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Bureau of Land Management

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# 3 Bars Ecosystem and Landscape Restoration Project

Draft Environmental Impact Statement



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## DRAFT

# 3 BARS ECOSYSTEM AND LANDSCAPE RESTORATION PROJECT ENVIRONMENTAL IMPACT STATEMENT

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( ) FINAL

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U.S. Department of the Interior  
Bureau of Land Management  
Mount Lewis Field Office

**PROJECT LOCATION:**

Eureka County, Nevada

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## ABSTRACT

This Environmental Impact Statement (EIS) analyzes the potential direct, indirect, and cumulative impacts associated with the Bureau of Land Management's (BLM's) proposed land restoration treatments on the approximately 749,810-acre 3 Bars ecosystem. The BLM evaluated three action alternatives and the No Action Alternative. Alternative A is the BLM's Preferred Alternative. Under this alternative, the BLM would treat about 127,000 acres during the life of the project using manual and mechanical methods, fire (both prescribed and wildland fire for resource benefit), and biological control (use of livestock and classic biological control [nematodes, fungi, mites, and insects] primarily to control noxious weeds and other invasive non-native vegetation). Alternative B differs from Alternative A in that the BLM would not use prescribed fire and wildland fire for resource benefit, and the BLM would treat only about 63,500 acres. Under Alternative C, the BLM would only treat vegetation within treatment areas using manual methods and classical biological control; use of livestock for biological control would not be allowed. The BLM would also not be able to use mechanical methods or fire, and would treat only about 31,750 acres. The focus of treatments under all three action alternatives would be to restore riparian, aspen, and sagebrush habitats; slow singleleaf pinyon pine and Utah juniper encroachment into and infilling within these habitats; and thin historic pinyon-juniper communities to promote woodland health. Under Alternative D, the No Action Alternative, no new treatments would be authorized as a result of this project. However, the BLM would continue to conduct treatments approved under earlier NEPA authorizations.

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# **EXECUTIVE SUMMARY**



# EXECUTIVE SUMMARY

## Introduction

The 3 Bars ecosystem is approximately 749,810 acres in central Eureka County, northwest of Eureka, Nevada. The ecosystem is administered by the U.S. Department of the Interior (USDO), Bureau of Land Management (BLM), Mount Lewis Field Office. It is a shrub-steppe ecosystem with important resource values, ranging from habitat for a diversity of plants and animals, to providing traditional use areas for several Native American tribes. The 3 Bars ecosystem provides important habitat for greater sage-grouse, mule deer, Lahontan cutthroat trout, and numerous other fish and wildlife species, including migratory birds, and for wild horses. The 3 Bars ecosystem is also an important recreation resource for Nevada residents and visitors. Resource conditions on several areas within the ecosystem, however, have deteriorated due to past land use activities, causing the BLM to target this area for restoration. Although 3 Bars ecosystem health is in decline, the ecosystem has characteristics that suggest its health can be substantially improved through land restoration activities. Given the opportunity to improve 3 Bars ecosystem health, the 3 Bars Ecosystem and Landscape Restoration Project (3 Bars Project) is being proposed by the BLM to develop the 3 Bars ecosystem into a sustainable, healthy, and resilient landscape.

The 3 Bars ecosystem provides critical habitat for greater sage-grouse,<sup>1</sup> a bird species that is being considered for federal listing as threatened or endangered under the Endangered Species Act. Through sagebrush and other habitat restoration on the 3 Bars ecosystem, the BLM would help to reduce the likelihood that the greater sage-grouse will be federally listed in the future. To ensure that treatments benefit greater sage-grouse, sagebrush restoration treatments would adhere to the most recent guidance available at the time of treatment implementation, currently the Western Association of Fish and Wildlife Agencies and the Wyoming Game and Fish Department greater sage-grouse guidelines, and the BLM Nevada State Office and Washington Office Instructional Memoranda when restoring sagebrush habitats. These include using a mosaic design where treated areas have a width of no greater than 200 feet between untreated areas, avoiding treatments near greater sage-grouse leks that results in a decrease in canopy cover of greater than 15 percent, and avoiding treatments in breeding, brood-rearing, and wintering habitats during those times of the year when greater sage-grouse are using these habitats. The BLM, as mitigation for the 3 Bars Project, may also manage livestock when necessary to meet greater sage-grouse habitat goals. These goals include having suitable sagebrush cover in greater sage-grouse nesting, brood-rearing, and wintering areas and ensuring that allowable use levels for livestock for herbaceous species are appropriate within greater sage-grouse habitat.

In order to ensure long-term success, restoration projects would not be conducted in areas with moderate to severe forage utilization until mitigation measures associated with grazing management, as discussed in Section 3.17.4, are implemented through agreements or decisions subsequent to the 3 Bars Project Record of Decision to ensure proper utilization levels during the appropriate season of use. The BLM would work with permittees on a permit by permit basis to address any changes in livestock management due to treatment implementation. In all instances,

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<sup>1</sup> Common and scientific names of plant and animals given in this Environmental Impact Statement are provided in **Appendix A**.

appropriate changes in livestock management through agreements or decisions would be finalized prior to project implementation.

Project funding would come from funds allocated by Congress to the BLM for resource management. To reduce the cost of treatments to the taxpayer, the BLM would seek outside funding partnerships with other resource agencies, non-governmental organizations, or private industries that are interested in resource management within the 3 Bars ecosystem. Additionally, it is anticipated that habitat enhancement activities authorized with the 3 Bars Project decision would provide opportunities to utilize off-site mitigation account funds associated with various development activities within or near the 3 Bars Project area.

### **Proposed Action**

The BLM proposes to treat vegetation using manual, mechanical, and biological control methods, and fire (both prescribed and wildland fire for resource benefit). Treatments would address multiple resource issues and aid in restoring functionality to key elements of the 3 Bars ecosystem.

The BLM has identified site-specific treatment projects that it proposes to implement over the life of the project to restore and manage the 3 Bars ecosystem. Treatment projects were identified through an iterative process involving the BLM and other federal and state cooperating agencies. Treatments would focus on four priority vegetation management concerns—riparian, quaking aspen, pinyon-juniper, and sagebrush, with an emphasis on improving greater sage-grouse priority habitats.

### **Purposes for the Project**

Using the information from the *Assessment of Existing and Current Conditions for the Proposed 3 Bars Ecosystem and Landscape Restoration Project Environmental Impact Statement* prepared for the project, and field studies, the BLM identified several purposes for the 3 Bars Project. Purposes are consistent with the 1986 *Shoshone-Eureka Resource Management Plan Record of Decision*, as amended, which guides land management activities in the 3 Bars ecosystem. Purposes for the 3 Bars Project include:

- Improve woodland, rangeland, and riparian health, productivity, and functionality.
- Increase stream flows and restore channel morphology in degraded streams.
- Improve stream habitat for fish and wildlife by implementing physical treatments that include installing large woody debris, rock clusters, and check dams, and using temporary fencing to exclude livestock and wild horses.
- Improve the health of aspen, mountain mahogany, and other mountain tree and shrub stands to benefit wildlife, and Native Americans that use these plants for medicinal and other purposes.
- Manage pinyon-juniper woodlands to promote healthy, diverse stands within persistent woodlands.
- Slow the expansion of pinyon-juniper into sagebrush and riparian plant communities.
- Slow the spread of noxious weeds and other invasive non-native vegetation, including cheatgrass.
- Protect and enhance habitat for fish and wildlife, including species of concern such as raptors, greater sage-grouse, and Lahontan cutthroat trout.

The BLM has also identified project purposes that are specific to fire use and improving ecosystem management through the use of fire. These include:

- Restore fire as an integral part of the ecosystem; reduce the risk of large-scale wildfire; reduce extreme, very high, and high wildfire risks to moderate risk or less; and develop fuel breaks within the treatment and adjacent areas.
- Protect life, property, and community infrastructure, and protect fish and wildlife habitat from devastating wildfire effects.

Treatment purposes would be met by implementing land restoration treatments in areas where resource management goals are not being met, and the likelihood of treatments improving resource conditions is great. The proposed treatments would range from several acres to several thousand acres, depending on specific treatment and management goals and desired outcomes for each resource area.

## **Need for the Project**

The 3 Bars ecosystem has long been recognized as an area in resource conflict due to the many and often competing uses occurring within the ecosystem. Some of these uses include mineral exploration and development, livestock grazing, woodland product harvest, recreation, and wilderness activities. The ecosystem is an important use area for wild horses, fish, and wildlife, including sensitive and game fish and wildlife species such as Lahontan cutthroat trout, greater sage-grouse, mule deer, and pronghorn antelope. In addition to competing land uses, other factors affecting land uses and health in the ecosystem result from the effects of past grazing practices, changes to the natural fire regime, establishment and spread of noxious weeds and other invasive non-native vegetation, and expansion and densification of pinyon-juniper woodlands. Collectively, these have caused substantial changes in the native vegetation community and loss of important ecosystem components. Based on these changes, the BLM has determined that there is a need to improve rangeland health and to provide a sustainable forage base for wildlife.

## **Scope of Analysis and Decisions to be Made**

The National Environmental Policy Act (NEPA) mandates that every federal agency prepare a detailed statement of the effects, or Environmental Impact Statement (EIS), of “major federal actions significantly affecting the quality of the human environment” (42 United States Code § 4321 et sequentia; USDO I BLM 2008a). An EIS is intended to provide decision-makers and the public with a complete and objective evaluation of significant environmental impacts, beneficial and adverse, resulting from the proposed action and several reasonable alternatives. Given the magnitude of treatments and the resulting potential for significant cumulative effects from the 3 Bars Project, the BLM has determined that an EIS is required to evaluate impacts from the 3 Bars Project.

This EIS analyzes the effects of using a variety of treatments to improve ecosystem health on the 3 Bars ecosystem. Decisions expected to be made through this EIS process include:

- Determine which areas within the 3 Bars ecosystem would be treated.
- Determine which treatment methods would be used to accomplish management objectives.
- Determine which management actions would be taken to facilitate restoration of public lands.
- Identify criteria to guide future restoration activities within the 3 Bars ecosystem.

At least 30 days after the U.S. Environmental Protection Agency (USEPA) publishes the Notice of Availability of the final EIS, the BLM decision-maker will prepare a ROD. The decision may be to select one of the alternatives in its entirety, or to combine features from several alternatives that fall within the range of alternatives analyzed in this EIS. The ROD will address significant impacts, alternatives, mitigation measures, and relevant economic and technical considerations.

### **Alternative Proposals**

Four alternatives are evaluated in this EIS—the All Treatment Methods Alternative (Alternative A; Preferred Alternative); the No Fire Use Alternative (Alternative B); the Minimal Land Disturbance Alternative (Alternative C); and the No Action Alternative (Alternative D; Continue Current Management). Alternative actions are those that could be taken to feasibly attain the BLM’s objectives for improving the health of, and reducing risks to, the 3 Bars ecosystem. The alternatives differ primarily in the types of treatment methods allowed and the amount of acreage that can reasonably be treated over the life of the project.

#### **Alternative A — All Treatment Methods Alternative (Preferred Alternative)**

Alternative A is the BLM’s Preferred Alternative. The BLM proposes to treat about 127,000 acres during the life of the project, using manual and mechanical methods, fire (both prescribed and wildland fire for resource benefit), and biological control (primarily to control noxious weeds and other invasive non-native vegetation using livestock and classic biological control [use of nematodes, fungi, mites, and insects]). Treatments would focus on protecting landscapes and treatment projects would usually address multiple resource issues. Treatments would focus on four priority vegetation management concerns:

- Riparian—treatments in riparian habitats would focus on restoring functionality in areas where stream structural integrity (incised channel, headcuts, knickpoints, developments, and diversions) and/or appropriate plant species composition are compromised.
- Aspen—treatments in quaking aspen habitat would focus on improving the health of aspen stands by stimulating aspen stand suckering and sucker survival.
- Pinyon-juniper—treatments in singleleaf pinyon pine and Utah juniper habitats would focus on thinning historic pinyon-juniper communities to promote woodland health and removing pinyon-juniper where it encroaches into riparian areas and upland habitats, including sagebrush habitat, or outside of proper ecological state.
- Sagebrush—treatments in sagebrush habitats would focus on restoring the sagebrush community by removing encroaching pinyon-juniper, promoting the reestablishment of native forbs and grasses in sagebrush communities, and promoting the development of sagebrush in areas where it should occur based on ecological site description reference, desired state, or management objective.

About 95 percent of acres treated would be to manage pinyon-juniper and improve sagebrush habitat. Human-related activities allowed under the Federal Land Policy and Management Act, such as livestock grazing and off-highway vehicle use would continue to be allowed on the 3 Bars ecosystem. The BLM would follow planning processes, apply Standard Operating Procedures (SOPs), implement appropriate mitigation, and monitor treatments to ensure that vegetation treatments are successful (see **Appendix C**).

## **Alternative B —No Fire Use Alternative**

Alternative B is similar to Alternative A in that the BLM would focus treatments on the four priority management concerns—riparian, aspen, pinyon-juniper, and sagebrush—and would focus on the treatment areas identified under Alternative A. Alternative B differs from Alternative A in that the BLM would not use prescribed fire and wildland fire for resource benefit. Under Alternative B, the BLM would treat vegetation using manual, mechanical, and biological control (livestock and classical biological control) methods. This alternative was developed to address public concerns raised during scoping about the impacts to the landscape from fire, including the potential for erosion and spread of noxious weeds and other invasive non-native vegetation from fire treatments.

The BLM would conduct projects identified under Alternative A, but proposes to treat only about half as many acres (63,500 acres) as costs for manual and mechanical treatments are more expensive than costs for fire treatments. The planning process, treatment goals and objectives, funding mechanisms, and use of SOPs would be similar to those under Alternative A.

## **Alternative C —Minimal Land Disturbance Alternative**

Alternative C is similar to Alternative A in that the BLM would focus treatments on the four priority management concerns—riparian, aspen, pinyon-juniper, and sagebrush—and would focus on the treatment areas identified under Alternative A. Alternative C differs from Alternative A in that the BLM would only treat vegetation within treatment areas using manual methods and classical biological control (use of nematodes, fungi, and insects); use of livestock for biological control would not be allowed. The BLM also would not be able to use mechanical methods or fire.

This alternative was developed in response to the proposed “passive restoration and use only treatments having minimal land disturbance alternative,” which was submitted during public scoping. Under this alternative, the BLM would only use manual methods to treat vegetation, as these methods would cause little land disturbance.

The BLM would conduct projects identified under Alternative A, but proposes to treat only about one-fourth as many acres (31,750 acres) and treatments would generally be small in acreage. The planning process, treatment goals and objectives, funding mechanisms, and use of SOPs under this alternative would be similar to those under Alternative A.

## **Alternative D — Continue Current Management (No Action Alternative)**

Under the No Action Alternative, no new treatments would be authorized as a result of this project. However, the BLM would continue to conduct treatments approved under earlier NEPA authorizations. The BLM would have to conduct the appropriate level of NEPA analysis for future projects before they could be approved for implementation. Should this alternative be chosen by the decision-maker, and if the BLM decides to conduct new treatments in the 3 Bars ecosystem in the future, decisions would have to be made at that time regarding the type of environmental analysis that must be conducted before treatments would be allowed within the ecosystem. There are approximately 15,000 acres of treatments that could occur within the ecosystem that have been authorized by the BLM, or may be authorized in the future, during the life of the project. Previously approved treatments are discussed in Chapter 3 under Cumulative Effects (Section 3.2.2).

## Summary of Impacts

The direct and indirect effects of the proposed treatment alternatives on natural and socioeconomic resources are evaluated in this EIS. The cumulative effects that result from the incremental impact of treatment actions when added to the effects of other past, present, and reasonably foreseeable future actions are also evaluated for proposed treatments. Standard Operating Procedures would be used to reduce impacts, and mitigation measures have been proposed to reduce potentially significant adverse impacts to more reasonable levels.

### Direct and Indirect Impacts

In general, potential direct and indirect adverse impacts and benefits would be greatest under Alternative A and least under Alternative D. Fewer acres would be treated, and fewer treatments methods used, under Alternatives B and C, so the adverse and beneficial effects would be less than under Alternative A. In general, fire and mechanical treatments would have the greatest adverse effects on resources, while manual and biological control methods would generally have negligible effects.

Impacts from treatments on local and regional air quality and global climate change would be negligible for all alternatives. None of the treatments would result in emissions that exceed Prevention of Significant Deterioration thresholds or national or state ambient air quality standards.

The effects of treatments on mineral and paleontological resources would be negligible. The BLM would ensure that treatment activities do not limit access to mining claims. Most treatments would occur at or above the soil surface, thus risks to paleontological resources would be negligible. Paleontological resources have been found in rock outcrops, but the BLM does not propose treatments near these areas.

Treatments would result in short-term adverse effects to soil, primarily from loss of vegetative cover and soil disturbance that would lead to soil erosion and loss of soil productivity. Treatments would benefit soil long term by restoring the health and resiliency of native vegetation, restoring natural fire regimes and reducing the risk of wildfire, reducing runoff and increasing water infiltration, and slowing the spread of noxious weeds and other invasive non-native vegetation, which should reduce soil erosion and improve soil productivity.

Treatments could lead to short-term increased runoff and erosion that could affect water flows and quality. It is possible that lubricants and fuel from equipment used in treatments could also affect water quality. Long term, treatments would improve watershed function and water quality, increase the amount of water infiltrating into the ground and reaching streams and the groundwater, and extending the period in which water flows in streams. Treatments that improve vegetation health and resiliency, and reduce wildfire risk, would also benefit water resources.

Treatments pose short-term risks to terrestrial and aquatic vegetation. All treatments would remove or harm vegetation, and could cause vegetation communities to return to an early successional stage. Long term, treatments would improve the health and resiliency of native vegetation. Treatments would help to control noxious weeds and other invasive non-native vegetation, to the benefit of native vegetation. By thinning and removing pinyon-juniper, BLM treatments would benefit riparian, aspen, and sagebrush communities where pinyon-juniper is crowding out these vegetation types. Restoring natural fire regimes, using fire and other methods to thin and remove decadent and unhealthy pinyon-juniper and sagebrush, and using all methods to control large cheatgrass infestations would reduce the risk of future wildfire.

Treatments pose short-term risks to fish and wildlife. Accidental spills of fuels and lubricants, and soil disturbance and erosion associated with treatments, especially mechanical and fire treatments, could harm aquatic organisms, including game fish and Lahontan cutthroat trout, a federally listed threatened species. Noise and other disturbances could cause wildlife to avoid treatment areas during implementation, and fish and wildlife could be directly harmed by treatments. Removal of vegetation would reduce the amount of forage available for wildlife in the short term. Removal of pinyon-juniper could have long term adverse effects to species that favor pinyon-juniper. The BLM would conduct pre-treatment surveys to ensure that risks to migratory birds and other sensitive wildlife are minimized or avoided. Long term, fish and wildlife would benefit from proposed treatments. Many treatments are focused on improving habitat for Lahontan cutthroat trout through improvement to stream channel and riparian habitats. Aspen treatments would benefit species that use these trees, including northern goshawk. Thinning and removal of pinyon-juniper could aid in wildlife movements, enhance sagebrush habitat, and promote understory development of native forbs and grasses. Thinning of sagebrush would benefit greater sage-grouse, pygmy rabbit, and other sagebrush obligate species by promoting understory development. Treatments would improve the health and resiliency of vegetation and help to control noxious weeds and other invasive non-native vegetation to the benefit of fish and wildlife. Treatments would also reduce the risk of wildfire and its catastrophic effects on fish and wildlife habitat.

Livestock and wild horses could be affected by treatments through noise and disturbance, loss of forage and water, and from reduced water quality. However, the BLM would take actions, where possible, to minimize these risks by conducting several treatments within the same area at the same time or conducting treatments when livestock are not using the treatment area. Long term, treatments that restore the health and resiliency of native vegetation, remove noxious weeds and other invasive non-native vegetation, promote development of forbs and grasses, and reduce the risk of wildfire would benefit livestock and wild horse forage and water availability and abundance and better distribute livestock and wild horses across the rangeland.

While treatments could affect cultural resources near or on the surface, they would be more likely to affect traditional cultural practices of gathering plants by Native peoples. Cultural resources could be impacted by equipment and fire, but the BLM would conduct pre-treatment cultural resource surveys to mitigate this risk. Treatments could result in the loss of vegetation used by Native peoples, including pinyon pine nuts and juniper berries, but the BLM would consult with local tribes to identify areas of concern and conduct treatments in a manner that minimizes or avoids the loss of vegetation resources used by Native peoples. Long term, treatments would improve the health and resiliency of native vegetation, and reduce the risk of wildfire, which should ensure the long-term health and availability of vegetation used by Native peoples.

Treatments could affect visual, wilderness, and recreation resources. Treatments would remove and discolor vegetation, making it less visually appealing in the short term. Over the long term, landscapes should be more appealing as native vegetation is restored. Treatments in Wilderness Study Areas and near the Pony Express National Historic Trail may detract from the “naturalness” of the area. Although use of mechanical equipment would not occur in Wilderness Study Areas, its use nearby would create noise and reduce the wilderness experience. Recreationists could be exposed to treatments, experience less visually-appealing landscapes, or find fish and game less plentiful as a short term result of treatments. In addition, recreational areas could be closed for short periods of time during and/or immediately following implementation of treatments to ensure treatment success and protect the health of visitors. Long term, treatments should improve the health and resiliency of native vegetation, reduce the occurrence of noxious weeds and other invasive non-native vegetation, and reduce the risk of wildfire to the benefit of visual, wilderness, and recreational resources.

Social effects would be negligible at the scale addressed in this EIS. There would be benefits to communities that supply workers, materials, or services in support of treatment activities. Some businesses, such as recreation-based businesses and ranching operations, could be adversely affected in the short term if treatments closed areas used for recreation or by domestic livestock. Long term, treatments should improve the health and functionality of the 3 Bars ecosystem to the benefit of the local community and other users of the 3 Bars ecosystem.

Risk to humans from treatments would be negligible. Workers conducting the treatments could be at risk for adverse effects from walking on uneven ground, on broken terrain, and in dense vegetation. Other potential adverse effects associated with the proposed treatments would vary by treatment method, as there are human health risks unique to each method. Treatments that remove noxious weeds and other invasive non-native vegetation near public use sites and facilities would benefit public health and welfare. Treatments that reduce the risk of catastrophic wildfire on public lands would have similar benefits to human health and safety.

### **Cumulative Impacts**

Numerous past and present actions on and near the 3 Bars Project area have contributed to current conditions on the 3 Bars Project area. These include actions by entities with an interest in vegetation management, including nearby federal land management agencies, the State of Nevada, Eureka County and other local governments, and private landowners including ranchers and farmers, and private development. Past and present actions of importance to the 3 Bars Project include noxious weeds and other invasive non-native vegetation treatments; agriculture and the use and harvest of woodland products; utility infrastructure and distribution networks; wildland fires, fuels management, and reseeding; habitat stabilization and rehabilitation; livestock and wild horse management activities; recreation; land development; mineral development and exploration; and oil, gas, and geothermal leasing and development. Short term, treatments may adversely affect conditions within the 3 Bars Project area, but long term would provide benefits to natural and social resources that would help to offset the adverse effects from past, present, and reasonably foreseeable future actions within the project area. As with direct and indirect effects, cumulative effects, both adverse and beneficial, would be greatest under Alternative A and least under Alternative D.

Treatments would contribute only minor amounts of pollutants to the air. Fire use would increase particulate matter in the air, but the amount of pollutants generated by fire use, and their effects on human health, should be less than those from wildfire, resulting in fewer pollutants accumulating than would occur without treatments. Treatments would lead to short-term cumulative loss of soil from removal of vegetation and erosion, but improvement in vegetative abundance, diversity, health, and resiliency should slow soil loss on public lands. Erosion has led to poor water quality on portions of public lands. Treatments that slow erosion would also benefit water quality and slow the cumulative loss of water quality. Pinyon-juniper removal and thinning has the potential to increase water infiltration and stream flows within the 3 Bars Project area. Treatments would improve wetland and riparian area functions and values and slow erosion. With improvement in these areas, habitat for fish and other aquatic organisms would also improve.

Fire exclusion, pinyon-juniper expansion, and the spread of noxious weeds and other invasive non-native vegetation have degraded vegetation function and quality on the project and nearby areas and have led to a cumulative loss of vegetative productivity, health, and resilience. Treatments would restore ecosystem processes and slow this loss. Improvement in vegetation characteristics would benefit wildlife. Some species that have adapted to degraded ecosystems could lose habitat as native vegetation is restored, but most species would benefit.

Factors that have led to the loss of native vegetation and ecosystem health have adversely impacted rangelands used by domestic livestock and wild horses, and reasonably foreseeable future actions, such as the Mount Hope Project, could further reduce the amount of rangeland available to livestock and wild horses. Treatments should improve rangelands for these animals, and ensure that project lands can support viable populations of wild horses and a healthy ranching industry. The BLM would continue ongoing management reviews to determine if livestock grazing management is resulting in forage utilization levels that are moderate to severe and that could significantly impact forage and other rangeland resources. If so, as mitigation, the BLM would determine if changes in the current terms and conditions of the grazing permit would be required to maintain the long-term success of the proposed treatments. The BLM would also, as part of its ongoing management strategy, conduct wild horse gathers, conduct Appropriate Management Level reviews and adjustments, remove excess animals and use fertility control, and adjust Herd Management Area boundaries to keep herd numbers near sustainable levels and help to distribute wild horses more evenly across the rangeland.

Treatments could add to the cumulative loss of paleontological and cultural resources, but risks would be negligible. The BLM has developed a Programmatic Agreement with the State Historic Preservation Office to ensure protection of cultural resources, and consults regularly with local tribes to ensure that Native people's resources are protected, and enhanced long term.

Treatments would result in some short-term and temporary loss of visual, recreational, wilderness and other special area values due to the removal or discoloration of vegetation that could be additive to loss of these resources from past, present, and reasonably foreseeable future actions. In some cases, areas might be closed to visitors during and after treatments; however, these impacts would be short term and any values affected would be restored within 2 growing seasons in most cases.

Treatments would benefit local communities by providing jobs and income, and by reducing the risk of catastrophic wildfire that could harm people and destroy property. These gains would be negligible in the context of the local economy, especially considering ongoing and reasonably foreseeable future mining actions, but would still be a cumulative benefit for many rural communities.

Treatments could harm the health of workers and the public. Most treatments, however, would pose few risks to workers and even fewer risks to the public. If treatments restored natural fire regimes, reduced the risk of catastrophic wildfire, and slowed the spread of noxious weeds and other invasive non-native vegetation, human health would benefit.

## **Significance of Effects of the Alternatives**

Based on criteria used in the EIS, none of the actions taken under the alternatives would have a significant long-term effect on the natural and social resources of the 3 Bars ecosystem. This assumes, however, that the BLM would follow SOPs outlined in **Appendix C**. Livestock grazing could have a significant cumulative effect on treatment success, thus the BLM would not implement treatments until grazing management is modified through subsequent grazing decisions to achieve proper utilization levels during the appropriate season of use. The steps that the BLM would take to ensure treatment success are discussed in Section 3.17.4 and in **Appendix C**.

Although proposed actions would not have a significant long-term effect on 3 Bars ecosystem resources, reduced levels of treatment activity associated with Alternatives B and C, and in particular Alternative D, in comparison to Alternative A, could have long-term effects on 3 Bars ecosystem resources. By not using all available methods and

## EXECUTIVE SUMMARY

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treating the maximum number of acres, factors that contribute to loss of native and non-invasive vegetation health and resiliency would remain, including spread of noxious weeds and other invasive non-native vegetation, pinyon-juniper encroachment, and wildfire, would be greater under Alternatives B, C, and D than under Alternative A, and the BLM would do little to move plant communities toward their Potential Natural Community. No treatments would be authorized under Alternative D. Given that resource conditions on several areas within the ecosystem have deteriorated due to past land use activities, it is unlikely that conditions would improve under Alternative D.

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## Acronyms

3 Bars Project	3 Bars Ecosystem and Landscape Restoration Project
17-States PEIS	<i>Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement</i>
17-States PER	<i>Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report</i>
A.A.	Associate of Arts
AAQS	Ambient Air Quality Standard
AECC	<i>Assessment of Existing and Current Conditions for the Proposed 3 Bars Ecosystem and Landscape Restoration Project Environmental Impact Statement</i>
AML	Appropriate Management Level
amsl	above mean sea level
AQMA	Air Quality Management Area
AQRV	Air Quality Related Values
AU	Animal Unit
AUM	Animal Unit Month
B.A.	Bachelor of Arts
BAPC	Bureau of Air Pollution Control
BLM	Bureau of Land Management
BMP	Best Management Practice
BP	Before Present
B.S.	Bachelor of Science
ca.	About
CD	Compact disk
CEQ	Council on Environmental Quality
CESA	Cumulative effects study area
CFR	Code of Federal Regulations
cfs	cubic feet per second
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
COC&PP	Central Overland California and Pikes Peak
Cont.	Continued
e.g.	for example
EIS	Environmental Impact Statement
E&PRR	Eureka & Palisade Railroad
ESA	Endangered Species Act
et. al.	and others
et. seq.	et sequentia
°F	Degrees Fahrenheit
FEMA	Federal Emergency Management Agency
FMU	Fire Management Unit
FRCC	Fire Regime Condition Class
gpm	gallons per minute
HMA	Herd Management Area
H <sub>2</sub> SO <sub>4</sub>	Sulfuric acid
i.e.	in otherwords
km	kilometer
KMA	Key Management Areas
LLC	Limited Liability Corporation
M.A.	Master of Arts
M. Ed.	Master of Education

## ACRONYMS

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mg/L	milligrams per liter
M.P.A.	Master of Public Administration
M.S.	Master of Science
n	Sample size, number
NA	Not applicable
NAAQS	National Ambient Air Quality Standard
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NNHP	Nevada Natural Heritage Program
NRHP	National Register of Historic Places
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Nitrous oxide
NV	Nevada
O <sub>3</sub>	Ozone
OSHA	Occupational Safety and Health Administration
PEIS	Programmatic Environmental Impact Statement
PER	Programmatic Environmental Report
PFYC	Potential Fossil Yield Classification
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in size
PM <sub>10</sub>	Particulate matter less than 10 microns in size
PNC	Potential Natural Community
Ppm	parts per million
PSD	Prevention of Significant Deterioration
PZP	Porcine Zona Pellucida
Q/D	Annual emissions divided by distance to nearest PSD Class I area
Ph.D.	Doctorate of Philosophy
RMP	Resource Management Plan
ROD	Record of Decision
Scoping Report	<i>Scoping Comment Summary Report for the 3 Bars Ecosystem and Landscape Restoration Project EIS</i>
SHPO	State Historic Preservation Office
SO <sub>2</sub>	Sulfur dioxide
SOP	Standard Operating Procedure
tpy	tons per year
URL	Uniform Resource Locator
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USDOI	U.S. Department of the Interior
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VFS	Volunteer Fire Service
VOC	Volatile organic compounds
VRI	Visual Resource Inventory
VRM	Visual Resource Management
WSA	Wilderness Study Area
§	Section
µg/m <sup>3</sup>	micrograms per cubic meter