activity planning that evaluates initial attack response based on fuels conditions, resource values, and fire weather to ascertain the appropriate response to wildland fire in a given geographic area.

Prescribed Fire – Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and National Environmental Protection Act (NEPA) requirements must be met, prior to ignition.

Shaded Fuel Breaks – Removal of trees within an area to increase the distance between tree crowns to reduce the possibility of crown fires and reduce fire spread and intensity.

Staffing Levels (Manning Classes) – A system developed to assist in the appropriate staffing of fire resources based on fire hazard, fuel moisture, fire behavior, resistance to control, weather patterns and fire activity. The levels are:

Level I – Lowest level, with minimal wildfire activity

Level II – Moderate fire behavior/resistance to control

Level III – High fire danger with extended staffing levels

Level IV – Very High fire danger with more fire suppression resources working

Level V – Extreme fire danger with all available fire suppression resources on duty

Wildfire – An unwanted wildland fire.

Wildland Fire – Any non-structure fire, other than a prescribed fire, that occurs in the wildland.

Wildland Fire Use – The management of naturally ignited wildland fires to accomplish specific pre-stated resource management objectives.

Wildland Urban Interface (WUI) – The line, area, or zone where structures and other human developments meet or intermingle with undeveloped wildland or vegetative fuels.

Appendix 1

Public Comment Letters and BLM Responses

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Friends of Nevada Wilderness

Keep it Wild!

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December 18, 1998

Lynn Ricci
Bureau of Land Management
Battle Mountain Field Office
50 Bastian Road
Battle Mountain, NV 89820

Re: Draft RMP Amendment and EA: Fire Management

Dear Lynn:

Thank you for providing Friends of Nevada Wilderness with this opportunity to comment on your proposed fire management plan. Our focus is in the management and preservation of land as wilderness. This includes wilderness study areas and other lands that we will be proposing as wilderness. Our primary focus is the preservation and restoration of natural ecologic function to the land including the return of natural fire.

We provided comments on the scoping notice for this plan. Unfortunately, most of our comments were ignored. Some will be repeated below at the appropriate place.

It is very difficult to determine exactly what is being proposed. Other than repeated mention of a 21,000 acre annual burn limit¹ and specification of three zones with differing levels of fire suppression, there is no description of how prescribed fires will be conducted or how a location will be chosen. Will prescribed burns be clustered or will they be randomly located throughout the study area? The impacts of each scenario differ, especially when considering the cumulative impacts locally. Will there be large firebreaks established for the prescribed burns, or will fires be set "plant by plant" by hand? The differences in impacts are obvious. We oppose the creation of large fire breaks or construction of any kind of a boundary that disturbs the soil.

} A
} B
} C

¹From all causes.

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I

Because of the lack of description provided in the document, we request that an additional draft EA and RMP revision be completed so that we can adequately assess the impacts to the land.

C

There is a 21,000 acre/year fire limitation to the study area. How was this limit determined? It appears that once natural fires², regardless of where they are occurring, burn 21,000 acres in a year, full suppression will begin. Why not allow natural fires to burn in Category C lands without regard to the total burned area? Category C lands are described as locations where fire is desired.

D

When describing the Fire Management Categories, you should describe why fires on Category B land is “likely to cause negative effect[s]” and what the “constraints” are to fires in Category C lands. Our opinion is that many of the areas described as Category C should actually be Category D, no constraints. This includes the three WSAs, plus most of the Shoshone, New Pass, Fish Creek and Diamond Mountains. Fires in these areas should be allowed to burn. It is very unlikely that fire in these areas will have negative effects. For example, in the Diamond Range, the ridges are so steep and most fire moves up hill so that the main crest and the side ridges will act as natural fire breaks.

E

Actually, wilderness study areas should be considered different. It is not permissible to complete prescribed fire when preliminary control activities will damage the wilderness resource. Quoting from our scoping letter, “prescribed fire should also not occur in WSAs because the necessary control procedures damage the wilderness resource.” By lumping WSAs with other lands in Category C, the BLM is not giving the wilderness resource adequate consideration.

F

Category D land would also save the government money. If fires are just watched rather than fought, it will be less costly. Our scoping letter describing a slight alternative to “let burn” seems to describe a good alternative for some of the study area:

G

It seems that a policy that allows for fighting fires when they endanger structures or when conditions are extremely dry and the potential for catastrophic fire is high would optimize resources. During relatively wet years, no fires that don’t impact structures should be fought. Other places where fires should be fought include areas that are relatively certain to be colonized by cheatgrass after the burn.

With respect to riparian areas, we agree with the use of prescribed fire when necessary (page 12). However, we are very reluctant to see the BLM try to keep natural fire out of riparian areas. Some of the best riparian habitat is in remote country, including WSAs. Fire suppression can cause as much damage as the fire itself. Thus, we urge you to not try to keep fire out of all riparian areas. Remember that these areas evolved for millennia with fire; many of the shrubby species will resprout after a fire. Also, fires in steep country are unlikely to substantially burn

H

²Natural being fires started by lightning or other natural processes.

Keep It Wild!

letter I

riparian areas. Most fires burn up hill; they also jump across canyons possibly allowing the riparian area not burned.

H

Another aspect not considered is timing of fire. Most prescribed burns occur during periods that are wet. Natural fire which the species evolved with did not occur early in the year when they are flowering and setting seed. Our scoping comments raised this issue quoting noted authorities on the subject. But the EA seems to have ignored these comments:

For example, species that germinate after natural fire during August may not germinate after prescribed fire in a wetter month such as May or October. Noss and Cooperrider³ state that “[p]rescribed burning...can both improve forage and increase biodiversity if it is designed to restore or mimic natural fire cycles and burn patterns”. The only way this is possible is if prescribed fires are completed at the same spatial scale of the ecosystem to be restored.

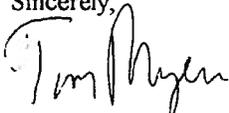
I

In summary, we ask that you provide a better description of the proposed action. How will prescribed fire be planned? Why is there a limit of 21,000 acres; wouldn't allowing a higher amount allow for a more rapid return to natural fire regimes? Please provide a more detailed description of how naturally occurring fire will be fought in category C lands. Why not classify the ranges above as category D?

J

Thank you for considering our comments.

Sincerely,



Tom Myers, Ph.D.
Conservation Director

³ Noss, R.f. and A.Y. Cooperrider, 1994. Saving Nature's Legacy: Protecting and Restoring Biodiversity. Island Press. Page 243.

Keep It Wild!

letter I

BLM RESPONSE TO
FRIENDS OF THE NEVADA WILDERNESS COMMENTS

I-A The Bureau of Land Management (BLM) received a wide array of comments and concerns during the Resource Management Plan Amendment (RMP Amendment) process. The comments represented a wide array of opinions and concerns: from exclusion of fire and total suppression of all wildland fires, to proposed immediate implementation (versus the phased, long term approach proposed by the BLM) of the proposal.

The BLM seriously considered all input received during the scoping process, including input submitted by "Friends of the Nevada Wilderness". The BLM, when preparing the proposed RMP Amendment and its associated environmental analysis (EA), was required to strike a balance between the mandates established by the Secretary of Interior (i.e. the latest fire management policy), the wide array and disparate input received from the public, and the sciences of fire effects and fire ecology.

I-B&C There are several layers or levels of effort and analyses associated with the fire management policy and this RMP Amendment. The current proposed RMP Amendment is the first step in complying with mandates under the Federal Land Use Management and Policy Act of 1976 (FLPMA) and the National Environmental Policy Act of 1969 (NEPA). As explained in the Draft RMP Amendment, a review of the current planning documents for the District (the Shoshone-Eureka and Tonopah Planning Areas) indicated that the new fire management policy and desired fire management direction was in "compliance" with the recently approved Tonopah Resource Management Plan (RMP); however, review of the Shoshone-Eureka RMP and its associated amendments, indicated that they were not "in compliance" with the new policy as is required by FLPMA. According to the FLPMA this lack of compliance with the current resource management plan required the Nevada State Director and the Battle Mountain Field Manager to prepare an amendment to the current plan addressing the impacts of the new policy.

The current document should be looked upon as a broad brush, large-scale analysis of the new fire management policy; in other words, what will be the general effects on the 4.3 million acres of the planning area to various resources. Upon completion of the RMP Amendment process, and assuming some level of implementation of the new policy, further, more site-specific analyses of specific proposals, be they prescribed fires, appropriate management responses (i.e. monitoring of natural ignitions), or mechanical treatment of vegetation (i.e. hazard fuels reduction) is required and would occur. Included in this process would be the required cultural surveys, Native American coordination/consultation, further public comment/scoping periods, and compliance with the NEPA. (Please refer to page 8, Proposed Action, last paragraph: "Should the Proposed Action be implemented (See Appendix 2 for Fire Management Implementation Procedures), activity plans will be developed with public participation, for each location, or group of locations, under the criteria listed in Appendix 2.")

Ultimately, the new fire management policy is not driven by the fire community; rather, the policy is resource driven. The one exception would be hazard fuel reduction projects, be they prescribed burns or mechanical treatments. In these cases, usually, but not always, large fuel concentrations would be identified by fire management staff as needing some level of treatment. Usually, but not always, some form of infrastructure, such as a town site, subdivision, campground, etc. would need protection from wildland fire. An example could be the canyon south of the Town of Eureka.. Extensive fuel buildup in this area is suggested by the fire planners as needing treatment to reduce the risk of wildland fire threatening the town site. More often than not in Nevada, prescribed fires would be identified during the multiple use decision process (MUD), where resource specialists, permittees, Public Land users, county commissioners, etc. would reach a consensus on places where some level of fire will be beneficial to the vegetative community.

With respect to wilderness study areas (WSAs), and as identified in the RMP Amendment, strict adherence to the BLM's "Interim Management Policy" for WSAs would be followed with respect to implementing any form of prescribed fires; either management ignited or appropriate management responses (monitoring of natural ignitions in WSAs). This policy mandates that wilderness characteristics will not be impaired through any management activity, including activities related to fire. Management ignited prescribed fire would only occur if this would clearly enhance specific wilderness values. (See page 13 of the Draft RMP Amendment).

For further clarification on how the proposed action would be implemented, please see Appendix 2, "Fire Management Implementation Procedures".

- I-D The development of the fire management policy in Nevada BLM was a phased approach. This approach was developed under very broad guidelines established by the Washington Office of the BLM and the Secretary of Interior. Phase one, as identified in the Draft RMP Amendment, was developed using an interdisciplinary team approach of staff resource and fire specialists. The results were the development of the category map of categories A-D, and the resulting desired fire management direction.

Part of the guidelines used in developing these two products was the need to identify target acres of total burned area (under any conditions: wildland fire, management ignited fires, or appropriate management response). The interdisciplinary team determined rough estimates of allowable acres for each category area to meet this direction. Part of the development of any fire prescription includes geographic areas that a prescribed fire may not exceed. This determination assists the manager/authorized officer in determining if the desired resource objectives are being met, exceeded, or if resource damage may be occurring or could occur in the future.

All fires in Category C may not be permitted to burn as is identified in this category's definition: "fire is desired, but there are constraints." As identified in the Draft RMP Amendment, these constraints may be resource driven, for example protecting a historic

site is called for, or protecting or limiting fire damage to a particular watershed. There are also other constraints, including economic and political considerations.

I-E As defined earlier in these responses, this is a broad planning document and general analysis of what effects implementing the new fire management policy may have on the 4.3 million acres of Public Lands in the Shoshone-Eureka Planning area. It is not a compendium of site-specific data for each category. In general, negative effects mean some sort of negative impact to one or more resources either managed by the BLM or affected by a decision made by a BLM authorized officer. An example of a negative fire effect would be the spread of cheat grass and noxious annual weeds after an intense fire in late July. Another negative effect would be limiting the amount of grazing a permittee may do in a particular allotment as a result of a prescribed fire (e.g. the mandated minimum two year rest from grazing of a burned area). The WSAs identified by this comment all have grand fathered grazing privileges; an unchecked wildland fire or even a prescribed fire meeting certain resource objectives could have a negative economic effect on the affected permittee.

A “constraint” is defined as: “a confinement or restriction”. Category “C” was defined in the RMP Amendment (page 10) as: “fire is desired, but there are constraints”. As described in the RMP Amendment, there is a wide array of possible constraints; and as defined above, this document is not a compendium of site-specific data for each category area of the 4.3 million acres of Public Land the proposed amendment covers. A constraint may be resource driven. An example would be an area, perhaps a riparian area, where some level of fire exclusion has occurred; and some level of fire might be needed to rejuvenate an aspen or willow stand. There are, however, Lahonton cutthroat trout, a listed species, in the associated stream. While the long term benefits of a fire may enhance the overall condition of the stream; the short-term effects could damage or destroy the local fish population. This principle could apply to any resource: a historic cabin could be burned; a rancher’s income could be decreased, a deer herd’s winter range could be damaged in the short term, etc. These overall constraints are generally identified in the Phase I Fire Planning document (available for inspection at the Battle Mountain Field Office). These constraints were based on information garnered from the existing RMP and its amendments. Site-specific constraints will be identified for each category as the overall parameters for the category are developed.

The basic premises this comment identifies for the Diamond Range are in fact similar comments made by the Eureka County Commissioners during a Commissioner’s meeting held on January 6, 1999. Again, this new fire management policy is: 1) resource driven, and 2) one of its goals is to ultimately reduce fire suppression costs. The long-term goal for the Diamond Mountains will probably be some mixture of meeting resource objectives and reducing suppression costs in that geographic area, while limiting negative fire effects. The development of the specifics for that area will require the BLM to have these parameters in mind when setting overall strategy for the Diamond Mountain Range. The premise that there would be no negative effects for the Diamonds and other ranges identified in this comment is debatable. The invasion of cheat grass and noxious weeds is

a pervasive problem for the planning area, including the Diamond Mountain Range. Past wildland fires starting in the pediment areas of these ranges and moving to the upper reaches of the Mountains have had serious invasions of cheat grass, mustard, and noxious weeds. Fire effects would be part of the parameters established for the Diamond Mountains and the other categories.

I-F This comment states that WSAs should be “considered different” (sic). The BLM’s “Interim Management Policy” (IMP) provides very strict guidelines as to how WSAs are managed until that time that the Secretary and Congress decide the future status of these areas. The BLM may not implement any decisions that could impair the wilderness characteristics of the area. The IMP does provide for management ignited prescribed fire as well as the monitoring of natural ignitions. The IMP also limits the construction of firebreaks, limits the use of mechanized equipment, etc. to ensure the wilderness characteristics of the area are not impaired.

The WSAs were considered “lumped” (terminology from comment letter) with the other “C” category because, in this Field Office’s perspective, there are constraints to the use of fire in each of the WSAs it manages. These constraints are the same ones identified for other non-WSA areas: concerns of post-fire effects, such as cheat grass invasion, grand fathered grazing privileges that would be affected, as well as many of the other applicable constraints that apply to non-WSA areas.

I-G The staff resource specialists embraced the concept from an ecological standpoint of having Category D areas in the Shoshone-Eureka Planning Area. The existing, RMP, its amendments, and their directives, along with numerous political and social considerations suggested that there are or would be constraints of some sort for all of the Public Lands managed in the planning area; including the WSAs. The site-specific criteria developed during the next phase of this policy will provide, as is defined in the Draft RMP Amendment, sufficient latitude for the BLM to manage all of the C category lands, including the WSAs, as the scoping comment suggests. These parameters, called fire prescriptions, are intended to guide the fire manager, working in concert with staff resource specialists and the public, to meet the resource objectives of a given area. As the comment suggests, (for instance in a WSA) a prescription will include weather and fuel parameters to permit monitoring of fires under certain conditions. Conversely, during an extreme drought, for instance, the fire prescriptions will also mandate some form of suppression when resource damages (negative fire effects) are expected to be the result of a fire.

I-H Once again, the basic premise provided in this comment is in agreement with the proposed fire management direction/RMP Amendment. The discussion returns once again to the site-specific parameters that will be established in the future for each category. The BLM concurs with, and there is ample fire effects literature to support the need for fire in riparian areas. There is also sufficient experience and literature to support the premise that fire suppression activities in a riparian area may cause more resource damage than the fire. The riparian areas in the Planning Area make up an extremely small percentage of

the total Public Lands managed by the BLM. These areas are in a wide array of conditions. Based on those site-specific conditions, fire may or may not be permitted in a particular riparian area.

This policy and associated RMP Amendment is not a “one size fits all” policy. The RMP Amendment and policy provides sufficient flexibility to the authorized officer, fire management staff, and resource specialists to implement the policy where fire effects will be generally positive, suppress or partially suppress fires where effects could or will be negative, and totally limit fire or its use where effects will be negative.

I-I As previously discussed, fire effects will be part of the parameters developed for each category. The field of fire effects includes the “timing” of a fire. The BLM’s intent in implementing the new fire management policy is to mimic nature where practicable and feasible. This discussion then returns to the topic of constraints. Not all wildland fires or prescribed fires will be permitted to burn unconstrained. For instance, the proposed state smoke management plan is one constraint the BLM will have to deal with in permitting the use of fire on the landscape in meeting resource objectives. While a large wild land fire in August in the Nine-Mile area south of Eureka may be “natural”, cumulative smoke impact issues from surrounding area fires may mandate the Nevada Division of Environmental Protection, Air Quality Bureau, to require the BLM to fully suppress that particular fire. Again, these parameters will be part of the public process and fire prescription written for each category.

The Draft RMP Amendment and the new fire policy proposes to “safely” reintroduce fire into the ecosystem. This policy implies that some level of fire is “good”; conversely, some fire may be considered “bad”, i.e. negative fire impacts. Ultimately, there is a middle ground for application of fire, including the “timing” of fire. For example, some site-specific area may benefit from a “cool” early summer burn. That same area may suffer very negative effects from a hot, mid-August burn. These considerations, identified in the fire effects section of a prescription, will be defined prior to reintroducing fire into the area. Ultimately, the safe reintroduction of fire on the landscape will be dependant upon meeting site-specific resource objectives and complying with the standard operating procedures outlined in the Draft RMP Amendment.

I-J These points have been covered in replies to comments “I-A”.

PETER G. MORROS, Director
L.H. DODGION, Administrator

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BATTLE MOUNTAIN DISTRICT

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December 30, 1998

Lynn Ricci
Bureau of Land Management
Battle Mountain Field Office
50 Bastian Road
Battle Mountain, NV 89820

Dear Ms. Ricci:

Thank you for providing me with the opportunity to comment on the BLM's proposal to reintroduce fire as a management tool in the Battle Mountain District, the Draft Resource Management Plan Amendment and Environmental Assessment NV061-EA97-11 for the Shoshone-Eureka Planning Area. I appreciate the effort you and Dave have made to incorporate air quality into your planning process. My review of this planning document only includes those sections related to air quality. My comments are as follows:

1. The second paragraph on page 10 states that every fire has the potential to exceed the NAAQS and that if a fire goes out of prescription, full suppression will be implemented. I recommend adding a sentence stating that prescriptions will be drafted to ensure that the NAAQS will not be exceeded. The paragraph would then read as follows:

“...has the potential to exceed the National Ambient Air Quality Standards. ~~Prescriptions will be written to ensure that the NAAQS will not be exceeded.~~ Full fire suppression will be implemented on any prescribed fires and ...”
2. I would like to see the third paragraph on page 10 modified to state that smoke management techniques will be incorporated into all burn plans to the extent possible to mitigate impacts on air quality.
3. In the fourth paragraph, it is unclear to me what you mean by “no cumulative impacts are expected at this level of analysis.” Does this mean that I should expect to see cumulative impacts in future planning documents? If so, I would like to know where. As you know

A
B
C

(01-199)
letter II

cumulative impacts is an important issue for the Division and I want to be sure that we have addressed it in our reviews.

You state that there may be cumulative impacts on a site specific level. However, based on our experiences over the past two fire seasons, there is also a very real potential for cumulative impacts on a regional scale. While I don't expect you to do an analysis of how extensive those impacts might be for this planning document, I think that this possibility needs to be included for the record.

4. You may want to make the first mitigation measure listed more general. A phone list is one way of providing notification to highly sensitive receptors, but you may not be able to practically notify all sensitive receptors (at least the way EPA broadly defines sensitive receptors). Many land managers also use radio and TV news releases, newspaper ads and signs. I suggest that you state that you will identify smoke sensitive areas and develop appropriate public notification procedures for those areas.

5. You may want to include smoke dispersion and emissions modeling as a mitigation measure to be conducted. Modeling would be used in much the same way ambient air monitoring would be to determine air quality impacts and would only be done for larger fires where smoke emissions are estimated to exceed 25 tons of PM10 or if the fire is located near a smoke sensitive area. I have attached the latest draft of Nevada's Smoke Management Program. You may find it useful as you finalize this planning document.

5. I think that it is misleading to state that over the long term, there should be less impact to air quality than would be expected under the no action alternative. You stated earlier in the document that it will take more than 100 years to see the effect of prescribed fire. Therefore, we will only see increased air quality impacts over the life of this plan and for the next four or five generations.

I would be very interested in seeing any data that you may have which shows that the Great Basin has experienced increased wild fires (either size, number or intensity) over the past 50-100 years and any information on the relative risk associated with continuing current suppression practices. As I indicated to you on the phone, the data I have seen has not been specific to the Great Basin. The Forest Service has recently completed a study in which they broadly categorize the ecosystems of the U.S. in terms of relative risk for serious impacts from wildfire. My understanding is that they will be using this information to make management decisions about where, on a national scale, they should concentrate their prescribed fire funding. Has the BLM done anything similar? I would also be very interested in seeing anything that you may have describing the desired state of the Great Basin ecosystems and how the desired state is determined.

C

D

E₁

E₂

E₃

letter II

Lynn Ricci
December 30, 1998
Page 3

If you have any questions or need any further clarification, don't hesitate to contact me. I can be reached at (775)687-5670 extension 3065 or by e-mail at ccripps@ndep.carson-city.nv.us. I look forward to your responses to my issues and to continued work with you and your office to address air quality impacts associated with the increased use of prescribed fire.

Sincerely



Colleen Cripps, Ph.D.
Supervisor, Ambient Air Monitoring
Bureau of Air Quality

cc: Chet Sergent, NDEP

letter II

Appendix 1 - 12

BLM RESPONSE TO
NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY COMMENTS

- II-A Change has been made to EA in the Air Quality section, under Proposed Action.
- II-B Modification has been made to EA in the Air Quality section, under Proposed Action.
- II-C Clarification has been made to EA in the Air Quality section, under Cumulative Impacts.
- II-D Mitigation in Air Quality section of EA has been changed to reflect your comment.
- II-E Modeling would be conducted as required by NDEP Smoke Management Plan. Air Quality monitoring would be performed as required by NDEP Smoke Management Plan. Implementation of smoke management techniques to reduce impacts to air quality is a standard operating procedure.
- II-E1 While the BLM and NDEP's position with respect to the future impacts of implementing the fire management policy are speculative, it is the BLM's position that sound fire management techniques and implementation of the fire management policy should reduce the number of large devastating fires in the future. This suggests that in the long term there should be smaller more natural burns and thus fewer emissions in the long term.
- II-E2 The BLM will research fire literature and respond to this information request.
- II-E3 At this time, the BLM isn't doing anything on a national scale.

NEVADA STATE CLEARINGHOUSE

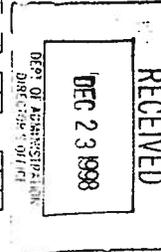
Department of Administration
 Budget and Planning Division
 209 East Musser Street, Room 200
 Carson City, Nevada 89701-4298
 (702) 687-4065
 fax (702) 687-3983

DATE: December 3, 1998

Governor's Office
 Agency for Nuclear Projects
 Business & Industry
 Agriculture
 Energy
 Minerals
 Economic Development
 Tourism
 Fire Marshall
 Human Resources
 Aging Services
 Health Division
 Indian Commission
 Colorado River Commission

Legislative Counsel Bureau
 Information Technology
 Emp. Training & Rehab Research Div.
 PUC
 Transportation
 UNR Bureau of Mines
 UNR Library
 UNLV Library
 Historic Preservation
 Emergency Management
 Washington Office
 Nevada Assoc. of Counties
 Nevada League of Cities

Conservation-Natural Resources
 Director's Office
 State Lands
 Environmental Protection
 Forestry
 Wildlife
 Region 1
 Region 2
 Region 3
 Conservation Districts
 State Parks
 Water Resources
 Water Planning
 Natural Heritage
 Wild Horse Commission



Nevada SAI # E1999-066

Project: Draft RMP Amendment and EA for the Shoshone-Eureka Planning Area
 BLM indicates they have distributed directly to Air Quality

Yes No Send more information on this project as it becomes available.

CLEARINGHOUSE NOTES:

Proposed, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs; importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than December 28, 1998. Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Heather Elliott, 687-6367.

THIS SECTION TO BE COMPLETED BY REVIEW AGENCY:

- No comment on this project
- Proposal supported as written
- Additional information below
- Conference desired (See below)
- Conditional support (See below)
- Disapproval (Explain below)

AGENCY COMMENTS:

The Nevada State Historic Preservation Office (SHPO) reviewed the subject document. In general, the SHPO supports the Bureau of Land Management's proposal to initiate a prescribed fire program. The discussion of direct and cumulative impacts should address the potential effect of increased exposure to fragile cultural resources. The removal of vegetative cover could significantly increase the unauthorized removal of artifacts from sites. In addition, the discussion of impacts to prehistoric resources should address the historic intensity of fires in the region and proposed intensity of prescribed fires. If the proposed intensity of the prescribed fire is greater than historically documented, this increase could adversely effect sensitive lithic resources. The SHPO welcomes the opportunity to review a Bureau of Land Management proposal to designate a protected charcoal production area for future fire management purposes.

Heather Elliott
 Signature

Historic Preservation 12/17/98
 Agency Date

BLM RESPONSE TO
NEVADA STATE HISTORIC PRESERVATION OFFICE COMMENTS

III-A At least in central Nevada, it is unlikely that increased visibility of surface artifacts will increase illicit collection. It is also unlikely that any prescribed fire, natural or set, will exceed the intensity of historic fires.



BOB MILLER
Governor

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WILDLIFE

1100 Valley Road
P.O. Box 10678
Reno, Nevada 89520-0022
(702) 688-1500 • Fax (702) 688-1595

PETER G. MORROS
Director
Department of Conservation
and Natural Resources

TERRY R. CRAWFORTH
Administrator

December 18, 1998



Nevada State Clearinghouse
Department of Administration
Budget and Planning Division
209 East Musser Street., Room 200
Carson City, NV 89701-4298

RE: Nevada SAI # E1999-066 Draft RMP Amendment and EA for the Shoshone-Eureka
Planning Area

Dear Ms. Elliott:

The resulting policy from the IMRT review of the Storm King Mountain situation has now filtered down to each and every District and Forest. This investigation of an extremely unfortunate situation in Colorado has resulted in a one-size-fits-all policy based on the broad assumption that "100+ years of fire suppression across the U.S. has resulted in an unnatural fuels situation." This policy also recognizes "the importance of fire in the ecosystem". We believe the two basic conclusions that the policy is based on cannot and should not be applied throughout the west, and within the Great Basin in particular, without some serious examination of the validity of these assumptions. There is documentation in the Great Basin that more than a hundred years of livestock grazing has been the primary cause in the buildup of unnatural levels of fuels and the increasing occurrence of large fires. Overgrazing has lead to the invasion and increase of a host of non-native annual plants, which for the most part are highly inflammable and tend to dominate most plant communities after fire. The end result of overgrazing and this invasion of non-native plants has lead to a situation where there are very few areas in the Shoshone - Eureka Planning Area where fire would even come close to playing a natural role in the succession of an ecosystem. For the vast majority of the Planning Area fire will only increase the fuel load and increasing the occurrence of large fires.

A

We have some concerns with the analysis of the environmental consequences for vegetation under the proposed action. The ability to achieve "successful natural rehabilitation" in the 6 - 10 inch precipitation zone is going to be extremely difficult. It has yet to be proven that we can, to any appreciable extent, successfully reestablish native species on burns. We can, and have, established plant communities that have provided

B

Letter IV

benefits to both wildlife and livestock but we are very dependent on non-native species to accomplish that. The cost to reseed more than 2 or 3 thousand acres in any given year becomes prohibitive. Successful establishment depends on adequate annual precipitation and there is certainly no assurance of that on a yearly basis. The ability to reseed up to 21,000 acres in any given year is not realistic based on cost alone. We firmly believe there are very few areas where there is any significant potential to achieve successful natural rehabilitation. So much of the Resource Area is in such poor ecological condition because of chronic overgrazing that such success would be limited.

B

Even in areas where fires are carefully planned and conducted in plant communities, in good enough ecological condition to reasonably expect successful natural rehabilitation, grazing must be controlled. Before any level planned of burning is conducted there must be a firm commitment to curtail grazing for however long it takes assure successful reestablishment. The Draft RMP amendment does not make this commitment but only states that "fires must be carefully planned and in most instance protected from livestock". We recommend that the amendment provide a stronger commitment to the successful establishment of desired plant communities before livestock grazing is allowed on those areas. In most, if not all cases, we doubt that the standard two seasons of rest would be adequate to establish perennial forbs and shrubs.

C

Fire Management Category C states that fire is desired, but there are constraints. We would suggest that in most Category C areas, fire is not desired. In the salt desert shrub and in sagebrush communities dominated by *Artemesia t. wyomingensis*, we would recommend full suppression of all wildfires and feel there are only extremely limited opportunities for prescribed fire. Virtually all of these areas in the Resource Area are not in good ecological condition and fire will only result in the establishment of a plant community dominated by weedy annuals. There are numerous past fires throughout Lander and Elko counties in these plant communities in which to judge the results of fire. There are sites within these burned areas that have not been grazed for more than 30 years which are still dominated by cheatgrass and a host of other annual weeds. Successful reestablishment of native species through reseedling will be extremely difficult and expensive on even limited acreage.

D

The Nevada Division of Wildlife is currently embarking on a long range program to emphasize the management of sage grouse. This program has been precipitated by the long term decline in sage grouse populations throughout the west and in Nevada. The consequences of continuing population declines without any effort to initiate conservation

E

letter IV

plans that emphasize the protection and enhancement of sage grouse habitat will be the eventual listing of that species as threatened or endangered. The Nevada Division of Wildlife does not want that to happen and the listing of this species is certainly not in the best interest of the land management agencies or the State. At this point in time the most important management tool is the preservation of all current and potential sage grouse habitat. Overall, the most important habitats are located in the sagebrush communities at virtually all elevations. As sage grouse populations become more and more fragmented because of habitat degradation and loss, any remaining large contiguous expanses of sagebrush become increasingly important. Until such time that we can accurately document those areas where sage grouse occur or have occurred in the past, we must preserve all of those sagebrush communities. We recommend these sagebrush communities be listed as Category A, as wildfire is not desired. Possibly the only exception at this time would be the higher elevation *A. t. vasyeana* sagebrush communities that are in good ecological condition. It has been shown that *A. t. vasyeana* can reestablish to desirable density levels in 8 - 10 years. However, in most cases the best management tool for these communities is to manage livestock grazing to reach good ecological condition that emphasizes a highly productive and diverse understory.

E

All valley bottoms should be broken out and placed in Category A. A large percentage of these areas are invaded by cheatgrass or other weedy annuals and fire would only promote the expansion and dominance of these undesirable species. Most valley bottom plant communities are important to many wildlife species, but especially for antelope, mule deer and neotropical birds. The Category A designation would be consistent with the Ely District's Fire Management Objectives for similar habitats.

F

The Diamond Range, listed as C-32, should be placed in Category A or B. Fire history in this area shows that cheatgrass dominates after fire and results in the long term loss of critical mule deer habitat. This listing would also be consistent with the Ely District B Category on the east side of the Diamond Range. The east and west side of the Diamond Range are not all that much different and should be managed as a whole in regards to fire. Also, the Category B rating would make it consistent with the adjoining Pinto Summit (B4) area.

G

In summary, we feel there needs to be further thought and discussion in the designation of categories for the Shoshone - Eureka Planning Area. As we stated previously, we see little opportunity for fire to play a role in reducing the unnatural buildup of fuels as fire in the past

H

Page 4
Elliott
December 18, 1998

30 to 40 years has been responsible for promoting a buildup of extreme fuel load conditions. Neither can fire assume a natural role in the ecosystem because we have an ecosystem so altered by long term overgrazing and the invasion of a host of weedy annuals. We suggest that fire would play a minor role in the attainment of the objectives set forth in this amendment. We believe that through a long term commitment to improve these ecosystems by good livestock management and protection, we can better meet those objectives. We recommend that the Battle Mountain Field Office take a serious look at refining the extent of the Category C designation in consideration of our concerns

H

Sincerely,



Duane Erickson
Supervising Habitat Biologist
Nevada Division of Wildlife
1375 Mountain City Highway
Elko, NV 89801

DE:de
CC: Habitat Bureau

Letter IV

BLM RESPONSE TO
NEVADA DIVISION OF WILDLIFE COMMENTS

General Comment Response: As with most resource issues, this proposal's ultimate benefits will be long term, possibly taking over 100 years before benefits to the health of the Public Lands are realized. The same will probably hold true for fire suppression costs. As the "Summary" and the "Introduction" both identify, the new fire management policy is aimed at re-directing nearly 100 years of fire suppression policy. When one adds the known fire cycles (timing of naturally occurring fires in a plant regime) of say the pinyon/juniper complex (75-125 years on the average) the benefits expected will indeed be long term in being realized. The new policy recognizes this fact of fire science; but also recognizes the need to move forward now in order to realize the benefits for future generations.

IV-A The BLM recognizes that there are differing opinions as to the effects of fire and grazing on the landscape of the Great Basin. The NDOW letter describes a "one-size-fits-all" approach not applying to the Great Basin (with respect to implementing the new fire management policy), and in particular, the Shoshone-Eureka Planning Area, however the BLM can not subscribe to the parameters outlined by the NDOW in this comment. The BLM and this Field Office believe there is some middle ground that may be reached between the total application of the new fire management policy, while addressing the concerns the NDOW raises in this letter. For instance, the BLM is currently working on two joint prescribed burns with the NDOW and other cooperators. The White Rock Canyon Burn is proposed to enhance elk habitat on the west side of the Monitor Range in the Tonopah Planning Area. This wildlife burns includes the Rocky Mountain Elk Foundation, the U.S. Forest Service, the NDOW and the BLM. The burn will increase biodiversity of a decadent sagebrush community in the Canyon. The Sulphur Springs Prescribed fire is being planned to enhance deer winter range in the Sulphur Springs/Roberts Mountain deer wintering area.

The Phase I Fire Planning document, as well as the desired fire management direction prescribed for the BMFO, identifies the need to address weed concerns, and in particular invasive noxious weeds. The spread of both cheatgrass in the Shoshone-Eureka Planning Area, as well as red brome and other weeds in the Tonopah Planning area was identified by the interdisciplinary team as a major concern in implementing the new fire management policy. The desired fire management direction for the Battle Mountain Field Office specifically addresses these concerns. In addition, the implementation guidelines (see Appendix 2) developed for implementing the new fire management policy in the Battle Mountain Field Office provide additional opportunities for Public and Agency input to work with the BLM to address the invasive weed issues facing everyone in Northern Nevada.

IV-B The BLM agrees with the basic premise that "... successful natural rehabilitation" in the 6-10 inch precipitation is going to be extremely difficult." The following is a standard operating procedure taken directly from the desired fire management direction/Phase I

Fire Plan (available upon request from the fire staff of the BMFO; it is a large document, covering 10.1 million acres, so it was not included in the Draft or Proposed Final RMP Amendment):

‘* Cheatgrass conversion of certain plant communities following a fire event is a major concern for the BMDO [editor’s note: now referred to as the BMFO] and the BLM. Fire rehabilitation efforts in these zones are seldom successful, with the net result often being the development of a monoculture of cheatgrass or cheatgrass/annuals infestation. This plan and site-specific plans in this precipitation zone includes the need to identify this problem, with the likelihood that full suppression tactics may be called for in order to limit the cumulative effect of continued cheatgrass/cheatgrass-annual weeds invasion in this precipitation zone.’

The 21,000-acre figure as described in response “I-D”, was mandated by the Phase I process used in developing the desired fire management direction. The BLM does not propose to “reseed up to 21,000 acres in any given year ...” as the comment suggests. Nor is the 21,000 acre proposal limited to the 6-10 inch precipitation zone as this comment suggests: the proposal covers all precipitation, vegetation, and elevation zones. Moving ahead slightly to a future comment (see Comment response “F”) the BLM does not concur with the NDOW’s proposal to make all of this precipitation zone lands an “A” category. The BLM, recognizing the statement from the Phase I fire plan above as valid, believes there is still a role fire may play in this vegetation zone; normally referred to as the salt desert shrub community. That role for fire is rehabilitation of areas previously damaged by wildland fire events and invaded by cheatgrass/annuals. The BLM believes that burning these areas, then drilling them with the NDOW referenced seed mixture, including non-natives, is a viable weed control alternative. This is not a proposal for natural revegetation. Rather, this is a planned recovery of past resource damage. It will be planned for and budgeted (see the “Implementation Plan” in Appendix 2 to better understand the entire process outlined here).

With respect to the comment “ We firmly believe there are very few areas where there is any significant ...”, the BLM does not concur. Once again, this is a “one-size-fits-all” statement. Of the 4.3 million acres in the Shoshone-Eureka Planning area, there are numerous areas, both in the hazard fuels reduction category and the resources driven category, especially above the 6500 foot elevation zone, where some level of fire will prove to be: 1) beneficial to the vegetative community (and thus wildlife, watershed, and grazing) and 2) reintroduce fire safely into the ecosystem, and in the long term, limit wildland fire damage.

One area that the BLM identified as a place that fire may be beneficial to the landscape during the public scoping meetings is the “Nine Mile” area south of Eureka. That area has many thousands of acres of nearly pure pinyon pine, with average ages well in excess of 100 years. A natural start in the mid-to-upper elevations would enhance, in the long term, both wildlife habitat and grazing potential. This is only one example of many potential areas in the planning area.

The BLM's final thought on this comment is that this proposal is not a "let everything burn" approach. As identified in the "Implementation Plan" (see Appendix 2) site-specific plans, full public input, etc. are the next step in this proposal. Burns, based on resource concerns, may be small, in the 1-200 acres range for any given area. Others may be more landscape in their scope-perhaps 2,000 acres and larger. As discussed in the responses to "Friends of the Nevada Wilderness", this document was not intended to be a compendium of site-specific information; rather it is a broad analysis of the general impacts that the BLM believes will occur with the implementation of the proposed action. Future analyses will address site-specific concerns, including public and agency input before final plans area written.

IV-C This requirement, control of grazing, is already 1) part of the current grazing regulations, 2) policy established in the existing RMP and its amendments, 3) part of the desired fire management direction in the Phase I Fire Plan, and 4) was identified on page 36 under "Mitigation" as required in most instances. As described in Appendix 2, "Implementation Procedures" Battle Mountain Field Office would have a written agreement with each affected permittee/s, prior to implementation of either a management ignited burn or an appropriate management response to a naturally ignited burn. Included in this agreement with the affected permittee/s will be the need to protect the burned area from grazing. How long each area will be protected will be site-specific; but a minimum of two growing seasons or until resource objectives have been met is currently mandated.

Part of the desired fire management direction and the new fire management policy is the implementation of both pre-fire and post-fire monitoring. Timing of the reestablishment of grazing is one of the criteria (as well as success of meeting resource objectives) that the post-fire monitoring will determine.

IV-D See response "B". The BLM believes that there are many areas in the Planning Area that safely reintroduced fire will benefit numerous resources and in the long term, limit suppression costs. As noted above in "B", this includes "rehabing" those areas the comment identified as previously fire scarred, weed infested areas. This is not to state that every fire scar/weed infested area is planned for rehabilitation by fire; rather this proposal provides the BLM with another option in reclaiming previously fire-damaged resources.

IV-E As the NDOW is aware, BLM policy is in place that mandates its actions limit the potential future listing (either endangered or threatened) of any species, be it plant or animal. This policy includes the concern identified in the comment related to the sage grouse.

NDOW will be consulted on a site-specific basis related to any known historic or existing sage grouse habitat prior to the formulation of any burn plans for an area/Phase I category (See Appendix 2 "Implementation Procedures", Coordination section.)

IV-F See Comment Responses "IV-B and V-B".

IV-G The Shoshone-Eureka Planning Area is surrounded by 5 other planning areas (not to mention other Agency Lands, such as the Toiyabe N.F. or private lands). While the maps for Phase I appear to be in conflict on nearly every boundary, the narratives of the specific adjacent categories provide clear and specific parameters that ensure that, for the most part, the various resource goals of these adjoining categories that cross geopolitical boundaries match.

Please refer to Comment Response “I-A”. As noted in that response, a wide array of opinions and concerns were raised at the scoping stage; as well as this phase of the Draft RMP Amendment. For instance, while the NDOW would prefer to see the Diamond Range’s category changed, the Eureka County Commissioners would prefer to see additional burning and more monitoring of fires in that same area. The Eureka County Commissioners also stated their concerns related to the spread of cheatgrass and noxious weeds after a fire.

The BLM’s point in this discussion is: 1) there is a wide and divergent array of opinions related to the proposal, and 2) there is common ground in nearly all of the comments. The BLM believes through utilizing the “Implementation Plan” and future analyses, that consensus on the implementation of some level of the policy may be reached.

IV-H In summary, review of the BLM’s responses to the concerns raised by the NDOW, the BLM believes that through the use of the “Implementation Procedures” for the proposal, further site-specific analysis of categories, community out-reach and consultation, the proposed action would be successfully implemented while adequately addressing all of the NDOW’s concerns.

FAX
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BOARD OF
EUREKA COUNTY COMMISSIONERS
P.O. BOX 677
EUREKA, NEVADA 89316
January 6, 1999

Lynn Ricci
Battle Mountain BLM
PO Box 1420
Battle Mountain, NV 89820

Dear Lynn,

The Board of Eureka County Commissioners and our staff have reviewed the Draft RMP Amendment and EA regarding prescribed burning as a management tool. Following is our comments:

Page 5, Standard Operating Procedures – Because this Commission has legal responsibilities for the health, safety and welfare of our constituents, we are concerned with the vagueness of the Standard Operating Procedures. We would like specific information on how local involvement will be solicited and used in making the determination to allow a lightning caused fire to burn. At a minimum we suggest coordination with the following:

- Volunteer Fire Chiefs and NDF,
- Public Works Director/County Road Foreman,
- Permittees who may have livestock, employees or private property in the vicinity of the fire, and
- Mines who may have exploratory geologist and drillers in the vicinity of the fire.

While we realize such specifics may not fit in a general RMP Amendment, this Commission is formally requesting that such specifics be covered in a separate agreement before implementing future fire policy.

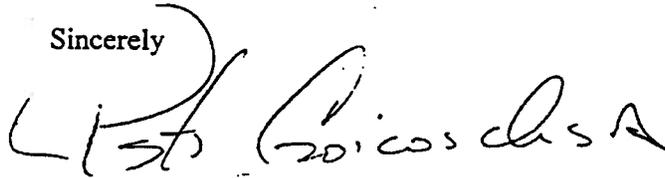
Page 15, Vegetation – This section should include a discussion of cheatgrass and fire. Our concern is the I-80 corridor and Crescent Valley. Repeated fires have resulted in cheatgrass dominated plant communities and the loss of wildlife winter range. While we agree that fire can be a useful tool, we believe fire should be avoided in areas dominated by cheat grass. We also suggest that fire management should address the containment of cheatgrass through green stripping or other methods.

Lynn Ricci
January 6, 1999
Page 2

Page 40, Environmental Justice, Low-Income Population – This first sentence indicated median incomes for the counties in the analysis area are substantially higher than those in the state of Nevada. This is not correct. The 1995 per capita income for Eureka County was \$23,165 which was 5% less than the statewide per capita income. This is also the case for Lander and Nye County. (Source: U.S. Dept. of Commerce. "Regional Economic Information System." Bureau of Economic Analysis, Wash. DC, August 1997). Our concern is that low income rural resident of Nevada are disproportionately affected by federal actions. C

Thank you for the opportunity to comment. We look forward to developing specific standards operating procedures for Eureka County in the near future.

Sincerely



Pete Goicoechea
Chairman

PG/lh

BLM RESPONSE TO
EUREKA COUNTY COMMISSIONERS COMMENTS

- V-A Please refer to the “Implementation Plan” (Appendix 2) for the proposal. This up-front coordination and proposed written agreements were presented to the public and all of the affected County Commissioners during the original scoping for this resource plan amendment. The implementation plan is reiterated here for clarification and at the request of the Eureka County Commissioners.
- V-B See response “IV-B” with regard to this comment. The NDOW expressed similar concerns, as did BLM staff resource specialists. The BLM believes the desired fire management direction and the implementation plan addresses the issue of cheat grass and noxious weed spread as well.
- V-C Your observation with regard to per capita incomes in Eureka County is correct. However, latest reports (May 1998) from the Bureau of Economic Analysis report Eureka County’s per capita income as \$23,075 for 1995 and \$23,361 for 1996. However, our reference was for median income.

Median income is defined by the U.S. Department of Commerce as the amount which divides the income distribution into two equal groups, half having incomes above the median, half having incomes below the median. The median is determined on the basis of the number of people 15 years old and older with income. Per capita income is the mean income computed for every man, woman, and child in a particular group, and is derived by dividing the total income of a particular group (Eureka County) by the total population in that group (Eureka County residents).

The Regional Economic Measurement Division of the Bureau of Economic Analysis also reports (Table CA34, Average Wage per job for Nevada, May 1998) that the average wage per job in Eureka County for 1995 was \$46,741, and for 1996 as \$49,441. This is substantially above the state as a whole, which averages \$28,165 per job, and well above the second ranking county, Lander, which averages \$32,970 per job.

This high average wage per job in Eureka County is, no doubt, a result of the high incidence of mining employment, and certainly increases the median income level. First impressions might suggest that, because of the high average wage in the county, more families choose to get by on one income - this would have the effect of reducing the per capita income level. To some degree, this may be true; however many of the mining company employees live in other counties, notably Elko County. Therefore, while the income is reported as occurring in Eureka County, residency of some of the employees is in another county. This results in increasing the per capita income of Eureka County, unless an adjustment is made for residency. The per capita income figures, as reported, do not include an adjustment for residency.

So, there are two countervailing influences on the statistic for per capita income in Eureka County. The degree to which a more realistic per capita income figure is influenced cannot be determined without extensive research. However, per capita income, while a useful indicator of an area's general well being, is not definitive. Poverty-level income guidelines are determined and published by the U.S. Department of Health and Human Services.

Based on these guidelines, and information gathered for the 1990 Census, there were 157 persons in Eureka County living below the poverty level at that time. There is no evidence to indicate that this population may be disproportionately affected by actions proposed in this Plan.

Appendix 2

Fire Management Implementation Procedures

PROPOSED FIRE MANAGEMENT IMPLEMENTATION PROCEDURES

BATTLE MOUNTAIN FIELD OFFICE

The comments on the Draft Resource Management Plan Amendment for the Shoshone-Eureka Planning Area indicated the need for the BLM to clarify: 1) its planning process, and 2) how the new fire management policy will be implemented within the guidelines of that planning process. The following discussion outlines the general concepts of these two processes.

THE BLM'S PLANNING PROCESS

The BLM is mandated by the Federal Land Policy and Management Act (FLPMA) of 1976 to implement a resource management planning process, including promulgation of planning regulations for implementing this portion of that Act. The BLM has implemented a resource management planning process, guided by 43 Code of Federal Regulations, Part 1600.

In essence, this process and regulations mandate that the BLM develop long-term strategies (generally for about twenty years) for managing the Public Lands under its jurisdiction. These plans are called resource management plans (RMPs). Included in the preparation of these RMPs is an Environmental Impact Statement (EIS) developed under the National Environmental Policy Act (NEPA) of 1969. The EIS, in very general terms, evaluates the effects of the BLM's proposal on the social and natural resources potentially affected by implementing the RMP and any possible management alternatives the BLM is considering.

Another level of analysis under the planning regulations is the resource management plan amendment. This process may involve preparation of either an EIS or an environmental assessment (EA) under the NEPA. The BLM may prepare an EA if the BLM believes the impacts may not be significant, and thus an EIS is not required; or that the impacts are unknown, and an EA is prepared to determine if the proposal could cause significant impacts, and thus require the preparation of an EIS. The analyses in either document are general analyses. Under either circumstance, the amendment is prepared because some new proposal or policy implementation is not in compliance with the current resource management plan. All decisions and actions affecting BLM land management must be in compliance with a resource management plan; or a plan amendment must be prepared in order to address the impacts of the new decision, project, or policy.

In the current scenario, a resource management plan amendment has been prepared to address the Department of Interior's new fire management policy.

**ACTIVITY PLANNING PROCESS
IMPLEMENTATION OF THE NEW FIRE MANAGEMENT POLICY**

In general, implementation of a new project or authorized officer's decision affecting land management on the Public Lands requires a minimum of two determinations: 1) is the project/decision in compliance with the current resource management plan or any amendments, and 2) has the project been analyzed under the NEPA?

In general, the RMP and any amendments provide a gross area analysis under the NEPA. Large scale, general impacts for large areas of land have been analyzed in the RMP EIS. Site-specific analysis, be it a range improvement project, a new mine, or implementation of the new fire management policy, requires additional NEPA analysis. These additional analyses are called activity plan analyses. Once again, they may be either an EA or EIS (there are additional options under the BLM's NEPA process, but for purposes of this discussion, these two, EA and EIS are sufficient).

Finally, the Battle Mountain Field Office (BMFO) will follow the range improvement development process for implementing the new fire management policy. In abbreviated format, this process is: 1) feasibility studies/conceptualization of the project and project file development, 2) survey and design of the project (includes NEPA compliance, cultural work, and where necessary, Native American coordination/consultation, etc.), 3) implementation of the project. This process normally takes three years for completion, including obtaining funding for the project during the BLM's budgeting procedures.

Implementation of the new fire management policy/RMP Amendment will be in accordance with the following procedures for the BMFO.

STEP 1: FEASIBILITY / IDENTIFYING THE NEED FOR FIRE OR OTHER VEGETATIVE TREATMENT

The first step in the implementation of the new fire management policy is recognition of two possible avenues for developing vegetative treatment/prescribed fire projects for the BLM. The first is hazard fuels reduction projects. These are generally identified by or through the fire management staff. These areas are prone to devastating wildland fire damage. This damage would usually be expected to occur to some sort of infrastructure, such as private property, a subdivision, town site, campground, etc. Fuel reduction projects such as mechanical thinning, green stripping, constructing fire breaks, developing pre-attack plans, prescribed fires, etc. are required for this aspect of the implementation of the new policy.

The second possible avenue, and the one more likely to be used for reintroduction of fire into the ecosystem, is the identification of areas where fire would be beneficial (as well as other vegetative treatments) to the ecosystem or a particular plant regime. This process is expected to occur during the BMFO's Multiple Use Decision (MUD) process. The MUD process is used to determine vegetative condition and set terms and conditions for livestock grazing, sets

appropriate management levels for wild horses, and identifies wildlife habitat and other resource needs. The MUD process includes extensive public involvement.

The initial steps in the MUD process are the development of an interdisciplinary (ID) team of resource specialists. This team may include affected parties, including county commissioners (or their representatives), advocacy groups, the permittee/s, etc. The team prepares an ID team evaluation leading to a determination as to how a particular area of the Public Lands (usually an allotment, but not always) is to be managed. This determination also sets resource objectives for the area. These objectives may include the use of fire and/or other vegetative treatments to reach or maintain those objectives.

STEP 2: PUBLIC INVOLVEMENT

In order to successfully implement the new fire management policy, continued public involvement is essential. Once the MUD process/ID team identifies areas that the use of fire may be beneficial (other vegetative treatments remain as options), the fire management staff will develop a proposal based on resource objectives identified by the ID team. This process applies not only to management-ignited fires, but may also be used to identify areas where an appropriate management response may be used to monitor natural ignitions.

This proposal may be developed for an entire category (refer to the RMP Amendment maps); a series of similar or geographically proximate categories; or the proposal could be very site-specific, for instance a watershed or similar geographic feature.

It is during this stage of the process where the fire staff, guided by the resource objectives, prepares a fire prescription for the project. Included in the prescription are: pre-burn monitoring requirements, the acceptable geographic boundaries of the project, desired fire effects, including timing of the burn or project, weather parameters, fire intensities, escaped fire plans for suppression actions (also known as a contingency plan), flame lengths, rates of spread, post-fire monitoring requirements, etc. The reader is referred to the BLM's Prescribed Fire Handbook (available from the fire staff upon request) for a complete listing of requirements for a prescribed fire project.

As noted above, a significant number of potentially affected interest groups may be involved in the MUD process. These parties will be included in this next phase. Additional parties may be invited to participate as well. One crucial aspect of developing these proposals is ensuring affected parties are involved in the development of the proposal. Affected parties may be included in a written agreement. This agreement will outline the proposal, identify the resource objectives, and disclose any restrictions that may be imposed by the BLM following the burn, such as closure to livestock grazing.

As with all BLM proposals or decisions affecting the management of the Public Lands, complying with the NEPA is mandated. It is during this period that this process will occur. The entire array of options available under the BLM's NEPA process will be available here. In

general, for larger projects, an EA may be prepared. This EA will analyze the site-specific impacts of the proposal. The NEPA process provides one of the avenues for public input to the process.

During this step, the BLM will comply with other executive orders and laws. This includes informal and formal (if required) Native American coordination/consultation.

Letters, public meetings, interagency meetings, news releases are also avenues the BLM may use to solicit public input related to a specific proposal.

The following is a list of proposed public contacts the BLM may use during this phase of developing proposals (note: this list is not all inclusive):

COUNTY COMMISSIONERS	NEVADA DIVISION OF FORESTRY
NEVADA DIVISION OF WILDLIFE, REGIONAL OFFICE	LOCAL VOLUNTEER FIRE DEPARTMENTS/CHIEFS
VARIOUS ADVOCACY GROUPS SUCH AS WILD HORSE GROUPS, WILDLIFE GROUPS, ETC.	CURRENT PARTICIPANTS IN THE RMP AMENDMENT
STATE AGENCIES SUCH AS NEVADA DIVISION OF ENVIRONMENTAL PROTECTION, INCLUDING AIR QUALITY BRANCH	ADJACENT OR AFFECTED PRIVATE PROPERTY OWNERS, PERMITTEES, AND MINING/EXPLORATION COMPANIES
GENERAL PUBLIC THROUGH NEWS RELEASES	ADJOINING STATE AND FEDERAL AGENCIES THAT MAY BE IMPACTED BY SMOKE
NATIVE AMERICAN TRIBES AND INTEREST GROUPS	

STEP 3: FINALIZING THE PROPOSAL, COMPLETION OF THE PROJECT FOLDER, PROJECT IMPLEMENTATION

The public input received during the NEPA process and public involvement of STEP 2 has the potential to modify the original proposal. Once public input has been addressed, the fire management staff will complete the project folder and begin the implementation of the project. Necessary steps based on site-specificity could include: site preparation, such as black lining or line construction, public notification of intent to burn and obtaining appropriate State Permits, including air quality permits.

SUMMARY

The most important concepts related to the implementation of the new fire management policy for the BMFO the reader should be aware of are: 1) site-specific analysis of specific proposals will be developed in order to implement the new fire management policy, 2) extensive public involvement, notification, and consultation with both affected and interested parties is one of the keystones of the implementation the BLM will use in order to ensure success of the proposal, 3) this entire proposal and new fire management policy are both dynamic processes; the proposal and new fire management policy are both evolving and will continue to evolve over time, and 4) the benefits anticipated from this new policy and proposal are expected to be long term in nature, i.e. the benefits to the resources (in general) and to fire suppression costs may only be realized many years from now

Appendix 3

Special Status Species Lists for the Shoshone-Eureka Planning Area

**THREATENED, ENDANGERED, PROPOSED, AND CANDIDATE SPECIES
Shoshone-Eureka Planning Area**

<u>Species</u>	<u>Status</u>
<u>Mammals</u>	
none	
<u>Birds</u>	
bald eagle (<i>Haliaeetus leucocephalus</i>)	Threatened (a low density winter resident to northern NV)
peregrine falcon (<i>Falco peregrinus</i>)	Delisted (an occasional visitor and close relative of our common prairie falcon; no known nests within the district)
mountain plover (<i>Charadrius montanus</i>)	Proposed Threatened (a migrant visitor; not known to nest within NV)
<u>Fish</u>	
Lahontan cutthroat trout (<i>Oncorhynchus henshawi</i>)	Threatened
<u>Reptiles</u>	
none	
<u>Amphibians</u>	
Spotted Frog (<i>Rana luteiventris</i>)	Candidate
<u>Invertebrates</u>	
none	
<u>Plants</u>	
none	

SPECIAL STATUS SPECIES¹
Shoshone-Eureka Planning Area

Scientific Name

Common Name

Mammals

<i>Euderma maculatum</i>	spotted bat
<i>Myotis ciliolabrum</i>	small-footed myotis
<i>Myotis evotis</i>	long-eared myotis
<i>Myotis volans</i>	long-legged myotis
<i>Plecotus townsendii pallescens</i>	pale Townsend's big-eared bat
<i>Plecotus townsendii townsendii</i>	Pacific Townsend's big-eared bat

Birds

<i>Aquila chrysaetos</i>	golden eagle
<i>Accipiter gentilis</i>	northern goshawk
<i>Buteo regalis</i>	ferruginous hawk
<i>Buteo swainsoni</i>	Swainson's hawk
<i>Charadrius alexandrinus nivosus</i>	western snowy plover
<i>Centrocercus urophasianus</i>	greater sage grouse
<i>Oreortyx pictus</i>	mountain quail
<i>Pandion haliaetus</i>	osprey
<i>Plegadis chihi</i>	white-faced ibis
<i>Speotyto cunicularia</i>	burrowing owl

Fishes

<i>Gila bicolor euchila</i>	Fish Creek Springs tui chub
<i>Gila bicolor</i> ssp.	Big Smoky Valley tui chub
<i>Gila bicolor</i> ssp.	Fish Lake Valley tui chub
<i>Gila bicolor</i> ssp.	Railroad Valley tui chub
<i>Gila bicolor</i> ssp.	Hot Creek Valley tui chub
<i>Rhinichthys osculus lariversi</i>	Big Smoky Valley speckled dace
<i>Rhinichthys osculus</i> ssp.	Monitor Valley speckled dace
<i>Rhinichthys osculus</i> ssp.	Oasis Valley speckled dace

Amphibians

none

Invertebrates

<i>Aegialia crescenta</i>	Crescent Dune aegialian scarab
<i>Hesperopsis graciellae</i>	MacNeill sooty wing skipper
<i>Pyrgulopsis wongi</i>	Wongs springsnail
<i>Serica</i> sp.	Crescent Dune serican scarab

Plants

<i>Arabis falcifructa</i>	Elko rockcress
<i>Arabis ophira</i>	Ophir rockcress
<i>Asclepias eastwoodiana</i>	Eastwood milkweed
<i>Astragalus funereus</i>	black woollypod; Funeral milkvetch
<i>Astragalus oophorus</i> var. <i>lonchocalyx</i>	long-calyx eggvetch; pink eggvetch
<i>Astragalus remotus</i>	Spring Mountain milkvetch
<i>Astragalus toquimanus</i>	Toquima milkvetch
<i>Astragalus uncialis</i>	Currant milkvetch
<i>Camissonia megalantha</i>	Cane Spring evening primrose
<i>Castilleja salsuginosa</i>	Monte Neva paintbrush
<i>Cymopterus goodrichii</i>	Goodrich biscuitroot; G. parsley
<i>Epilobium nevadense</i>	Nevada willowherb
<i>Eriogonum anemophilum</i>	windloving buckwheat
<i>Eriogonum tiehmii</i>	Tiehm buckwheat
<i>Jamesia tetrapetala</i>	waxflower
<i>Penstemon arenarius</i>	Nevada dune beardtongue
<i>Phacelia minutissima</i>	least phacelia
<i>Polylepis williamsiae</i>	Williams combleaf
<i>Sclerocactus blainei</i>	Blaine pincushion; B. fishhook cactus
<i>Sclerocactus nyensis</i>	Nye pincushion
<i>Silene nachlingerae</i>	Jan's catchfly; Nachlinger catchfly
<i>Sphaeralcea caespitosa</i>	Jones globemallow
<i>Streptanthus oliganthus</i>	Masonic Mountain jewelflower; M. M.
twistflower	

¹ BLM protects other *special status* plants and animals in addition to Federally designated species. These include species designated as "protected" by the State of Nevada, as well as species designated as "sensitive" by the Nevada BLM State Director.