United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Mount Lewis Field Office
50 Bastian Road
Battle Mountain, Nevada 89820
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In Reply Refer To:
5003/1790 (NVB0100)
DOI-BLM-NV-B010-2009-0124-EIS

JAN 2 1 2010

Dear Interested Parties,

The Bureau of Land Management (BLM), Mount Lewis Field Office (MLFO) is preparing an Environmental Impact Statement (EIS) for the proposed 3-Bars Ecosystem and Landscape Restoration Project to occur on federal lands administered by the Battle Mountain District, MLFO in Eureka County, Nevada.

This 750,000-acre landscape-scale project is being proposed to conserve, protect and restore a broad array of public land resources in central Nevada, the heart of the Great Basin. The area faces imminent loss of sagebrush, bitterbrush and mountain shrub habitats that are critical for sage-grouse, pygmy rabbit, mule deer, and other wildlife species. Streams and riparian wetlands critical for the survivorship and restoration of the federally listed threatened Lahontan cutthroat trout and many other riparian-dependent species are also at risk.

The BLM is proposing a comprehensive treatment program for dramatically improving the health of the 3-Bars Ecosystem and reducing the risks that are contributing to its decline. The proposed project focuses on restoration at the landscape level. It will address landscape protection priorities identified in the 2002 Healthy Lands Initiative, as well as resource management goals that are important to the BLM's MLFO and BMD. Two alternatives have been developed by the BLM's interdisciplinary team based on an assessment of current conditions (enclosed). The proposed vegetation treatments would range from several acres to several thousand acres, depending on specific treatment and management goals and desired outcomes for each resource area. Possible treatment methods could include prescribed fire or wildland fire use, and manual/physical, mechanical, chemical (herbicide), biological treatments, and other management actions. Resource management goals, consistent with the Shoshone-Eureka Resource Management Plan (RMP) and its amendments include:

Wildlife

- Enhance habitat for wildlife, including migratory birds and special status species
- Protect, enhance and expand sage grouse habitats
- Improve health, vigor and diversity of upland plant communities
- Restore, rehabilitate and enhance native plant communities (all native habitats)

- Improve habitat conditions and ecological processes for federally listed Lahontan cutthroat trout

Fire Management – Fuels

- Reduce the likelihood of catastrophic wildfire across the landscape.
- Protect life, property and natural resources
- Restore fire as an integral part of fire-adapted ecosystems

Forestry

- Improve woodland health

Weeds

- Enhance habitat and range quality through eradication of noxious weeds and invasive, non-native species
- Monitor and mitigate for post-treatment colonization of noxious weeds and invasive, non-native species in treatment areas associated with the 3-Bars Project area

Range

- Increase rangeland productivity to support multiple uses
- Improve livestock grazing management
- Increase the availability of water for wildlife, livestock and wild horses (multiple-use)

Wild Horses

- Maintain and improve wild horse habitat within the Roberts Mountain, Whistler Mountain and Rocky Hills Herd Management Areas

Riparian – Wetlands

- Improve functionality along stream corridors (stream channel, flood plain, riparian wetland zone) and pond and lake features
- Improve water yield and seasonal duration of run-off

Native American

- Manage and restore habitat suitable for traditional edible, medicinal plants associated with traditional Western Shoshone life-ways

Cultural

- Increase public appreciation of the Pony Express Trail

To summarize, in order to improve the health of and reduce the risks to the 3-Bars ecosystem, we must address all of its elements. The need for change has been identified and documented using

an interdisciplinary approach with multiple goals, multiple proposed treatments and treatment areas, and realistic attainment horizons. Although the project has many complimentary goals, the priority and focus of the project is:

- Maintaining sagebrush steppe habitat
- Strategically restoring fragmented habitat of at-risk wildlife species

Many factors are contributing to the overall decline of the 3-Bars ecosystem. Collectively, these factors are increasing the risk of loss of important ecosystem components. These components include: wildlife and habitat components; woodland and rangeland values; wetland and riparian components; as well as the integrated components that define Native American values and cultural resource significance. To understand the need for change, existing conditions for ecosystem components are addressed, documented and then compared to the desired condition. In order to meet the project's purpose, specific situations have been identified for each component that are in need of improvement or change.

These key findings are presented in the Assessment of Existing and Current Conditions (AECC) for the proposed 3-Bars Ecosystem and Landscape Restoration Project (enclosed CD). Potential treatment methods that address the need for change are presented in the AECC for consideration and input. The AECC presents data that identifies resource conditions meeting the need for change criteria. As additional data on resource conditions is collected, potential treatment areas may be modified to address the latest data until the draft EIS is available for public comment. If you require a paper-copy of the AECC, please contact Donovan Walker or Angelica Rose at 775-635-4000 and one will be mailed to you.

Interested parties are encouraged to be a part of this planning process. You can submit written comments to the BLM's, Mount Lewis Field Office of the Battle Mountain District by the close-of-business (4:30p.m. PST) on 3/1/2010. Comments can be e-mailed to 3-Bars_Project@BLM.gov, mailed to the MLFO (address shown in letterhead at top of first page) or faxed to the MLFO at 775-635-4034. As part of the 30-day scoping process, a Notice of Intent (NOI) to prepare an EIS has been published in the Federal Register.
The NOI can be viewed at http://www.blm.gov/nv/st/en/fo/battle_mountain_field.html

Two public scoping open houses will be held to provide opportunities for further public involvement. The first open house will be held in Battle Mountain, NV at the Civic Center on February 22, 2010. Open house hours begin at 6:30 PM and will conclude at 9:30 PM. The second open house will be held the following day on February 23, 2010 at the Eureka Opera House in Eureka, NV. This open house begins at 6:00 PM and will conclude at 9:00 PM. Both open houses will have an initial presentation during the first twenty minutes of their respective scoping sessions. BLM specialists will be on hand to answer any questions.

One of the goals of the scoping process will be to identify as many feasible treatment methods as possible to address the need for change in the identified areas. Treatment methods will then be refined into existing or new alternatives to be considered in the EIS. Additionally, the BLM wants to understand the concerns associated with this ecosystem and landscape restoration project in order to develop appropriate mitigation measures.

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

Please consider the option of partnering with us on this important undertaking. The BLM will be actively pursuing partnerships with motivated groups and agencies at the local, regional, state or national level. Please indicate whether or not you may be interested in partnering with BLM in your written comments. Any questions regarding this proposed project may be directed to Donovan Walker, 3-Bars Project Manager. Questions regarding the EIS process or your opportunities to be involved in the EIS process can be directed to Dave Davis, Planning and Environmental Coordinator. Both Donovan and Dave can be reached at (775) 635-4000.

Sincerely,

Douglas W. Furtado
Field Manager
Mount Lewis Field Office

Enclosures:

1) Restoration and Resource Management Alternatives
2) CD ROM of the Assessment of Current and Existing Conditions for the Proposed 3-Bars Ecosystem and Landscape Restoration Project EIS

Restoration and Resource Management Alternatives

The proposed 3-Bars Ecosystem and Landscape Restoration Project focuses on restoration at the landscape level. A primary element of "Healthy Landscapes" is addressing the increasing threats to the Shrub-Steppe landscape, such as wildfire, pinyon-juniper expansion and densification and undesirable vegetation such as cheatgrass and noxious weeds.

In addition to resource protection, alternatives should provide for the maintenance of sagebrush steppe habitat and for the strategic restoration of fragmented habitats for at-risk wildlife species. The BLM has proposed two alternative ecosystem restoration alternatives. The development of other alternatives or modifications to the current proposals may be developed during public scoping.

The BLM proposed alternatives differ in the types of on-the-ground treatments that would occur and are as follows:

Restoration Alternative

Under this alternative, the BLM would:

- Focus efforts on controlling the spread of cheatgrass and noxious weeds, managing pinyon-juniper woodlands for healthy, diverse stands within persistent woodlands, promoting the health and growth of aspen, mountain mahogany and other mountain shrub stands for wildlife and medicinal plants used by Native Americans.
- Implement treatments and mitigation to restore degraded range conditions.
- Protect and enhance sage-grouse habitats, Lahontan cutthroat trout and other fish habitats.
- Restore wetlands and riparian areas to proper functioning condition.
- Improve Fire regime Condition Class and protect high value habitats, reducing High to Extreme wildfire risks to Moderate or below.
- Conduct manual, physical, mechanical, biological control, wildland fire-use and prescribed fire treatments and use herbicides to manage vegetation.
- Implement non-vegetation management activities that include installing large woody debris, rock clusters, and check dams to improve stream habitat for fish and wildlife, use fencing to exclude livestock and wildlife, and hand planting trees and shrubs.

Intensive Restoration and Resource Management Alternative

- Under this alternative, the BLM would conduct the treatments and activities identified for the Restoration Alternative. In addition, the BLM would:
- Improve riparian and wetland zones, and improve the function of existing springs to increase water availability to allow for more even distribution of wildlife, wild horses and livestock across the range.
- Reestablish and encourage edible/medicinal plants throughout their native ranges and promote pine-nut orchard development managed by cooperatives or local tribes.
- Implement Native irrigation techniques in pine nut orchards to improve pine nut production and tree vigor.
- Remove, repair or modify fencing to better manage wild horse resources.
- Perform inventories, record all trail segments and cultural sites, integrate ethnographic and historical data, and evaluate the condition of cultural resources, including the Pony Express Trail to better manage cultural resources and address the unresolved eligibility status of the Pony Express Trail to the National Register of Historic Places. Repair or prevent the further degradation of Pony Express Trail segments.
- Improve road access to pine-nut management and harvest areas and relocate roads that negatively impact riparian corridors.

United States Department of the Interior
Bureau of Land Management
Battle Mountain District
Mount Lewis Field Office

50 Bastian Rd.
Battle Mountain, NV 89820-1420 December 2009

SCOPING SUMMARY

Assessment of Existing and Current Conditions for the Proposed 3-Bars Ecosystem and Landscape Restoration Project Environmental Impact Statement

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1.0 INTRODUCTION

The Bureau of Land Management (BLM) Battle Mountain District, Mount Lewis Field Office is proposing to conduct a series of vegetation treatments within an approximately 750,000-acre area located in northern Eureka County, Nevada (**Figures 1.1 and 1.2**). The proposed 3-Bars Ecosystem and Landscape Restoration Project (3-Bars Project) area is generally known as the Roberts Mountain and Three Bars area, herein referred to as the 3-Bars ecosystem. The proposed vegetation treatments would range from several acres to several thousand acres, depending on specific treatment and management goals and desired outcomes for each resource area. Possible treatment methods could include physical/manual, mechanical, chemical (herbicide), and biological treatments, prescribed fire or wildland fire-use, along with appropriate mitigation or other management actions. The treatments would largely occur on federal land administered by the BLM Battle Mountain District, Mount Lewis Field Office.

This project constitutes a major federal action requiring the preparation of an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.; Public Law [PL] 91-190). The EIS will analyze the proposed project, define a range of reasonable alternatives with appropriate mitigation measures, and disclose the project's potential environmental impacts. Through this process, the BLM intends to avoid, minimize, rectify, reduce, eliminate, or compensate for potential environmental impacts to the extent possible as required by NEPA (40 Code of Federal Regulations [CFR] 1508.20). The proposed vegetation treatments cannot be implemented until after completion of the NEPA process, which commences with the signature of a Record of Decision (currently anticipated in December 2011).

In order to facilitate scoping efforts for the 3-Bars Project, this document summarizes all known baseline data available to the BLM for the 3-Bars ecosystem, and will be referred to as the Assessment of Existing and Current Conditions (AECC) for the 3-Bars ecosystem. The AECC serves as the framework for developing potential treatment alternatives for further consideration and analysis in the EIS.

1.1 PROJECT BACKGROUND

The U.S. Department of Interior launched the Healthy Lands Initiative in 2007 (the "Initiative") to accelerate land restoration, increase productivity, and improve the health of public lands in the Western United States. Today, the goal of the Initiative is to preserve the diversity and productivity of public and private lands across the landscape, referred to as "Healthy Landscapes." Healthy Landscapes will enable and encourage local BLM managers to set priorities across a broader scale and to mitigate impacts to an array of resources. A primary element of Healthy Landscapes is addressing threats to the sagebrush-steppe landscape. These priorities include:

- Maintain sagebrush-steppe habitat (the highest priority of the Department of Interior Initiative)
- Restore fragmented habitat for at-risk wildlife species

In the spirit of Healthy Landscapes, the 3-Bars Project is being proposed to protect, enhance, and restore a multitude of resources in the 3-Bars ecosystem. This scenic landscape in the heart of the Great Basin includes three major mountain ranges and contains potentially productive pinyon pine and juniper woodlands, sagebrush and riparian/wetland habitats supporting sage-grouse and other wildlife, and streams supporting fish populations including the Lahontan cutthroat trout, a federally listed threatened species. This landscape also supports other critical uses including livestock management within 12 allotments, 4 wild horse Herd Management Areas, and numerous mining exploration activities and mining operations.

Many factors have contributed to the overall decline of the 3-Bars ecosystem. Some of the factors involved in the degradation of sagebrush-steppe plant community diversity and integrity include:

- Wildfire
- Downy brome (cheatgrass) establishment and propagation
- Expansion and increase in tree density (encroachment) of pinyon pine and juniper woodlands
- An increase in human impacts to include mining activities, grazing and livestock management practices, and off-highway vehicle use

Collectively, these factors increase the risk for loss of important ecosystem components, which include:

- Wildlife and wildlife habitat, including sagebrush, bitterbrush, and mountain mahogany habitats that are critical for sage-grouse, pygmy rabbit, mule deer, and other wildlife species
- Woodland and rangeland values
- Wetland and riparian areas critical for the preservation and restoration of the federally listed Lahontan cutthroat trout and other riparian-dependent species

Terminology

Desired Plant Community is the one of the several plant communities that may occupy a site that has been identified through a management plan to best meet the plan's objectives for the site.

Encroachment can be defined as natural succession resulting in densification or interspace in-filling, causing an understory or previously dominant species to decline.

Expansion occurs when vegetation, such as pinyon-juniper, expands into new areas where it was not found historically.

Hazardous fuels include living and dead and decaying vegetation that form a special threat of ignition and resistance to control.

Herbicide is a chemical pesticide used to treat vegetation.

Invasive plants are plants that have the potential to become a dominant or co-dominant species on the site if their future establishment and growth are not actively controlled by management interventions, or are classified as exotic or noxious plants under state or federal law. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants.

Native species historically occurred or currently occur in a particular ecosystem and were not introduced.

Noxious weeds are designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or non-native, new, or not common to the U.S.

Potential Natural Community is the plant community that would become established if all successional sequences were completed without interference by man under current environmental conditions. Natural disturbances are inherent in plant community development.

Prescribed fires are any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements (where applicable) must be met, prior to ignition.

Succession is the progressive replacement of plant communities on a site that leads to the potential natural plant community (i.e., attaining stability).

Undesirable plants are species classified as noxious, harmful, exotic, injurious, poisonous, or otherwise undesirable under state or federal law, but not including species listed as endangered by the Endangered Species Act (ESA), or species indigenous to the planning area.

Weeds are plants that interfere with management objectives for a given area at a given point in time.

Wildfires are unplanned, unwanted wildland fires including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildland fire use describes the application of an appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in pre-defined designated areas.

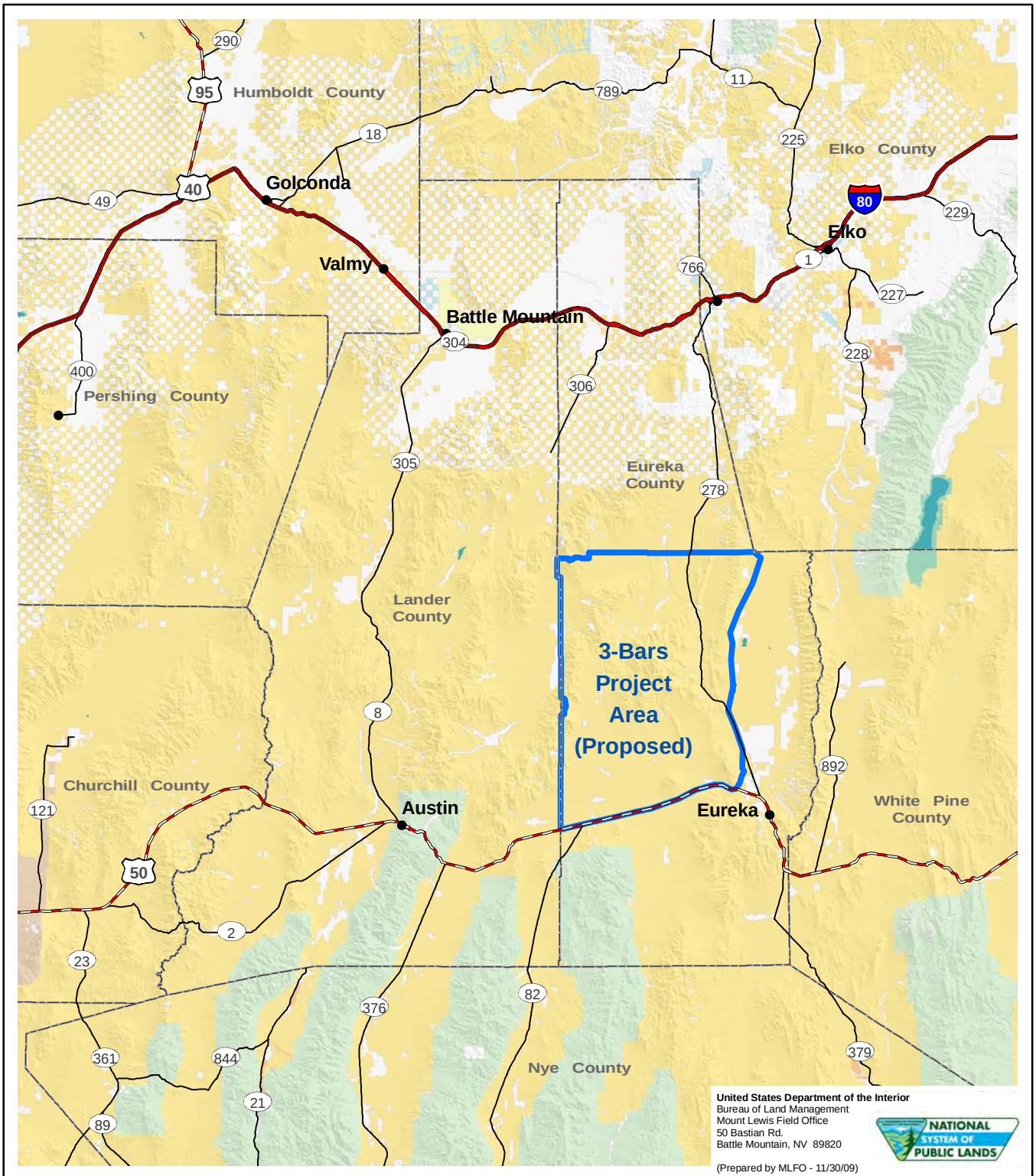
- Resources that define Native American values and cultural resource significance

In the broadest sense, the goal of this project is to dramatically reduce the risks to, and improve the health of, the 3-Bars ecosystem. Through landscape and ecosystem restoration, desired conditions could be realized to address the Department of Interior "Healthy Landscapes" focus, 3-Bars Project goals, as well as goals and management objectives of the Shoshone-Eureka Resource Management Plan. The 3-Bars Project focuses on restoration at the landscape level in order to address all ecosystem components and identified risks concurrently, thereby increasing the potential for restoration success.

This remainder of this document is organized as follows:

- **Section 2.0** presents a summary of the current conditions, key findings, desired conditions, ongoing and proposed studies, and supporting maps and figures for each resource area proposed to undergo restoration, protection, enhancement, or change resulting from the proposed project. To understand the need for change, existing conditions for ecosystem components are addressed, documented, and then compared to the desired condition. In order to meet the project's goals, specific elements have been identified for each component that are in need of improvement or change.

- **Section 3.0** displays the potential treatment methods that have been currently identified by the BLM Interdisciplinary Team to meet the desired conditions for individual and collective resource areas. These preliminary treatment methods are subject to change, modification, and further development through the EIS scoping process.



Legend

- City or Town
- Interstate Highway
- U.S. Highway
- State Highway
- 3-Bars Project Area - PROPOSED
- County Boundary

Land Status

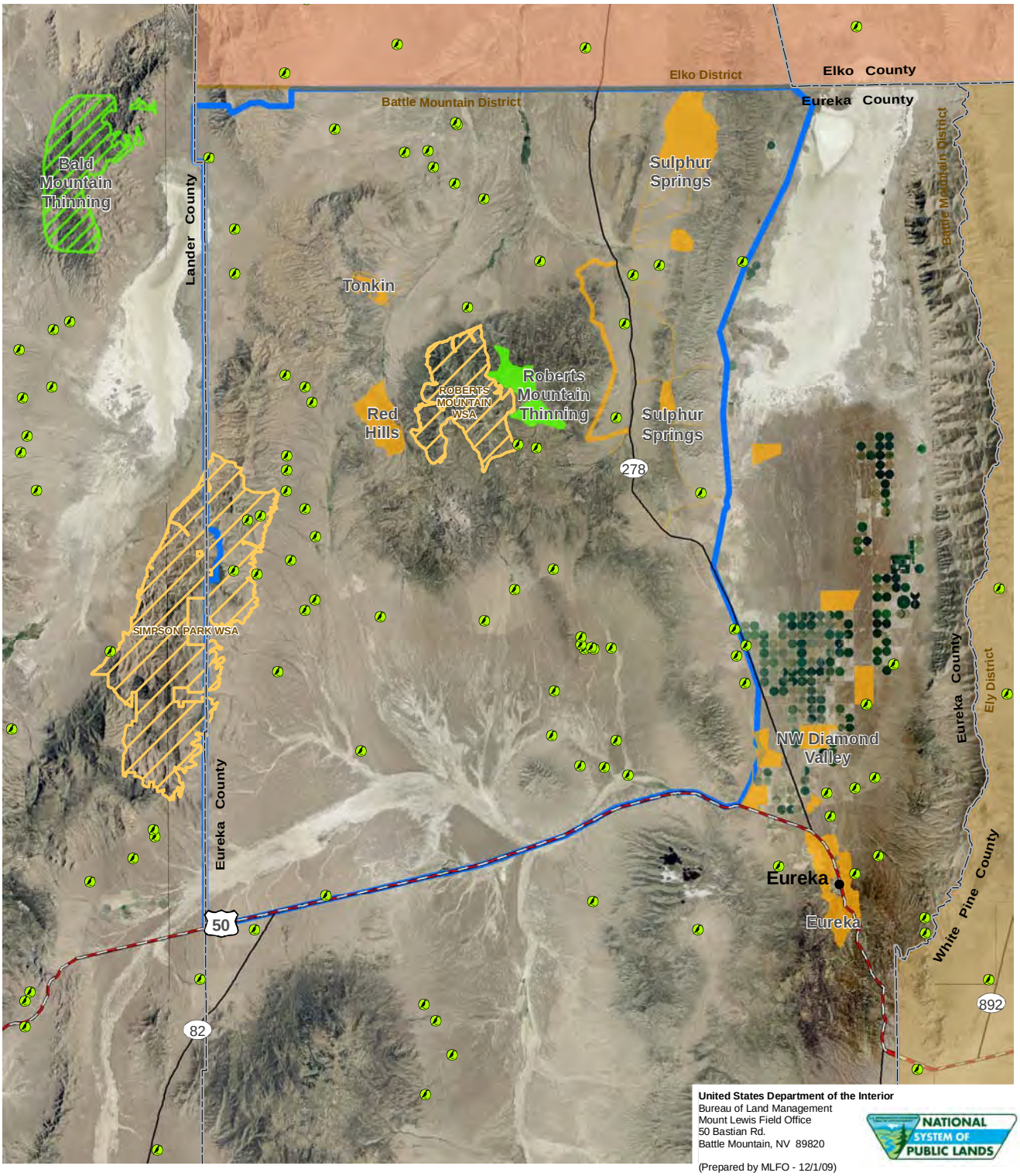
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Native American Reservation
- U.S. Fish & Wildlife Service
- U.S. Forest Service
- State Land
- Private
- Water

Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 1.1

General Vicinity Map

0 5 10 15 30 Miles
0 10 20 40 Kilometers
1:1,500,000
N



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NATIONAL SYSTEM OF PUBLIC LANDS

(Prepared by MLFO - 12/1/09)

Legend

- Sage Grouse Leks (Active, Inactive, Historical or Unknown Status)
- 3-Bars Project Area - PROPOSED
- Wilderness Study Area

Vegetation Management Projects

Current Approved
- Fire Management / Hazardous Fuels
- Habitat Enhancement

EA In-Progress
- Habitat Enhancement

Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 1.2
Current Approved Vegetation Management Projects within the Vicinity

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:500,000

N

2.0 SUMMARY OF CURRENT CONDITIONS

The following sections summarize the current conditions and regulatory framework, key findings, desired future conditions, ongoing and proposed studies, and supporting maps and figures for key resource areas. Current conditions are based on information from monitoring and survey studies, such as rangeland health assessments; site and risk assessments; stream surveys; condition class assessments; woodland health surveys; sage-grouse surveys, monitoring and telemetry; key plant species monitoring; and soil surveys. Key laws and regulations that govern resource management are also included in this section. Key findings are derived from a comparison of the existing resource conditions and the desired resource conditions. Desired future conditions are based on goals from the Healthy Landscapes focus and the *Shoshone-Eureka Resource Management Plan* as well as professional knowledge and understanding of the resources. Ongoing and proposed studies and supporting maps and figures were based on ongoing resource analysis and information identified in the key findings.

2.1 FISH AND WILDLIFE (INCLUDING SPECIAL STATUS SPECIES AND MIGRATORY BIRDS)

Current Conditions and Regulatory Framework

There are many fish and wildlife species that can be found within the 3-Bars ecosystem. Fish in 3-Bars Ecosystem include brook, brown and/or rainbow trout (Roberts, Willow and Denay Creeks), and Lahontan cutthroat trout, which are found in Birch and Pete Hanson Creeks. Nine amphibians and 25 reptiles have been reported in the 10.5-million acre Battle Mountain District. Many of these species are found in the 3-Bars ecosystem. These include Great Basin spadefoot toad, northern leopard frog, Great Basin fence lizard, and desert striped whipsnake. There are 231 bird species that have been observed in the Battle Mountain District, including great blue heron, several species of waterfowl, red-tailed hawks and golden eagles, sage-grouse and blue grouse, great horned owl, common nighthawk, western kingbird, American robin, and numerous species of warblers, sparrows, and finches. Seventy-three mammal species have been reported in the District and include several species of bats, mountain lion, coyote, bobcat, badger, long-tailed weasel, gray and kit foxes, black-tailed jackrabbit, cottontail rabbit, and other small mammals (mice, voles, ground squirrels, chipmunks, kangaroo rats, woodrats, shrews, and gophers). Big game species in the area include mule deer and pronghorn.

Important wildlife habitats in the 3-Bars ecosystem include sagebrush-steppe, riparian (habitat found alongside streams), wetland (habitat associated with meadows or springs), mountain shrub (mountain mahogany, bitterbrush and serviceberry), and pinyon-juniper woodland. Surveys and monitoring have shown that sagebrush-steppe, riparian/wetland, and mountain shrub habitats are deteriorating in the 3-Bars ecosystem, while pinyon-juniper woodlands are expanding and encroaching into sagebrush habitats.

Sagebrush habitat, primarily mountain sagebrush, has deteriorated due to combinations of past/current rangeland management practices, the encroachment and expansion of pinyon-juniper woodlands, and the spread of non-native and invasive vegetation and noxious weeds. Aspen is an important riparian tree species that is used by many species of wildlife, including mule deer and northern goshawks. Mule deer may use stream corridors with aspen as places to have their fawns. Northern goshawks in the Great Basin depend primarily on aspen to nest. However, aspen stands may die out due to an inability to regenerate. Aspen trees may live upwards of 100 to 150 years, but need to be protected to ensure that new aspen sprouts survive.

Other riparian species, such as willow, wild rose, and mountain shrub communities also may need protection and management to ensure regenerative success. Mountain shrub communities are also affected by herbivory and pinyon-juniper encroachment.

In the Great Basin, pinyon-juniper woodlands have increased ten-fold since the late 1800s. As the density of pinyon-juniper increases, the diversity and density of shrubs, forbs, and grasses in the understory of pinyon-juniper stands can diminish. Understory vegetation is an important habitat component for many wildlife species including sage-grouse.

Several laws protect fish and wildlife and their habitats. The *Migratory Bird Conservation Act of 1929*, as amended, makes it unlawful to directly, or indirectly, harm migratory birds. Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, requires that federal agencies that have, or are likely to have, a measurable negative effect on migratory bird populations develop a Memorandum of Understanding (MOU) with the U.S. Fish and Wildlife Service that shall promote the conservation of migratory bird populations. If the U.S. Fish and Wildlife Service determines that migratory birds could be harmed by BLM vegetation treatment actions, the two agencies would develop a site-specific assessment and mitigation to prevent harm to these birds. The *Bald Eagle Protection Act of 1974* (Public Law 92-535) provides federal protection to the bald eagle and, through provisions and amendments to the Act, protection to the golden eagle as well. The Act prohibits the direct or indirect taking of an eagle, eagle part or product, or eagle nest. The *Sikes Act of 1974* authorizes the Department of Interior to plan, develop, maintain, and coordinate programs with state agencies for the conservation and rehabilitation of wildlife, fish, and game on public lands. The *Fish and Wildlife Conservation Act of 1980* encourages federal agencies to conserve and promote the conservation of non-game fish and wildlife species and their habitats.

There are numerous species of concern found on the 3-Bars ecosystem, including species listed under the federal *Endangered Species Act* (ESA; the Act) *of 1973*, as amended (19 U.S.C. 1536 [c], 50 CFR 402.14[c]), and BLM Sensitive species. In accordance with Section 7 of the federal *Endangered Species Act*, federal agencies must "insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat of such species." The purpose of the Act is to provide a means for conserving the ecosystems upon which threatened and endangered species depend, and to provide a program for protecting these species. The ESA defines an endangered species as a species that is in danger of extinction throughout all or a major portion of its range. A threatened species is defined as any species that is likely to become an endangered species within the foreseeable future throughout all or a major portion of its range. This Act also address species that have been proposed for listing as either threatened or endangered, but for which a final determination has not been made. Critical habitat is a specific area or type of area that is considered to be essential for the survival of a species, as designated by the U.S. Fish and Wildlife Service or National Marine Fisheries Service under the ESA. The Lahontan cutthroat trout is the only federally listed (threatened) species on the 3-Bars ecosystem.

BLM Sensitive species are defined as those plant and animal species for which population viability is a concern, as evidenced by: 1) significant current or predicted downward trend in population numbers or density, or 2) a significant current or predicted downward trend in habitat capability that would reduce the species' existing distribution. There are several BLM sensitive species known to occur in the project area including golden eagle, greater sage-grouse, pinyon jay, juniper titmouse, pallid bat and pygmy rabbit.

Key Findings

The following are key findings from the assessment of current conditions of fish and wildlife and their habitats on the 3-Bars ecosystem:

- Less than optimal habitat conditions for Lahontan cutthroat trout.
- Limiting factors include insufficient residual pool depth and cemented substrate.
- Decline in habitat complexity for fisheries.
- Encroachment and expansion of pinyon-juniper into important wildlife and key sage-grouse habitats.
- Reduction in amount of key wildlife habitats because of degraded range conditions due to past rangeland management practices and past range disturbances.
- Invasion of undesirable plant species into sage-grouse and other wildlife habitats.
- Decline of aspen, mountain mahogany, and other important plant community components from failure of these species to regenerate or establish in historic or new habitats.
- Deterioration in the quality of native plant communities.
- High, very high, or extreme risk of catastrophic wildfire in important sage-grouse habitats.

There is a need to:

- Enhance in-stream characteristics (within current and potential Lahontan cutthroat trout habitat) with regard to pool depth, riffle/pool ratio and temperature to improve in-stream habitat conditions for Lahontan cutthroat trout and other aquatic species.
- Promote macro-invertebrate diversity and abundance and overall nutrient composition and availability to develop habitat conditions needed by Lahontan cutthroat trout.
- Reduce pinyon-juniper density and distribution to enhance wildlife habitat.
- Improve plant regeneration success to increase plant community diversity, health, and vigor.
- Promote the development of desired plant communities, including understory species, to improve range conditions.
- Protect and enhance wildlife habitat in important sage-grouse use areas to ensure against decline or loss of sage-grouse populations.

Desired Conditions

The following fish and wildlife habitat conditions are desired by the BLM for the 3-Bars ecosystem:

- Lahontan cutthroat trout – in-stream characteristics:
    - Pool depth and riffle/pool ratio ranges are consistent with stream gradient.
    - Stream temperature should not exceed 72 degrees Fahrenheit.
    - Spawning beds are well oxygenated and relatively silt-free.
- Stream habitat conditions support thriving fish populations, with multiple age classes.

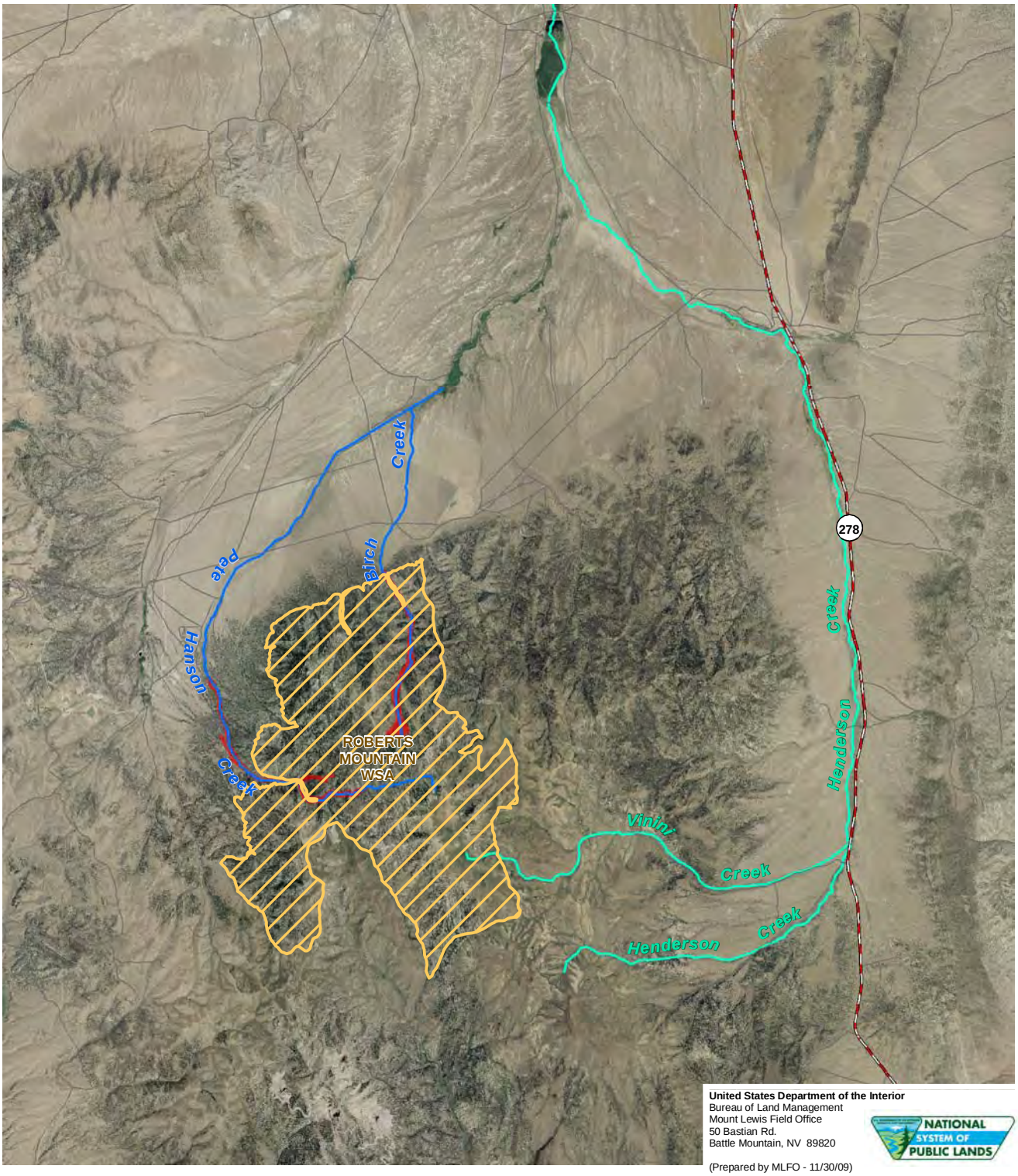
- Pinyon-juniper distribution occurs within historical ranges.
- Pinyon-juniper expansion areas (outside of historical range) restored to Desired Plant Community. The Desired Plant Community, of the several plant communities that may occupy a site, it is the one that has been identified through a management plan to best meet the plan's objectives for the site. It must protect the site at a minimum. For the 3-Bars ecosystem, the Desired Plant Community is: 0 pinyon-juniper trees per acre in important wildlife habitats, within Phase 1 and Phase 2 stage of woodland succession (old-growth excluded: trees >150 years old).
- Ability to sustain regeneration/recruitment of desirable species such as aspen, bitterbrush, serviceberry, and mountain mahogany.
- Early to mid seral state for plant species (favored by wildlife).
- Understory plant species at 75 to 100% of the Potential Natural Community. The Potential Natural Community is the plant community that would become established if all successional sequences were completed without interference by man under current environmental conditions. Natural disturbances are inherent in plant community development. Potential Natural Communities can include naturalized non-native species.
- Suitable sage-grouse habitat is sustained or improved.
- Catastrophic wildfire risk is "Moderate" or below.

Ongoing and Proposed Studies

- Update pinyon-juniper mapping to delineate expansion areas from persistent and old-growth woodlands
- Conduct Cole browse studies
- Update rangeland health information for the JD, Flynn-Parman, Romano, Whistler, and 3-Bars Allotments
- Update aspen condition information

Maps and Figures

- Figure 2.1.1 – Less than Optimal Habitat Conditions for Lahontan Cutthroat Trout
- Figure 2.1.2 - Pinyon-juniper Encroachment and/or Expansion into Important Wildlife Habitats
- Figure 2.1.3 - Degraded Range Conditions affecting Mule Deer Habitats
- Figure 2.1.4 - Degraded Range Conditions affecting Pronghorn Habitats
- Figure 2.1.5 - Degraded Range Conditions affecting Sage Grouse Habitats
- Figure 2.1.6 - Key Sage Grouse Habitats at High-Extreme Risk of Catastrophic Wildfire



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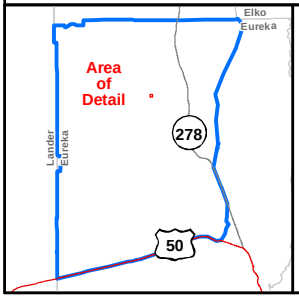


Legend

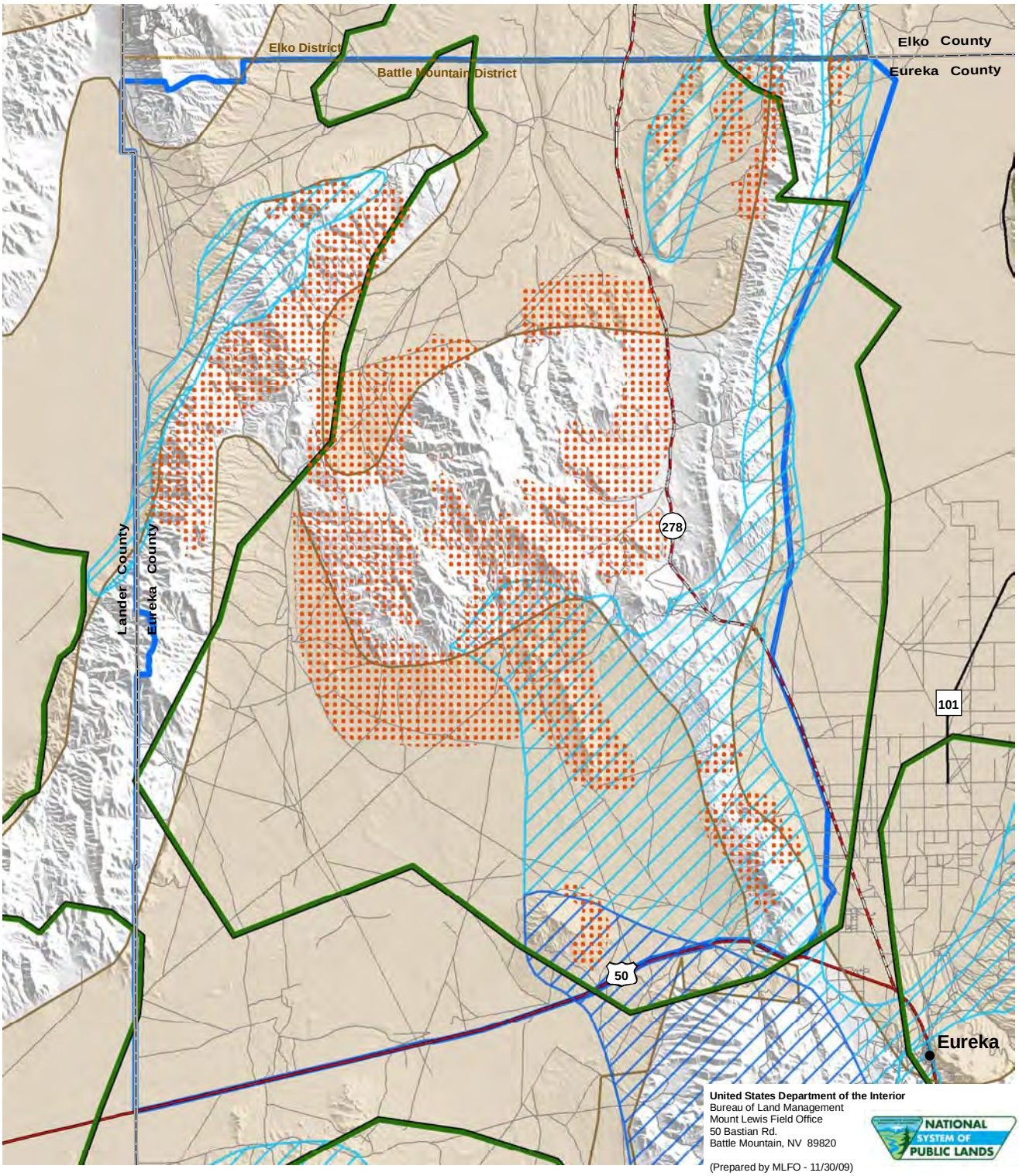
- 3-Bars Project Area - PROPOSED
- LCT Populated Creek
- LCT Potential Habitat
- Less than Optimal Conditions for LCT
- Wilderness Study Area

Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.1.1
Less than Optimal Habitat Conditions for Lahontan Cutthroat Trout (LCT)

0 1 2 3 4 Miles
0 1 2 3 4 5 Kilometers
1:175,000

N



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Legend

- 3-Bars Project Area - PROPOSED
- Pinyon-Juniper Encroachment and/or Expansion

Wildlife Habitats

- Key Sage Grouse Habitat
- Mule Deer Winter Range
- Mule Deer Crucial Winter Range
- Pronghorn Habitat

Proposed
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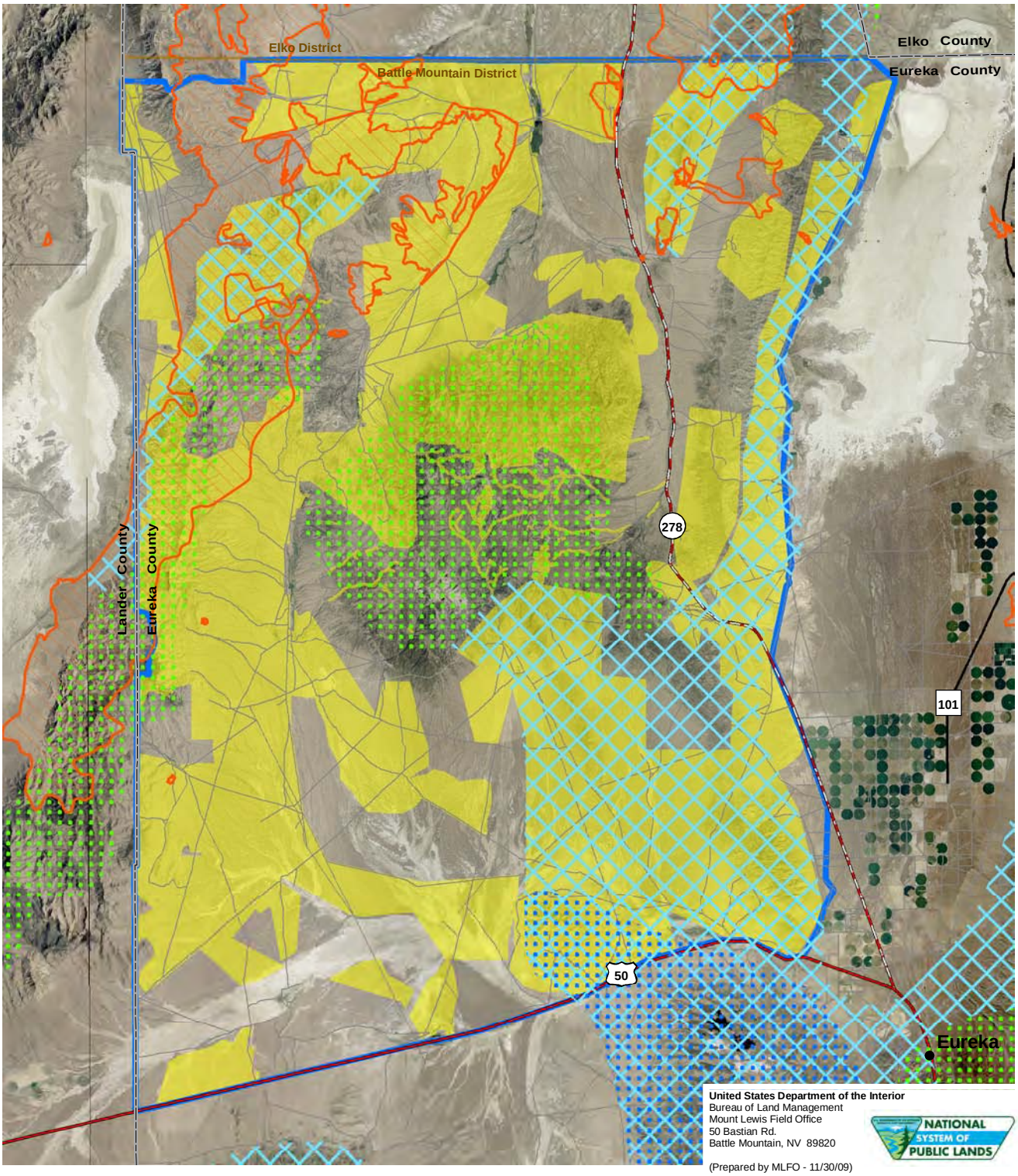
750,000 acres

Figure 2.1.2
Pinyon-Juniper Encroachment and/or Expansion into Important Wildlife Habitats

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



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Legend

- 3-Bars Project Area - PROPOSED
- Large Fire Perimeter (1985 - 2008)
- Habitat Decline

Mule Deer habitat

- Summer Range
- Winter Range
- Crucial Winter Range

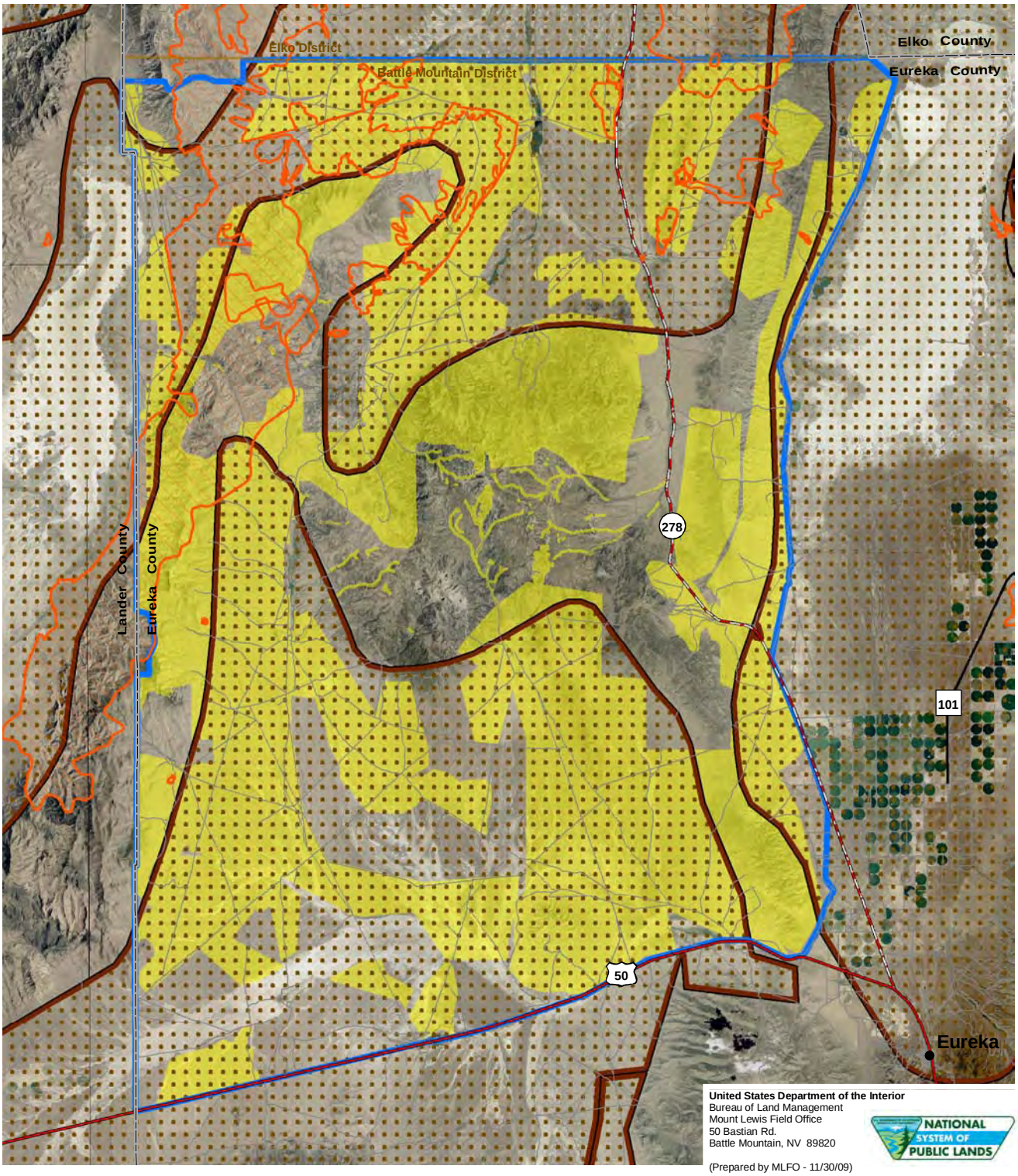
Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.1.3

Degraded Range Conditions Affecting Mule Deer Habitats

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



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Legend

- 3-Bars Project Area - PROPOSED
- Pronghorn Habitat
- Large Fire Perimeter (1985 - 2008)
- Habitat Decline

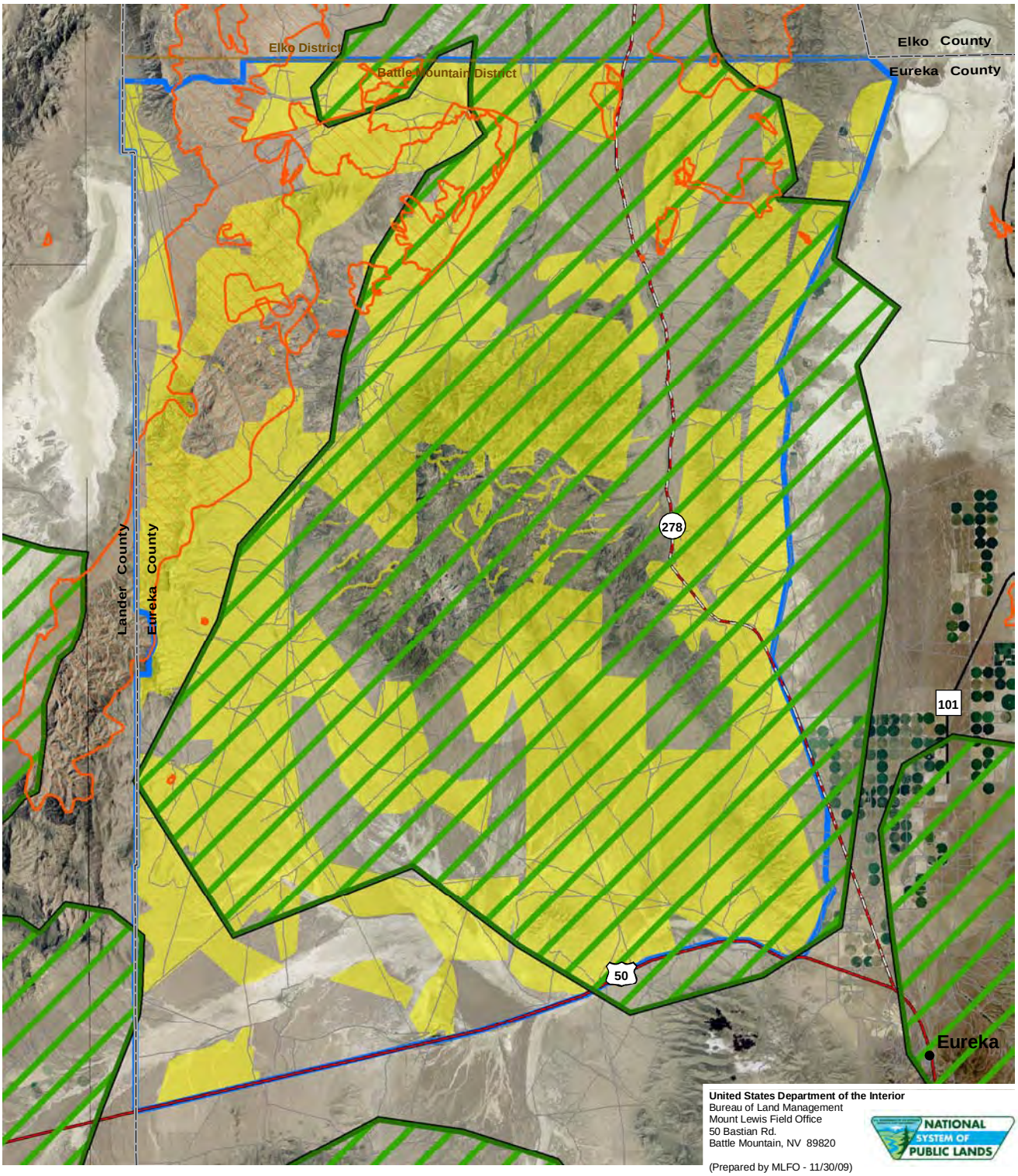
Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.1.4

Degraded Range Conditions Affecting Pronghorn Habitats

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



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Legend

- 3-Bars Project Area - PROPOSED
- Large Fire Perimeter (1985 - 2008)
- Key Sage Grouse Habitat
- Habitat Decline

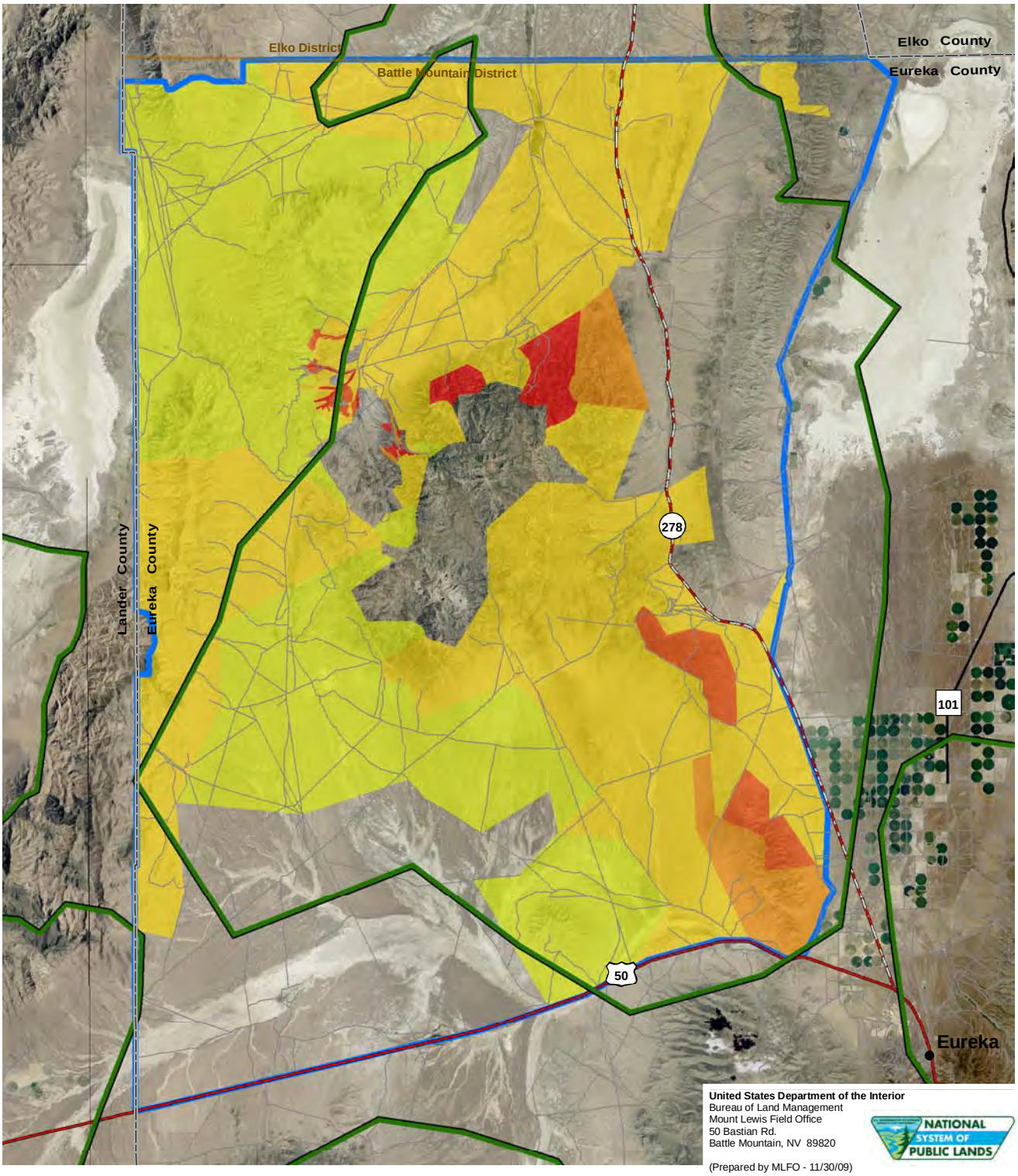
Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.1.5

Degraded Range Conditions Affecting Sage Grouse Habitats

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



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Legend

- 3-Bars Project Area - PROPOSED
- Key Sage Grouse Habitat

Fire Risk

- High
- High to Very High
- Very High
- Very High to Extreme
- Extreme

Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.1.6
Key Sage Grouse Habitats at High-Extreme Risk of Catastrophic Wildfire

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N

2.2 RANGE RESOURCES

The Secretary of Interior is authorized to administer livestock grazing on public lands under the following authorities: the *Taylor Grazing Act of 1934*, as amended, the *Federal Land Policy Management Act (*FLPMA) *of 1976*, as amended by the *Public Rangelands Improvement Act of 1978* Grazing Regulations (43 CFR 4100, and Public Land Orders.

Livestock production is one of the uses of vegetative resources within the 3-Bars ecosystem. There are 12 livestock allotments in the 3-Bars ecosystem, all of which are permitted for livestock. In response to public concern about management of livestock grazing on western public lands, in 1991 the BLM began a review to determine how the BLM could improve rangeland management and began developing new regulations for livestock grazing administration. The regulations in 43 CFR 4180 require the State Directors, in consultation with Resource Advisory Councils, to develop rangeland health standards for lands within their jurisdiction. This includes conducting local-level assessments and evaluations for ascertaining rangeland health status. Interim guidance to implement these regulations was provided in Washington Office Instructional Memorandum No. 2000-153 (*Standards Assessment Procedures and Guidance*). The BLM has agreed to work with the Resource Advisory Councils to expand these rangeland health standards so that public land health standards are relevant to all ecosystems, not just rangelands, and that they apply to all actions, not just livestock grazing (Manual Handbook H-1601-1 Land Use Planning). The Standards and Guidelines developed by the Northeastern Great Basin Resource Advisory Council would apply to the 3-Bars ecosystem.

Key Findings

The following are key findings from the assessment of current conditions of range resources on the 3-Bars ecosystem:

- Absence of one or more key perennial grass species.
- Key species composition and/or production below Potential Natural Community.
- Maintenance required for past rangeland improvement projects.
- Lack of available water resulting in poor livestock distribution.
- Dominance of invasive/non-native species (such as cheatgrass and halogeton) in certain areas.
- Sagebrush dominated communities (monocultures).
- Streams, springs, and meadows functioning less than Proper Functioning Condition.

Desired Conditions

The following range resource conditions are desired by the BLM for the 3-Bars ecosystem:

- Dominant and/or native perennial grass and forb component production on all range sites achieves a minimum of 50% of the range site potential.
- Frequency, production, and species composition indicate an upward trend at range sites where the dominant and/or co-dominant species are missing.
- Grazing management systems meet or make significant progress towards meeting Northeastern Great Basin Resource Advisory Council's Standards and Guidelines.

- Water sources are established, maintained or improved to improve wild horse, wildlife, and livestock distribution.

There is a need to:

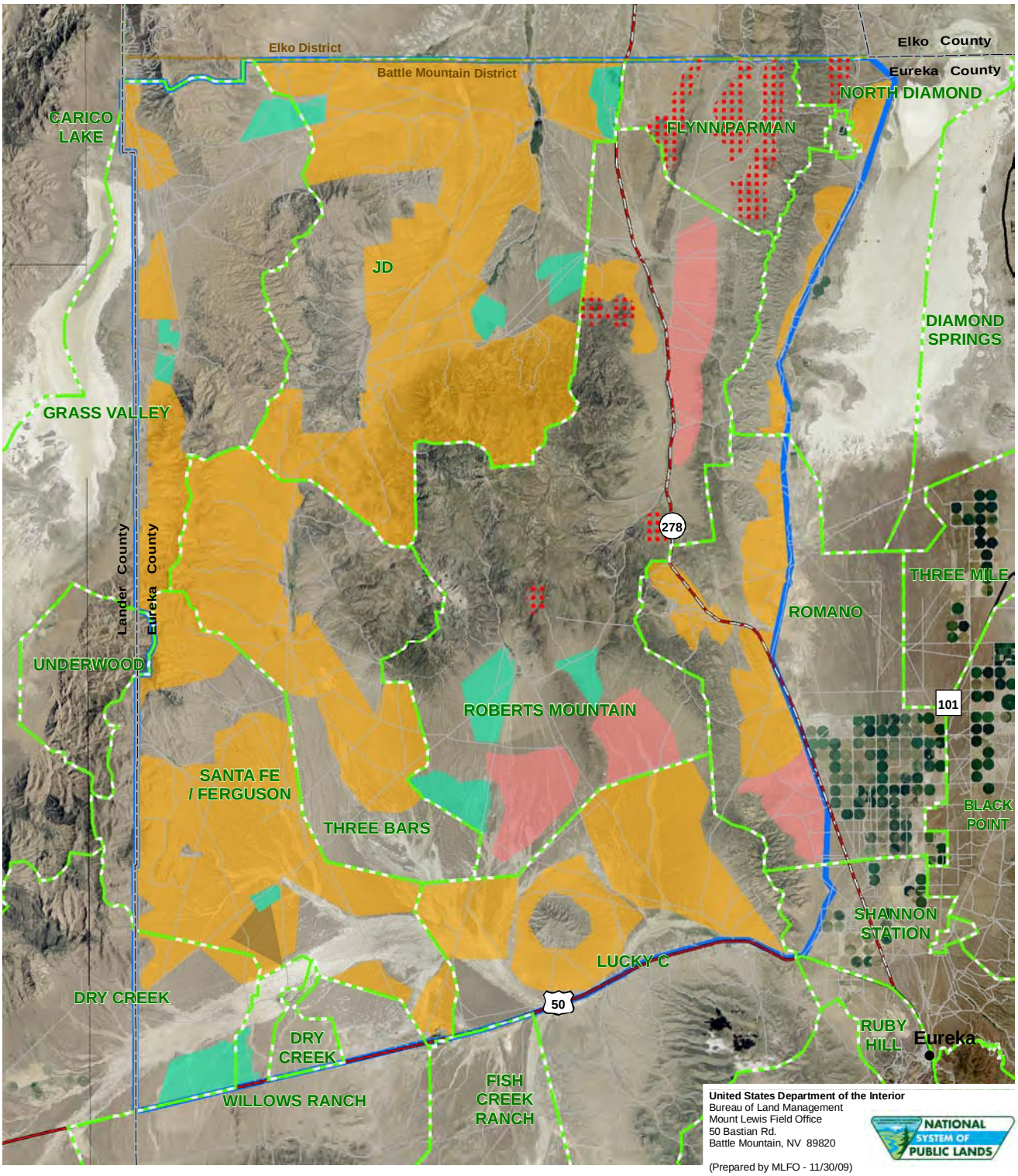
- Improve key plant species production and/or composition in accordance with the Northeastern Great Basin Resource Advisory Council's Standards and Guidelines.
- Increase available water and improve grazing distribution to improve range conditions and better facilitate management of wild horses, wildlife, and livestock.

Ongoing and Proposed Studies

- Rangeland Health Monitoring for the Three Bars, JD, Flynn/Parman, Romano and Lucky C Allotments will be collected Fiscal Year (FY) 2010 (October 2009-July 2010). These studies will include: utilization, use pattern mapping, ecological site inventory, frequency, production, line-point intercept, gap intercept, line intercept, and soil stability.

Maps and Figures

- Figure 2.2.1 - Current Range Conditions



Legend

- Range Allotment Boundary
- Areas where lack of available water is resulting in poor livestock distribution
- Areas where lack of available water is resulting in poor livestock distribution and key species composition and/or production below Potential Native Community (PNC)
- Areas where key species composition and/or production below Potential Native Community (PNC)
- Areas where one or more key perennial grass species missing and/or sagebrush dominated communities
- Areas where Pinyon and Juniper expansion and encroachment is affecting current range conditions

Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.2.1

Current Range Conditions

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000
N

2.3 WILD HORSES AND BURROS

Current Conditions and Regulatory Framework

The BLM protects, manages, and controls wild horses and burros under the authority of *The Wild Free-Roaming Horse and Burro Act of 1971*, as amended by the *Public Rangelands Improvement Act of 1978*. The Act also authorizes the "adoption" of wild horses and burros by private individuals to ensure that healthy herds thrive on healthy rangelands. The BLM manages these living symbols of the Western spirit as part of its multiple-use mission under the *Federal Land Policy and Management Act of 1976*.

Within the project area there are four Herd Management Areas (HMAs): the Roberts Mountain, Whistler Mountain, Rocky Hills, and a portion of the Fish Creek HMAs. The HMAs are used by wild horse herds; there are no burros in the 3-Bars ecosystem. The number of wild horses which can graze without causing damage to the range is called the Appropriate Management Level (AML). In establishing the AML, the BLM relies on an intensive monitoring program over several years and involving studies of grazing utilization, trend in range condition, actual use by wild horses, precipitation (climate), and other factors. The AML is based on consideration of wildlife, permitted livestock, and wild horses in the area. The BLM sets the AML with public involvement through an in-depth environmental analysis and decision process.

Key Findings

The following are key findings from the assessment of current conditions of wild horses on the 3-Bars ecosystem:

- Degraded range conditions as indicated by limited key plant species abundance and recruitment within the understory, particularly within the low elevation winter use areas and habitat dominated by sagebrush and pinyon-juniper communities.
- Wild horse populations exceed AMLs over the long-term due to inadequate gather frequency.
- Wild horse populations in excess of established AMLs have resulted in poor wild horse body condition, degraded range conditions, and limited water availability.
- Permanent and temporary fences throughout the Rocky Hills and Roberts Mountain HMAs hinder free-roaming abilities of wild horses in these HMAs.
- Streams, springs, and meadows are functioning at less than the Proper Functioning Condition.

There is a need to:

- Improve rangeland plant key species production, use patterns, and plant frequency/trend to improve habitat for wild horses within the Roberts Mountain, Whistler Mountain, Fish Creek, and Rocky Hills HMAs.
- Improve habitat for wild horses within the HMAs, improve distribution of wild horse use, and consistently maintain wild horse populations at AML, in order to maintain wild horse body condition year-round and during periods of drought or extreme winters.
- Remove unnecessary fences to improve wild horse free-roaming behavior.

- Provide for further mitigation of project activities by setting/establishing a range of AML for the Roberts Mountain HMA.
- Develop a long term Herd Management Area Plan for the management of wild horses within these HMAs.
- Consistently maintain wild horse populations at AML for all of the HMAs.

Desired Conditions

The following wild horse range conditions are desired by the BLM for the 3-Bars ecosystem:

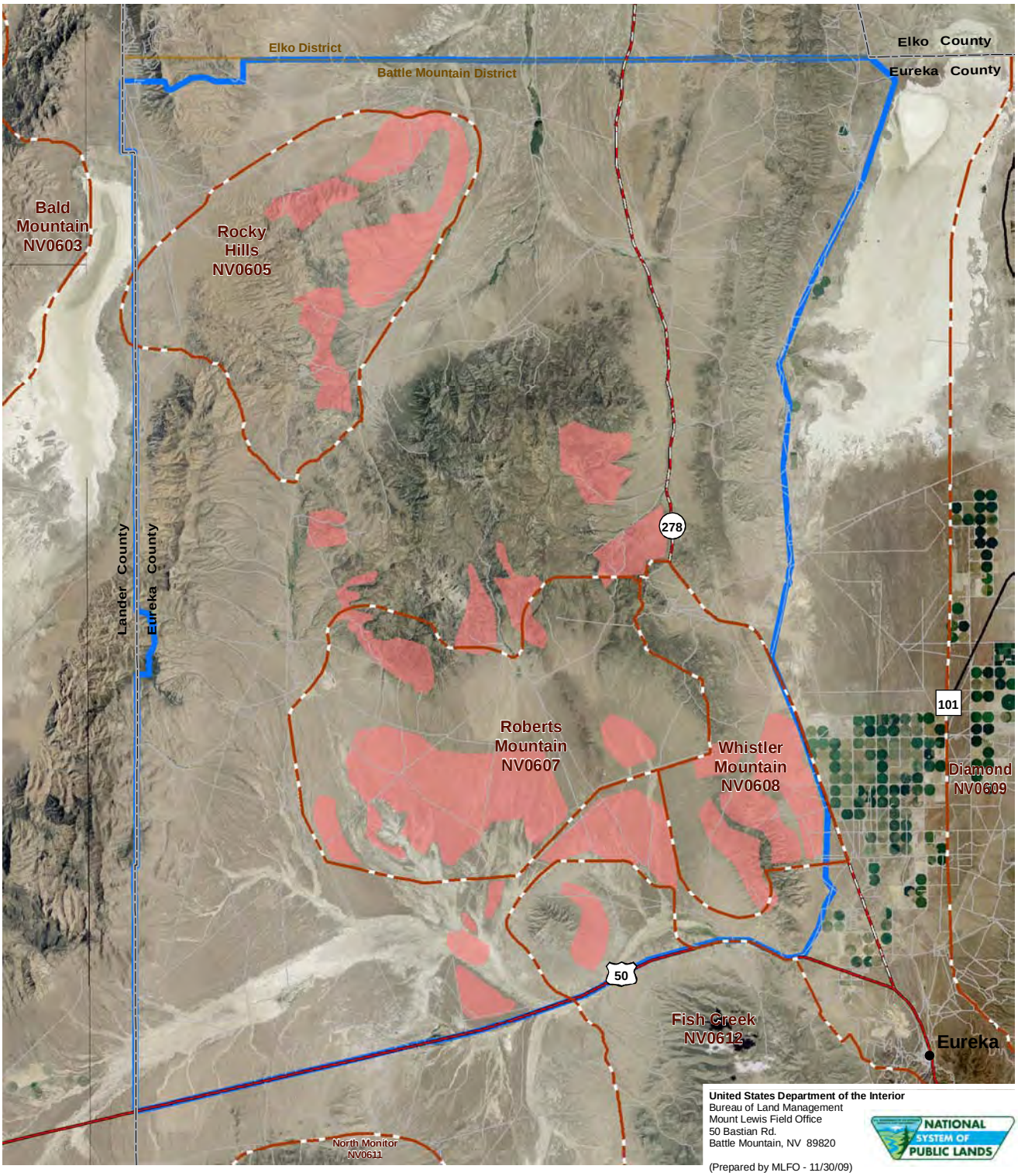
- Production of the dominant and/or native perennial grass and forb components on all range sites achieves a minimum of 50% of the range site potential.
- Plant species frequency, production, and composition indicate an upward trend at range sites where the dominant and/or co-dominant species are missing.
- Whistler Mountain HMA wild horse population maintained below the established AML range of 14 to 24 wild horses.
- Fish Creek HMA (north) wild horse population maintained below the established AML range of 6 to 10 wild horses.
- Rocky Hills HMA wild horse population maintained below the established AML range of 86 to143 wild horses.
- Roberts Mountain HMA wild horse population maintained below the current established AML of 150 horses.
    - It is desirable for a range of AML to be established for this HMA to indicate a low population and high population. The estimated range based on existing knowledge/data is 90t to 150 wild horses.
- Wild horse populations maintain average body condition scores of 5 or higher on a year-round basis.
- No occurrence of the need to conduct emergency gathers or to haul water to HMAs.
- All unnecessary fences are completely removed within the 3-Bars ecosystem.

Ongoing and Proposed Studies

- September 2009 Inventory Summary for Rocky Hills HMA
- Monitoring Report for Rocky Hills HMA 2008-2009
- Rangeland Health Monitoring for the Three Bars, JD, Flynn/Parman, Romano and Lucky C allotments will be collected Fiscal Year 2010 (October 2009-July 2010). These studies will include: utilization, use pattern mapping, ecological site inventory, frequency, production, line-point intercept, gap intercept, line intercept, and soil stability.

Maps and Figures

- Figure 2.3.1 - Habitat Improvement Needed
- Figure 2.3.2 - Condition of Water Resources
- Figure 2.3.3 - Condition of Fences within HMAs



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NATIONAL SYSTEM OF PUBLIC LANDS

Legend

- Herd Management Area
- Areas where habitat improvement is needed

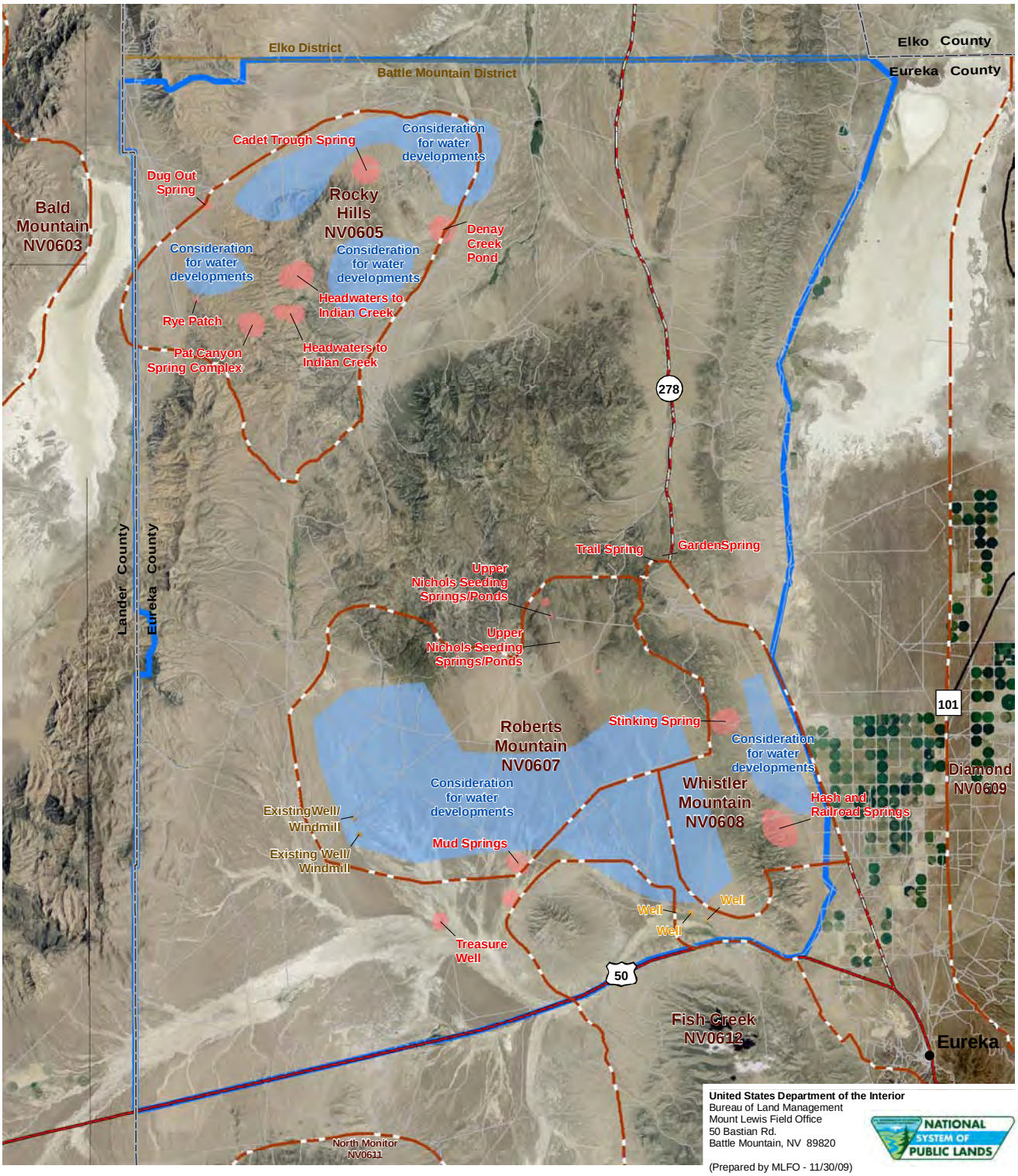
Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.3.1

Habitat Improvement Needed

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



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NATIONAL SYSTEM OF PUBLIC LANDS

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Legend

- 3-Bars Project Area - PROPOSED
- Herd Management Area

Condition of Water Sources

- Poor
- Poor/Inaccessible
- Water Lacking
- Not Functioning

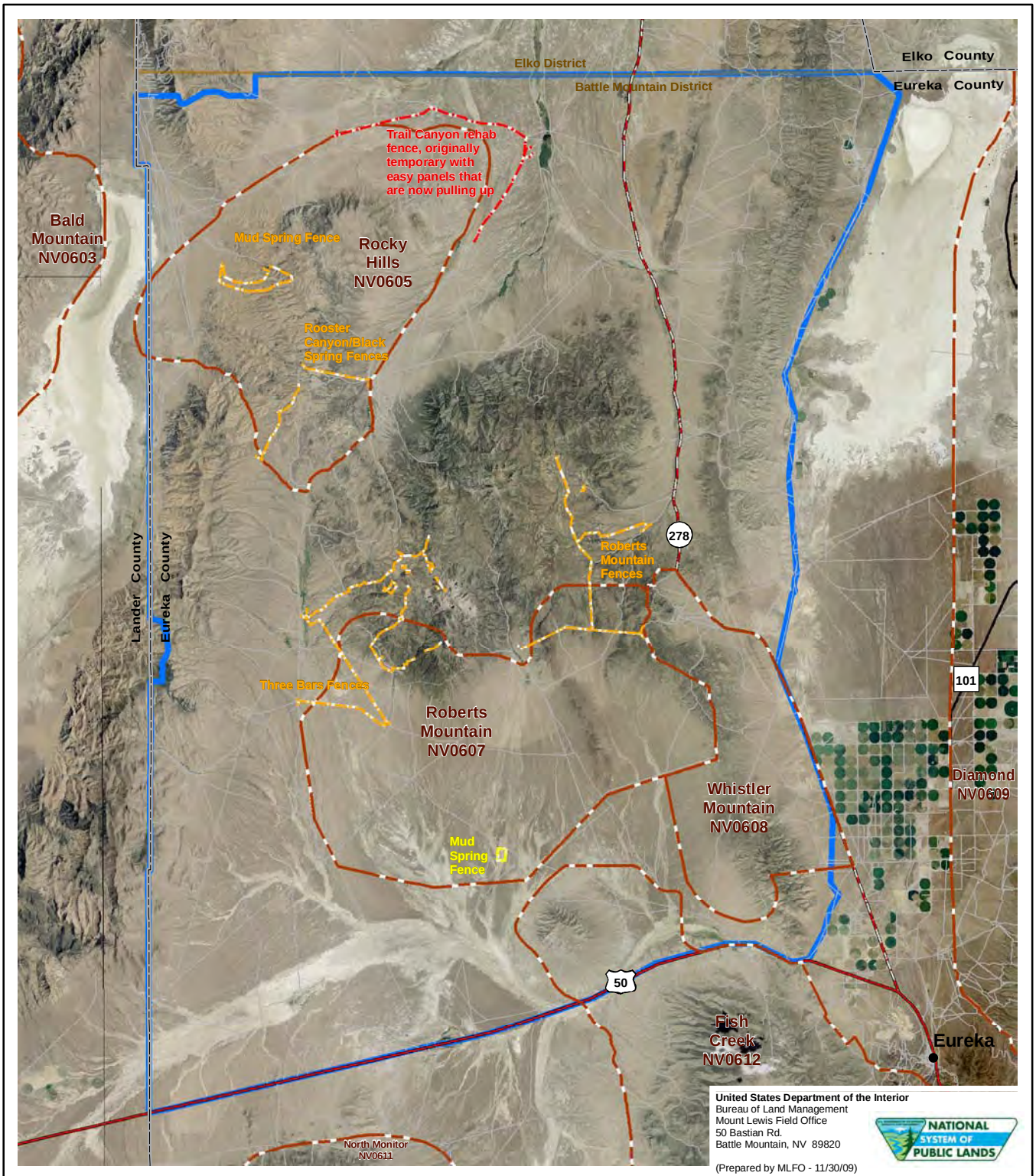
Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.3.2

Condition of Water Sources

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



Legend

3-Bars Project Area - PROPOSED

Fence Condition

- Disrepair
- Poor
- Unknown

Herd Management Area

Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.3.3

Condition of Fences within HMAs

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N

2.4 VEGETATION RESOURCES

Current Conditions and Regulatory Framework

Vegetation serves multiple purposes on the landscape and provides many ecosystem services. Vegetation stabilizes soils, prevents erosion, uses carbon dioxide, releases oxygen, increases animal species diversity, and provides habitat and food for animals and products for human use. Many of the BLM's land management policies are directed toward maintenance of healthy vegetation communities. The *Public Rangelands Improvement Act of 1978* requires the BLM to manage, maintain, and improve the condition of the public rangelands so that they become as productive as feasible.

The 3-Bars ecosystem includes diverse upland vegetative community types. Upland community types include Wyoming sagebrush/rabbitbrush, low sagebrush, black sagebrush, mountain sagebrush, and pinyon/juniper woodland. Also included in the ecosystem are seeps and springs that create small riparian zones or meadows with distinctive vegetation. Aspen stands are a common feature of riparian zones.

The following terms are used in evaluating the condition of vegetation communities (per BLM Technical Reference 1734–7 [December 2001]):

- **Potential natural community:** The biotic (plant) community that would become established if all successional sequences were completed without interference by man under the present environmental conditions. Natural disturbances are inherent in development. Potential Natural Communities can include naturalized nonnative species.
- **Succession:** The progressive replacement of plant communities on a site that leads to the potential natural plant community (i.e., attaining stability). Primary succession entails simultaneous succession of soil from parent material and vegetation. Secondary succession occurs following disturbances on sites that previously supported vegetation and entails plant succession on the more mature soils.
- **Successional status or seral stages:** The present state of vegetation and soil protection of an ecological site in relation to the potential natural community for the site. Successional status is the expression of the relative degree to which kinds, proportions, and amounts of plants in a community resemble that of the potential natural community. The four classes of successional status ratings, expressed in terms of similarity to the potential natural community, are: 0 to 25% early seral class, 26 to 50% mid seral, 51 to 76% late seral, and 76 to 100% Potential natural community.
- **Desired plant community:** Of the several plant communities that may occupy a site, it is the one that has been identified through a management plan to best meet the plan's objectives for the site. It must protect the site at a minimum.

Key Findings

The following are key findings from the assessment of current conditions of vegetation resources on the 3-Bars ecosystem:

- Encroachment and expansion of pinyon-juniper into important wildlife and key sage-grouse habitats.
- Deterioration in the condition of native plant communities.
- Invasion of undesirable plant species (invasive and non-native species and noxious weeds) into key sage-grouse and other wildlife habitats.

- Decline of aspen, mountain mahogany, willow, and other important plant community components resulting from failure to regenerate and/or recruit.
- Decline of upland perennial deep-rooted grasses resulting in decreased infiltration rates and increased run-off and surface erosion.
- Decline in seral status and plant vigor for meadow and riverine community types.
- Decline in bank stability.
- Decline in wetland obligate species and plant vigor.
- Degraded range conditions and deteriorating native plant communities as a result of past and/or current grazing practices and past disturbances.
- Lack of understory species and diversity, absence or decline in associated woodland species (aspen, bitterbrush, mahogany, etc.) sensitive values.
- Decreased pine nut production and tree vigor.
- Decline in woodland health indicated by pathogen infestations resulting in >20% on-going mortality within a given stand.
- Presence of Category A, B, and C State of Nevada noxious weeds (defined in **Section 2.5**) within 3-Bars ecosystem.
- Presence of cheatgrass monocultures resulting from past wildfires within project area boundaries.
- Decline in distribution and abundance of traditional/edible, medicinal plants.
- Excessive fuel loadings are contributing to catastrophic fire potential and wildfire threats to resource values.
- Hazardous fuel situations caused by continuous closed canopy stands and excessive ladder fuels are contributing to catastrophic fire potential and wildfire threats to resource values.
- Decline in ecosystem health is contributing to catastrophic fire potential and wildfire threats to resource values.

There is a need to:

- Reduce pinyon and juniper tree densities and occurrence in important wildlife habitats and in areas outside of historical ranges in order to enhance wildlife habitat.
- Increase regeneration ability and success to increase plant community diversity, health and vigor of desirable species.
- Encourage understory species and desired plant communities in order to improve range conditions.
- Reduce hazardous fuel loads, spatially decrease fuel continuity both in the surface fuels and aerial fuels, reduce excessive fuel ladders where appropriate, and improve rangeland condition class in order to improve ecosystem health and reduce catastrophic fire potential and wildfire threats to resource values.

- Improve key species production, decrease the impacts of plant utilization, and improve the vegetative use patterns of wildlife, livestock, and wild horses in order to improve rangelands that have been historically over utilized or degraded.
- Improve Phase Class / Condition Class from II and III (mid- and late succession) to Class I (early succession; see **Table 2-1**) in order to encourage improvement of understory plant species diversity and abundance, and abundance and health of associated woodland species such as aspen and mountain mahogany.
- Reduce pinyon-juniper stocking rates by 280 to 1,200 stems/acre in order to encourage pine nut production and tree vigor. There exists a need to reduce pinyon-juniper mortality rates by 5 to 15% to less than 20% in order to improve overall woodland/forest health.
- Control Category A, B, and C State of Nevada noxious weeds (defined in **Section 2.5**) to meet mandated levels.
- Reduce cheatgrass monocultures in wildland fire scars in order to improve and restore habitats.
- Improve the relative abundance of desirable plant species in previously identified locations (obtained through Native American consultation) in order to increase distribution and abundance of traditional/edible, medicinal plants.

Desired Conditions

The following vegetation resource conditions are desired by the BLM for the 3-Bars ecosystem:

- Pinyon-juniper distribution occurs within historical ranges.
- Pinyon-juniper expansion areas (outside of historical range) restored to Desired Plant Community.
- Ability to sustain regeneration/recruitment of desirable species such as aspen, bitterbrush, and mountain mahogany.
- Understory plant species at 75 to 100% of Potential Natural Community.
- Production of the dominant and/or native perennial grass and forb components on all range sites achieve a minimum of 50% of the range site potential; native plant communities are encouraged and maintained.
- Plant species frequency, production, and composition indicate an upward trend at range sites where the dominant and/or co-dominant species are missing.
- Catastrophic wildfire risk is “Moderate” or below.
- Grazing management systems meet or make significant progress towards meeting Northeastern Great Basin Resource Advisory Council’s Standards and Guidelines.
- Noxious weeds and invasive, non-native species are systematically eliminated as discovered.
- Distribution and abundance of traditional/edible, medicinal plants is improved.
- Health, vigor, and diversity of upland plant communities are maintained and/or improved.
- Wildlife habitat conditions and ecological processes are maintained and/or improved.

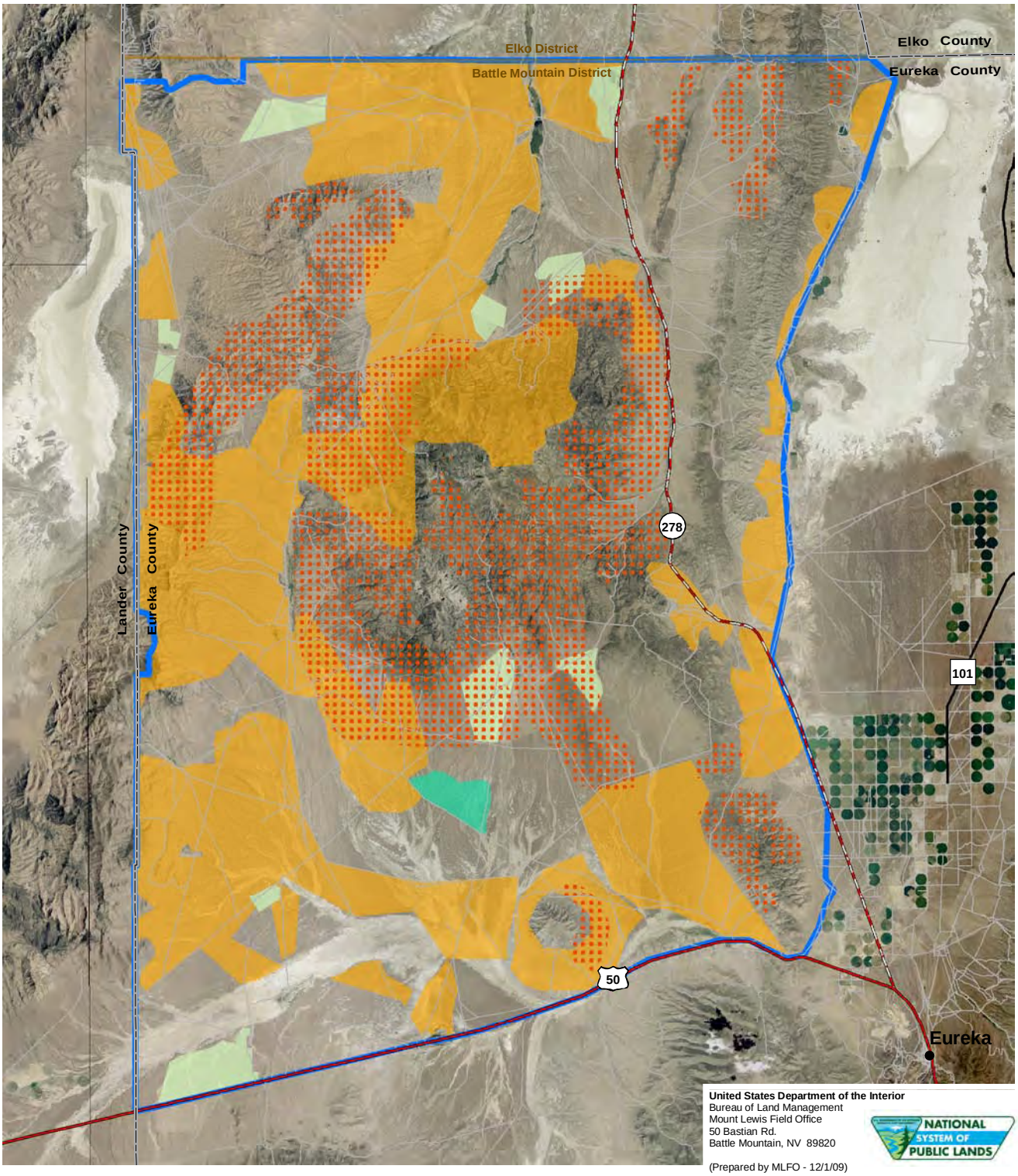
- Riparian plant communities with mid-late seral characteristics and high root-stability ratings are improved and/or maintained.

Ongoing and Proposed Studies

- Rangeland health monitoring data for the Three Bars, JD, Flynn/Parman, Romano and Lucky C allotments will be collected during Fiscal Year 2010 (October 2009 to July 2010). These studies will include: utilization, use pattern mapping, ecological site inventory, frequency, production, line-point intercept, gap intercept, line intercept, and soil stability.
- Updated pinyon-juniper mapping delineating pinyon-juniper expansion areas from persistent and old-growth woodlands.
- Woodland surveys/transects/remote sensing and Geographic Information System (GIS) analysis.
- Woodland Phase Class Assessments.
- Current pine nut production data.
- Aspen condition surveys.
- Site/risk assessments for Pete Hanson Creek, Tonkin Mine, 3-Bars-Roberts, and Whistler.
- Fire Regime Condition Class assessments, including forest health and pathogens/mortality.
- Multiple indicator monitoring studies on important riparian-wetlands within the project area.

Maps and Figures

- Figure 2.4.1 - Deteriorating Upland Plant Communities
- Figure 2.4.2 - Deteriorating Riverine/Wetland-Riparian Plant Communities
- Figure 2.4.3 - Potential Natural (Native) Vegetation



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Legend

3-Bars Project Area - PROPOSED

Deteriorating Upland Plant Communities

- Pinyon-Juniper Encroachment and/or Expansion
- Sagebrush Monocultures
- One or more perennial grass species missing
- Key species composition and/or production below PNC

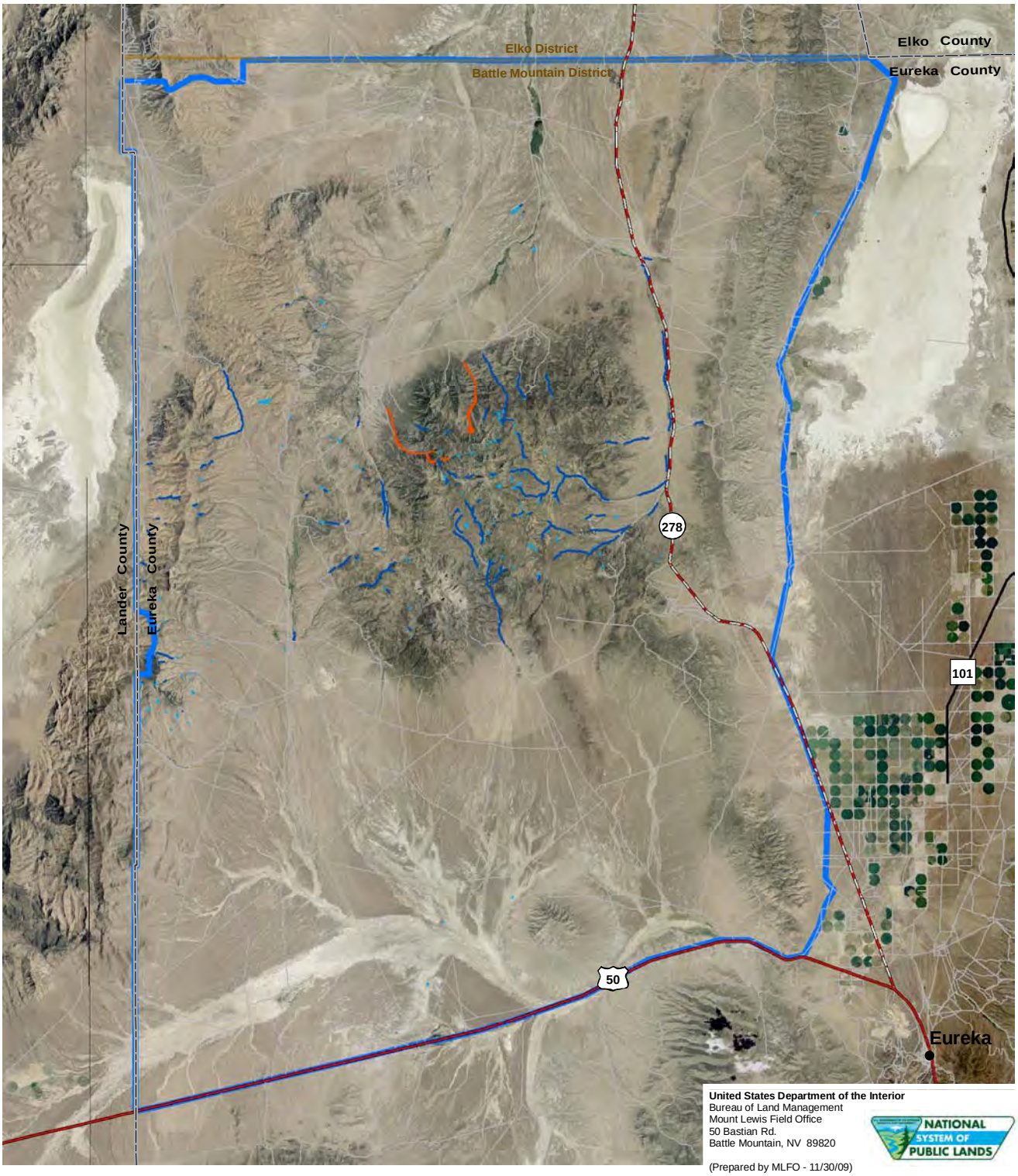
Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.4.1

Deteriorating Upland Plant Communities

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



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NATIONAL SYSTEM OF PUBLIC LANDS

Legend

3-Bars Project Area - PROPOSED

Deteriorating Riverine/Wetland-Riparian Plant Communities

Wetlands-Riparian Areas not Meeting PFC Standard or FAR UP Yielding Significant Progress (Not to Scale)

Riverine Areas not Meeting PFC Standard or FAR UP Yielding Significant Progress (Not to Scale)

Pinyon-Juniper Encroachment and/or Expansion

Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.4.2

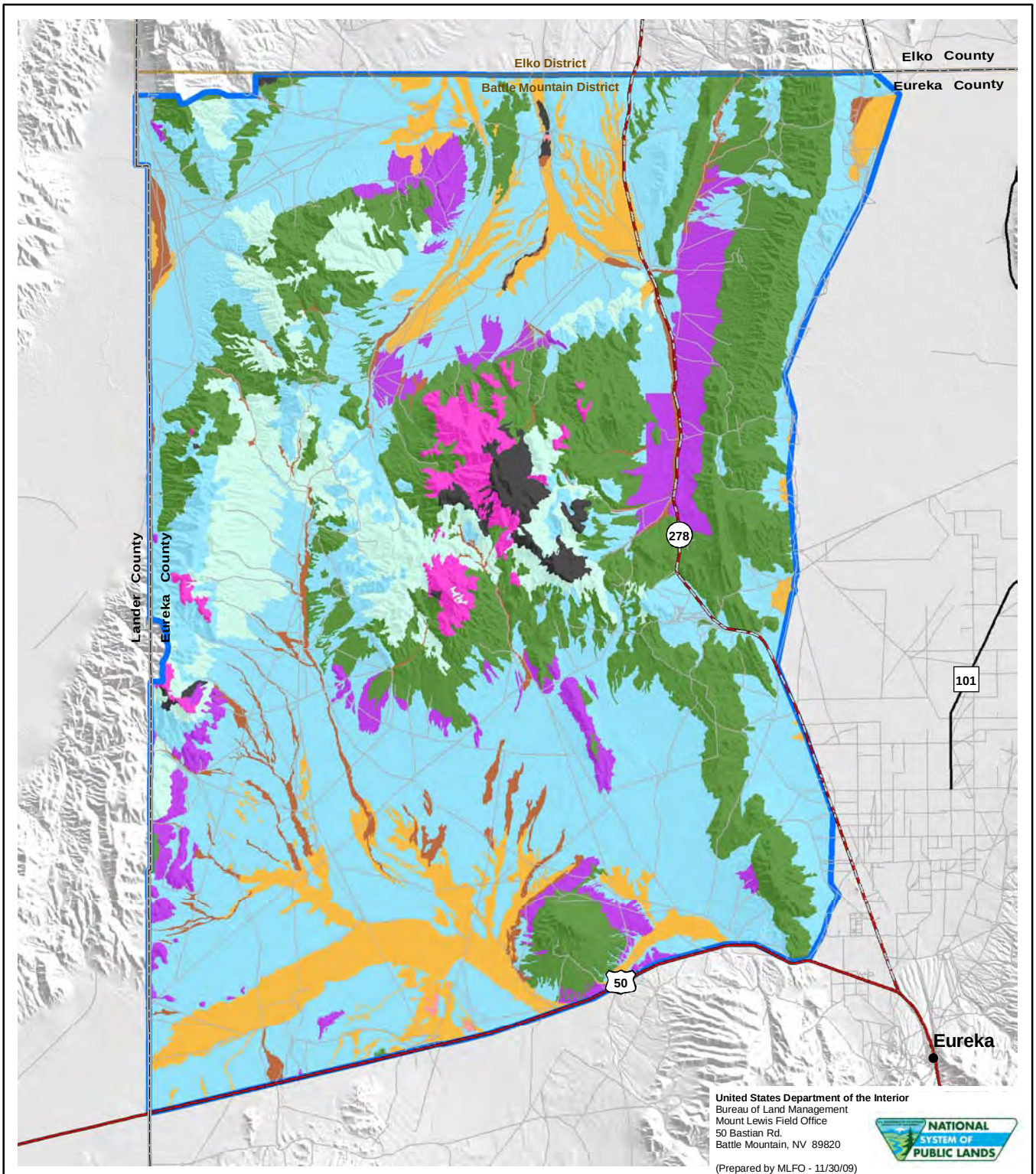
Deteriorating Riverine/Wetland-Riparian Plant Communities

0 1 2 3 4 5 10 Miles

0 1 2 3 4 5 10 Kilometers

1:400,000

N



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Potential Natural Vegetation or Ecological Site

- Basin Wildrye/Basin Big Sagebrush
- Big Sagebrush/Grass Association
- Black Sagebrush/Indian Ricegrass Association
- Low Sagebrush/Bluebunch Wheatgrass Association
- Meadow/Mountain Shrub Association
- Mountain Mahogany Association
- Pinyon/Juniper Association
- Salt Desert Shrub Association
- No Significant Vegetation

Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.4.3

Potential Natural (Native) Vegetation

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N

2.5 NOXIOUS WEEDS, INVASIVE AND NON-NATIVE PLANT SPECIES

Current Conditions and Regulatory Framework

The term "weed" includes any plant growing where it is not wanted, and includes noxious weeds, native invasive species, and non-native species. Within the 3-Bars ecosystem, weeds categorized by the State of Nevada as "noxious" and invasive and/or non-native annual grasses occur sporadically, particularly infesting wildfire burn scars and other disturbance areas. Noxious weeds are concentrated around areas of high soil disturbance along road sides and soil/vegetation disturbance associated with water ways.

A noxious weed is any plant designated by a federal, state, or county government as injurious to public health, agriculture, recreation, wildlife, or property. The most current and up-to-date list of noxious weeds designated by the Nevada Department of Agriculture is available on their website, http://agri.nv.gov/nwac/PLANT_NoxWeedList.htm and includes:

- **Category "A":** Weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations.
- **Category "B":** Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously unknown to occur.
- **Category "C":** Weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer.

Depending on the dominant physical and physiological characteristic of weed spread, weeds establish themselves primarily in disturbed areas through seed dispersal (by wind, water, animal fur, or animal dung) or through vegetative plant part regrowth (plant part transported in the tires, undercarriage, or moving parts of vehicles or equipment and grows in new area).

Two acts provide for management and control of invasive vegetation. The *Carlson-Foley Act of 1968* and the *Plant Protection Act of 2000* (Public Law 106-224; includes management of undesirable plants on federal lands) authorize the BLM to manage noxious weeds and to coordinate with other federal and state agencies in activities to eradicate, suppress, control, prevent, or retard the spread of any noxious weeds on federal lands. The *Federal Noxious Weed Act of 1974* established and funded an undesirable plant management program, implemented cooperative agreements with state agencies, and established integrated management systems to control undesirable plant species. The *Noxious Weed Control Act of 2004* established a program to provide assistance through states to eligible weed management entities to control or eradicate harmful, nonnative weeds on public and private lands. Executive Order 13112, *Invasive Species,* directs federal agencies to prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause.

The 3-Bars ecosystem will likely see increases in surface area disturbance, increasing the potential for noxious weed establishment. BLM Manual 9015.8 provides policy relating to the management and coordination of noxious weed activities. The policy requires that ground-disturbing projects and projects that alter plant communities be assessed to determine the risk of introducing or spreading noxious weeds. If the

risk is moderate or higher, a management program needs to be established. Implementation of the BLM Battle Mountain District's Integrated Weed Management Plan will be part of the mitigation strategy for 3-Bars Project implementation based on treatment and area specific risk assessments.

The Integrated Weed Management Plan is most concerned with State of Nevada noxious weeds and invasive annual grasses found on or with the potential to spread into the jurisdictional boundaries of the District. The District's current weed suppression efforts are concentrated on Russian knapweed, salt cedar (tamarisk), perennial pepperweed (tall white top), hoary cress, various thistle species, and non-native annual grasses. Infestations of weeds not previously known to occur in this area have been identified in and around the Diamond Valley/Eureka agricultural area. Elongated mustard is not currently listed as a State of Nevada noxious weed. However, it is listed in surrounding states and should be closely watched for extent of spread and establishment. Prioritization of treatment methods, target species, and infestation treatments are based on land management goals, available funding, infestation size, and proximity to sensitive ecological areas.

Partners Against Weeds: An Action Plan for the Bureau of Land Management and *Pulling Together: National Strategy for Invasive Plant Management* identify broad objectives for management of vegetation on BLM-administered lands, while treatment activities at the local level are guided by the goals, standards, and objectives of land use plans developed for each BLM field office. The BLM's noxious weed and invasive vegetation control program has four performance measures: inventory, treatment, post-treatment effectiveness monitoring, and public education and outreach. BLM funding is associated with achievement of performance measures targets.

Key Findings

The following are key findings from the assessment of current conditions of noxious weeds and undesirable native and non-native species on the 3-Bars ecosystem:

- Presence of Category A, B, and C State of Nevada noxious weeds within the 3-Bars ecosystem.
- Presence of cheatgrass monocultures resulting from past wildland fires within the 3-Bars ecosystem.

There is a need to:

- Control Category A, B, and C State of Nevada noxious weeds to meet mandated levels.
- Reduce cheatgrass monocultures in wildland fire scars in order to improve and restore habitats.

Desired Conditions

The following noxious weed acreage, and undesirable native and non-native species conditions, are desired by the BLM for the 3-Bars ecosystem:

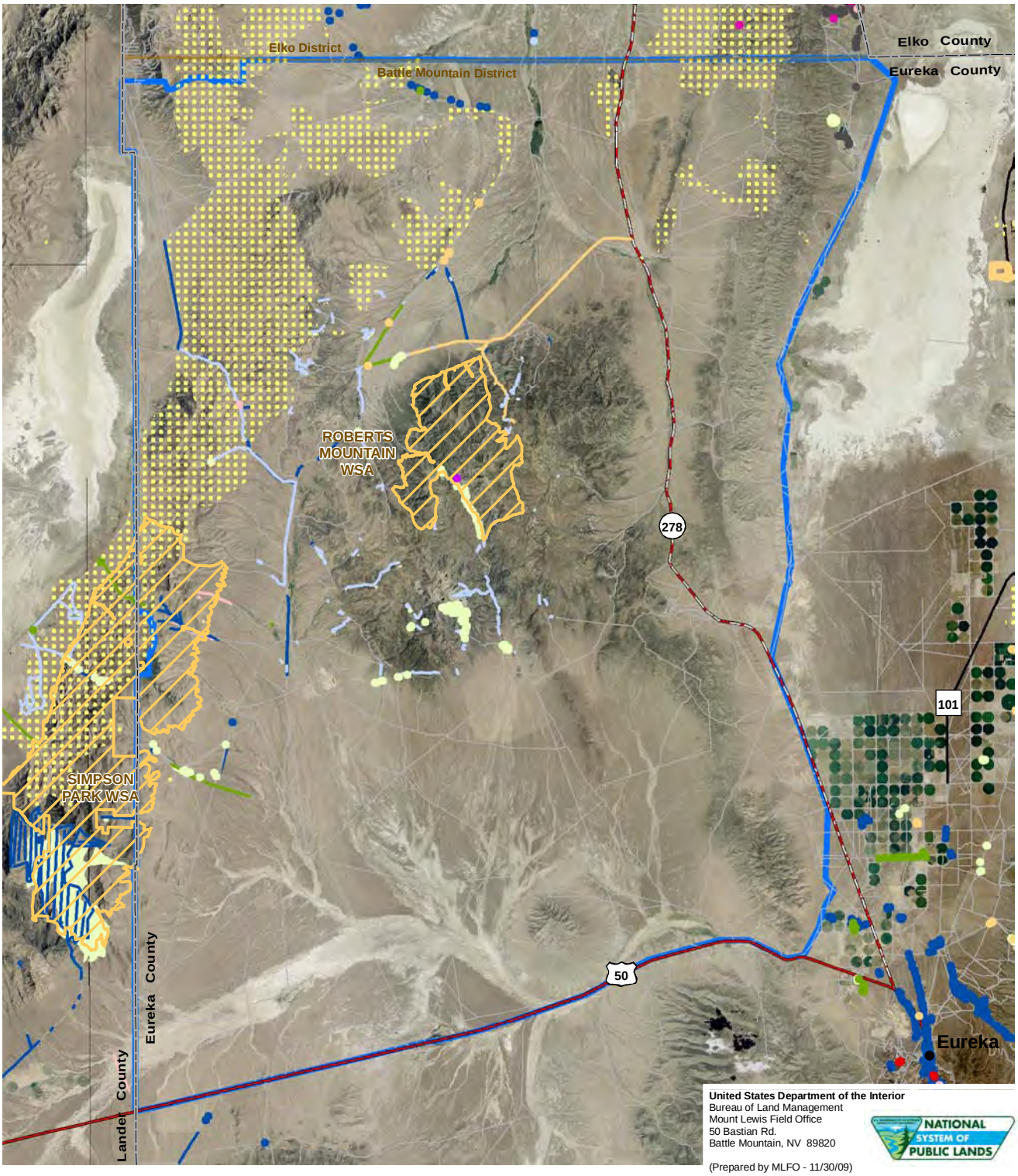
- 0 acres of Category A State of Nevada Noxious Weeds
- <500 acres Category B State of Nevada Noxious Weeds
- <1,500 acres Category C State of Nevada Noxious Weeds
- Cheatgrass monocultures should be less than 25% in any given fire scar

Ongoing and Proposed Studies

- Rangeland health monitoring for the Three Bars, JD, Flynn/Parman, Romano and Lucky C allotments will be collected during Fiscal Year 2010 (October 2009 to July 2010). These studies will include: utilization, use pattern mapping, ecological site inventory, frequency, production, line-point intercept, gap intercept, line intercept, and soil stability.
- The BLM weed management specialist and the Bootstraps Conservation Crew are currently working with the Diamond Valley Weed District (Eureka County) to survey the Diamond Valley allotments: North Diamond, Diamond Springs, Roberts Mountain, 3-mile, Flynn/Parman, Black Point, Ruby Hill and Shannon Station. Spot weed control treatments are being conducted during the surveys when feasible.
- The Fluffy Flat fire emergency stabilization and rehabilitation cheatgrass Plateau treatment was implemented in the Fall of 2009 and will be monitored for pre-emergent success during the next growing season.

Maps and Figures

- Figure 2.5.1 - Known Areas of Noxious Weeds and Cheatgrass



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Legend

- Cheatgrass Monoculture Potential
- Wilderness Study Area

Noxious Weeds

- Black henbane
- Bull thistle
- Canada thistle
- Curly dock
- Diffuse knapweed
- Hoary cress
- Leafy spurge
- Musk thistle
- Perennial pepperweed
- Poison hemlock
- Purple loosestrife
- Russian knapweed
- Russian thistle
- Scotch thistle
- Spotted knapweed
- Tamarisk

Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.5.1

Known Areas of Noxious Weeds and Cheatgrass

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N

2.6 FOREST AND WOODLAND RESOURCES

Current Conditions and Regulatory Framework

The upland and woodland areas of the 3-Bars ecosystem are extensive, occurring primarily between 6,500 and 9,500 feet in elevation. The woodland areas consist primarily of single-leaf pinyon and Utah Juniper; however, other species are also found including curl-leaf mahogany and limber pine. These woodland areas consist of approximately 154,421 acres**.** Values include wildlife habitat, fisheries, cultural and Native American values, major watersheds and associated riparian corridors, aspen stands, and forest products. The *Federal Land Policy Management Act* and BLM Manual 5000-1, *Forest Management Public Domain*, include requirements for planning and implementing forestry and woodland management projects.

Forest products that can be harvested in the area (with permit) are wood products, pine nuts, native seed, and Christmas trees. The wood products harvested in the 3-Bars ecosystem are fuel wood (deadwood and greenwood) and posts. Deadwood can be harvested anywhere on BLM lands on the District except for Wilderness Study Areas; however, greenwood and posts must be harvested within a designated area. There are three designated harvest units within the 3-Bars ecosystem (Dry Creek, Henderson Summit, and Whistler), encompassing approximately 9,000 acres. Pine nuts (personal and commercial collection) are also harvested within the 3-Bars ecosystem. There are three designated areas for commercial pine nut harvest (North Simpson, Roberts, and Whistler/Sulphur Springs) totaling 303,252 acres. Harvest areas were designated by the *Shoshone-Eureka Resource Management Plan* and its amendments and completely encompass the actual woodland areas. Within the 3-Bars ecosystem, there is only one harvest unit for commercial seed harvest, Trail Canyon (14,170 acres) established after the Trail Canyon fire in 1999. There are also harvest units for commercial Christmas tree harvests (Simpson Parks, Sulphur Springs, Roberts, and Whistler) encompassing 292,650 acres.

Key Findings

The following are key findings from the assessment of current conditions of forest and woodland resources on the 3-Bars ecosystem:

- Lack of understory species and diversity, absence, or decline in associated woodland species (aspen, bitterbrush, mahogany, etc.) sensitive values.
- Decreased pine nut production and tree vigor.
- Declining woodland health indicated by pathogen infestations resulting in >20% on-going mortality within a given stand.
- Documented stand conditions in excess of 1,200 trees/acre in critical watersheds.
- Pinyon-juniper expansion onto adjacent range sites and encroachment into the interspaces within woodland sites.

There is a need to:

- Improve Phase Class and/or Fire Regime Condition Class from II and III (mid- and late succession) to Class I (early succession) (further defined in **Tables 2-1 and 2-2**) in order to encourage improvement

of understory species and diversity, occurrence, and health of associated woodland species such as aspen and mountain mahogany.

- Reduce pinyon-juniper stocking rates by 280 to 1,200 trees/acre in order to encourage pine nut production and tree vigor. There exists a need to reduce mortality rates by 5 to 15% to less than 20% in order to improve overall woodland/forest health.

Desired Conditions

The following forest and woodland resource conditions are desired by the BLM for the 3-Bars ecosystem:

- Pinyon-juniper distribution occurs within historical ranges.
- Pinyon-juniper expansion areas (outside of historical range) restored to Desired Plant Community (defined in **Section 2.4**).
- 0 trees per acre in important wildlife habitats, within Phase I and Phase II stage of woodland succession (old-growth excluded: trees >150 years old).
- Phase of woodland succession – Phase Class I or II (defined in **Table 2.1**) dependant on management objectives for a given stand.
- Suitable forested lands are managed for optimum production of woodland products on a sustained-yield basis, while protecting sensitive values.
- Certain historical pinyon-juniper woodlands are set aside for noncommercial pine nut gathering by Nevada Indians and all other members of the public.
- 20 to 200 pinyon-juniper trees/acre dependant on management objectives for a given stand.
- Fire Regime Condition Class 1 (defined in **Table 2.2**).

Ongoing and Proposed Studies

- Pinyon mapping to include designation of old-growth, persistent, and expansion woodlands
- Woodland surveys/transects/remote sensing and GIS analysis
- Woodland Phase Class Assessments
- Current pine nut production data
- Aspen condition surveys
- Fire Regime Condition Class Assessments for forest health and pathogens/mortality

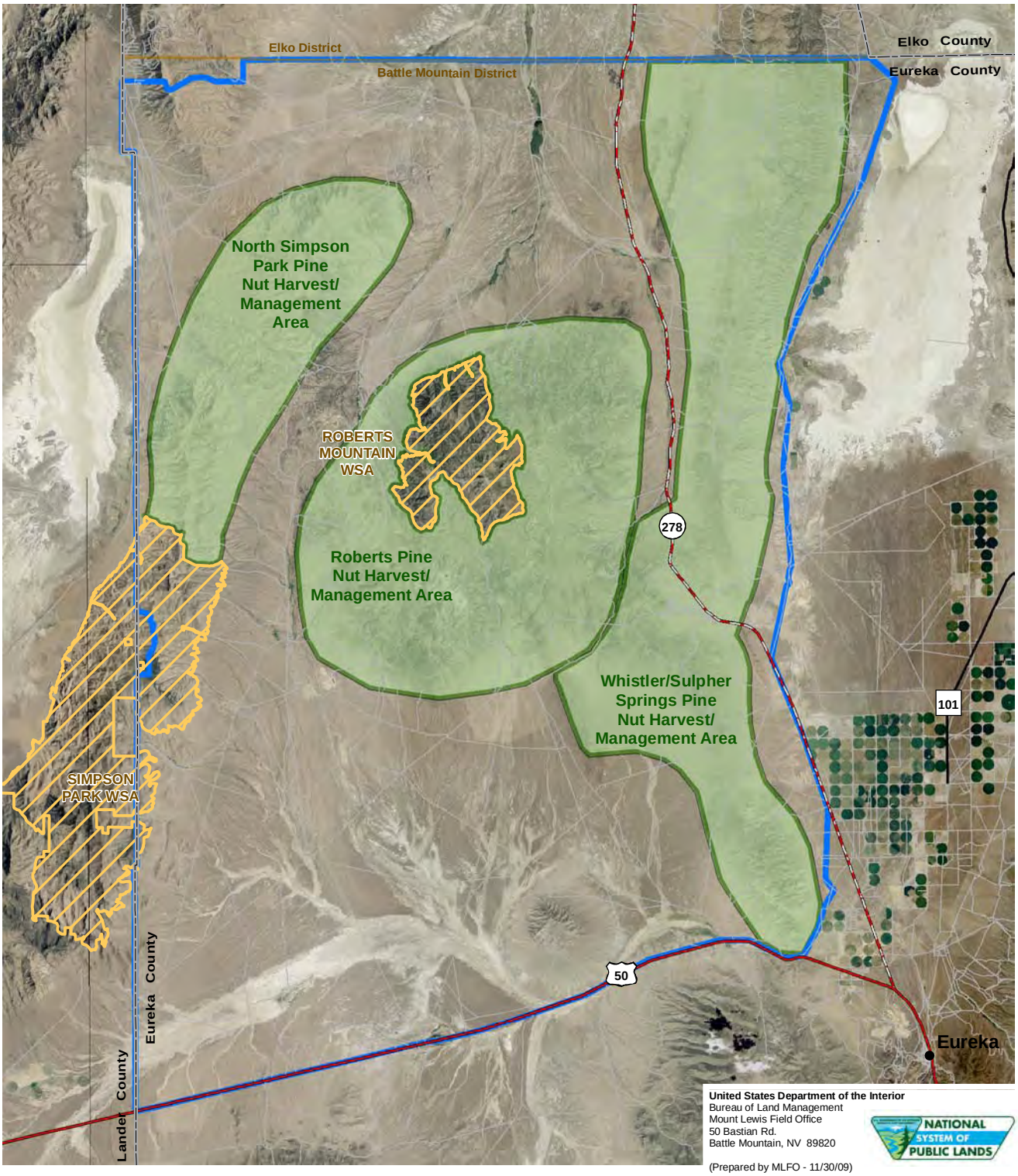
Maps and Figures

- Figure 2.6.1 - Pine Nut Crop Conditions
- Figure 2.6.2 - Declining Woodland Health and Diversity

Table 2.1. Phase Class Description – Phases of Woodland Succession

Characteristics (post-settlement stands)	Phase I (early succession)	Phase II (mid-succession)	Phase III (late succession)
Tree canopy (% of maximum potential	Open, actively expanding <20%	Actively expanding 20 to 50%	Expansion nearly stabilized >50%
Juniper leader growth (dominant trees) in centimeters/year (cm/yr)	Terminal >10 Lateral >10	Terminal >10 Lateral 5 to >10	Terminal >10 Lateral < 5
Pinyon leader growth (dominant trees) cm/yr	Terminal >10 Lateral >5	Terminal >8 Lateral 2 to <8	Terminal >5 Lateral >2
Crown lift* (dominant trees)	Absent Absent		Lower limbs dying or dead, usually where tree canopy >40%
Potential juniper berry production	Low	Moderate to high	Low to near absent
Potential pinyon seed production	Low	Moderate to high	Low to near absent in expansion woodlands, low to moderate in some old-growth
Tree recruitment	Active	Active	Limited
Shrub layer	Intact	Nearly intact to significantly thinning	>75% dead

* Crown lift is the mortality of lower limbs, usually due to shading by neighboring trees, but also occurs on large, old trees.



Legend

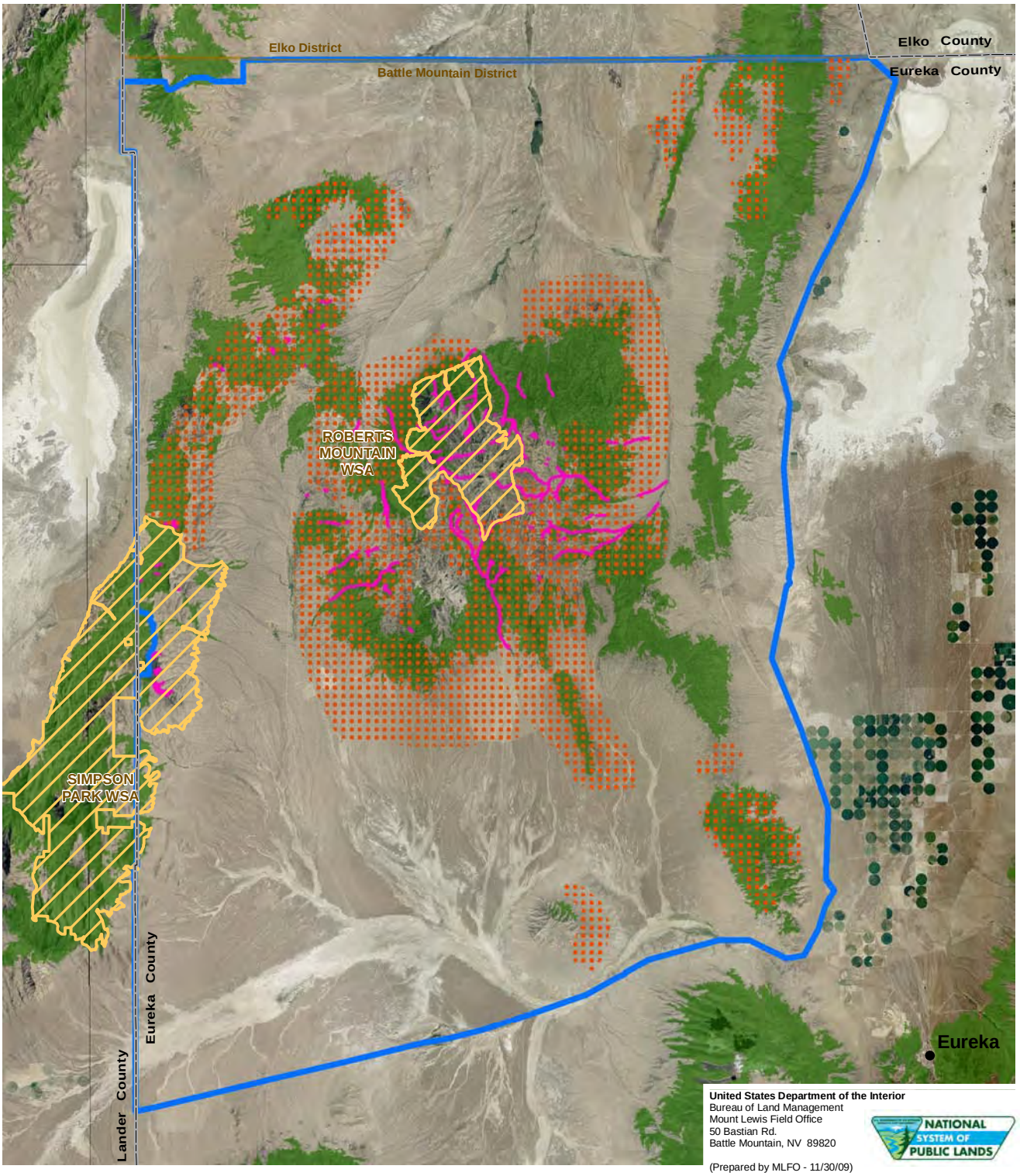
- 3-Bars Project Area - PROPOSED
- Wilderness Study Area
- Potential for Declining Production of Pine Nut Crops

Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.6.1

Pine Nut Crop Conditions

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000
N



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NATIONAL SYSTEM OF PUBLIC LANDS

Legend

- 3-Bars Project Area - PROPOSED
- Wilderness Study Area
- Pinyon-Juniper Forest
- Aspen Regeneration and Recruitment Below Potential or Declining
- Pinyon-Juniper Encroachment and/or Expansion

Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.6.2

Declining Woodland Health and Diversity

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N

2.7 FIRE MANAGEMENT

Current Conditions and Regulatory Framework

The areas within and surrounding the 3-Bars ecosystem are of high value to the Battle Mountain District. The area has a high occurrence of wildfires with large fire potential in many places as demonstrated by past fire history and deviation from historic fire regions (**Tables 2.3 and 2.4**). The District provides aggressive initial attack for all fires within this area. Primary resource values needing protection include wildlife habitats supporting sage-grouse and other BLM-sensitive species, recreation, grazing, mining, watershed, four HMAs, and two Wilderness Study Areas. Federally listed threatened and endangered species that are known to occur in this Fire Management Unit include the Lahontan cutthroat trout (threatened).

Fire management objectives in the area include, but are not limited to:

- Protection of human life, safety of wildland firefighters, and protection of human safety and health
- Protection of property and natural and cultural resources, including preventing the destruction of cultural properties from suppression actions
- Protection of communities and associated infrastructure
- Providing for vegetative and ecological diversity
- Protection of important wildlife habitat from devastating wildland fire effects
- Protection of all fisheries, including existing Lahontan cutthroat trout habitat and historical Lahontan cutthroat trout habitat
- Protection of Herd Management Area foaling areas during foaling seasons
- Providing for vegetative and ecological diversity
- Protection of important raptor nesting habitat
- Protection of riparian areas from devastating wildland fire effects
- Rehabilitating and restoring all wildfires 300 acres or larger
- Utilization of mechanical treatments to reduce wildfire fuel hazards
- Restoring fire as an integral part of the ecosystem

The Battle Mountain District Fire Management Plan was approved in 2004 and provides program guidance based on the Land-use Plan Amendment for Fire Management for the *Shoshone-Eureka Resource Management Plan*. Nationally, the Wildland Fire Management program is guided by the policies expressed in the following national policy documents: 1) *National Fire Plan*; 2) *Healthy Forests Initiative of 2002 and Healthy Forests Restoration Act of 2003* (Public Law 108-148); 3) Chapter 3 *(Interagency Burned Area Emergency Stabilization and Rehabilitation)* in BLM Manual 620 (*Wildland Fire Management*;); 4) *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan*; 5) *Protecting People and Sustaining Resources in Fire Adapted Ecosystems: A Cohesive Strategy*; 6) *Draft Interagency Burned Area Emergency Response*

Guidebook; 7) *Interagency Burned Area Rehabilitation Guidebook*; and 8) *Draft Burned Area Emergency Stabilization and Rehabilitation Handbook.*

Key Findings

The following are key findings from the assessment of fire management conditions on the 3-Bars ecosystem:

- Widespread occurrence of Fire Regime Condition Class II and some Class III (defined in **Table 2.2**).
- Excessive fuel loadings are contributing to catastrophic fire potential and wildfire threats to resource values.
- Hazardous fuel situations caused by continuous closed canopy stands and excessive ladder fuels are contributing to catastrophic fire potential and wildfire threats to resource values.
- Declining ecosystem health is contributing to catastrophic fire potential and wildfire threats to resource values.

According to LANDFIRE analysis and completed site-risk assessments performed throughout the 3-Bars ecosystem, there is a need to reduce hazardous fuel loads; spatially decrease fuel continuity both in the surface fuels and aerial fuels; reduce excessive fuel ladders where appropriate; and improve condition class in order to improve ecosystem health and reduce catastrophic fire potential and wildfire threats to resource values. Specifically, there is a need to:

- Reduce above-ground biomass (all burnable vegetation) in strategic, identified areas by 50 to 95% in order to reduce adjective risk rating by at least 1 step. For example, an area having 59 tons/acre fuel loading would be reduced to 2.95 to 29.5 tons/acre.
- Improve overstory canopy spacing to an average of 30 feet and/or create multiple-canopy openings totaling 30 to 45% of a given continuous stand in strategic areas to inhibit crown fire spread over large areas (an average canopy spacing of 30 feet is roughly 30 to 40 mature trees/acre and is not capable of sustaining crown fires). For example, an area having an existing canopy spacing of 5 to 15 feet with stocking rates of 400 to 600 trees per acre would be thinned to achieve an average canopy spacing of 30 feet. This would mean a reduction of 370 to 570 trees per acre.
- Reduce ladder fuels by 75 to 100% in identified strategic areas to inhibit the propagation of a surface fire into the upper tree canopies (crown fire).
- Improve Fire Regime Condition Class (FRCC) from III and II down to FRCC I in order to improve ecosystem health and reduce catastrophic wildfire potential.
- Maintain areas of Fire Regime Condition Class I in order to maintain ecosystem health and keep catastrophic wildfire risk from exceeding a “moderate” rating.

Desired Conditions

The following fire management conditions are desired by the BLM for the 3-Bars ecosystem:

- Fuel Loading:
  - Sagebrush - <7 tons/acre average
  - Pinyon-juniper woodlands - <29 tons/acre average in pinyon-juniper woodlands

- Fuel Continuity and Arrangement
    - Sagebrush - crown fire ability limited to no more than 2,000 acres
    - Pinyon-juniper woodlands - Canopy spacing > 30 feet and/or m ultiple-strategic canopy openings totaling no more than 45% of a given continuous stand

- Ecosystem Health
    - Fire Regime Condition Class I for all ecosystems (defined in **Table 2.2**)

Ongoing and Proposed Studies

- Site/risk assessments for 3-Bars-Roberts, and Whistler

Maps and Figures

- Figure 2.7.1 - Natural Fire Regimes
- Figure 2.7.2 - Current Fire Regime Condition Class
- Figure 2.7.3 - Fire History and Occurrence
- Figure 2.7.4 - Current Risk of Catastrophic Wildfire and Threat to Natural Resource Values

Table 2.2. Fire Regime Condition Class Descriptions

Condition Class	Fire Regimes	Risk of Losing Key Ecosystem Components	Vegetation Attributes	Acres in 3-Bars Ecosystem*
I	Fire regimes are within an historical range.	Risk of losing key ecosystem components is low.	Vegetation attributes are intact and function within an historical range.	45,000
II	Fire regimes on land have been moderately altered from historical ranges. Fire return intervals have increased or decreased from historical frequencies by 1 or more return intervals, resulting in moderate changes to: • The size, frequency, intensity, or severity of fires; or • Landscape patterns.	There exists a moderate risk of losing key ecosystem components from fire.	Vegetation attributes have been moderately altered from the historical range of attributes.	652,500
III	Fire regimes on the land have been significantly altered from historical ranges. Fire return intervals have increased or decreased from historical frequencies by multiple return intervals, resulting in dramatic changes to: • The size, frequency, intensity, or severity of fires; or • Landscape patterns.	There exists a high risk of losing key ecosystem components from fire.	Vegetation attributes have been significantly altered from the historical range of attributes.	52,500

* Estimated from LANDFIRE database

Table 2.3. Fire History with the 3-Bars Ecosystem

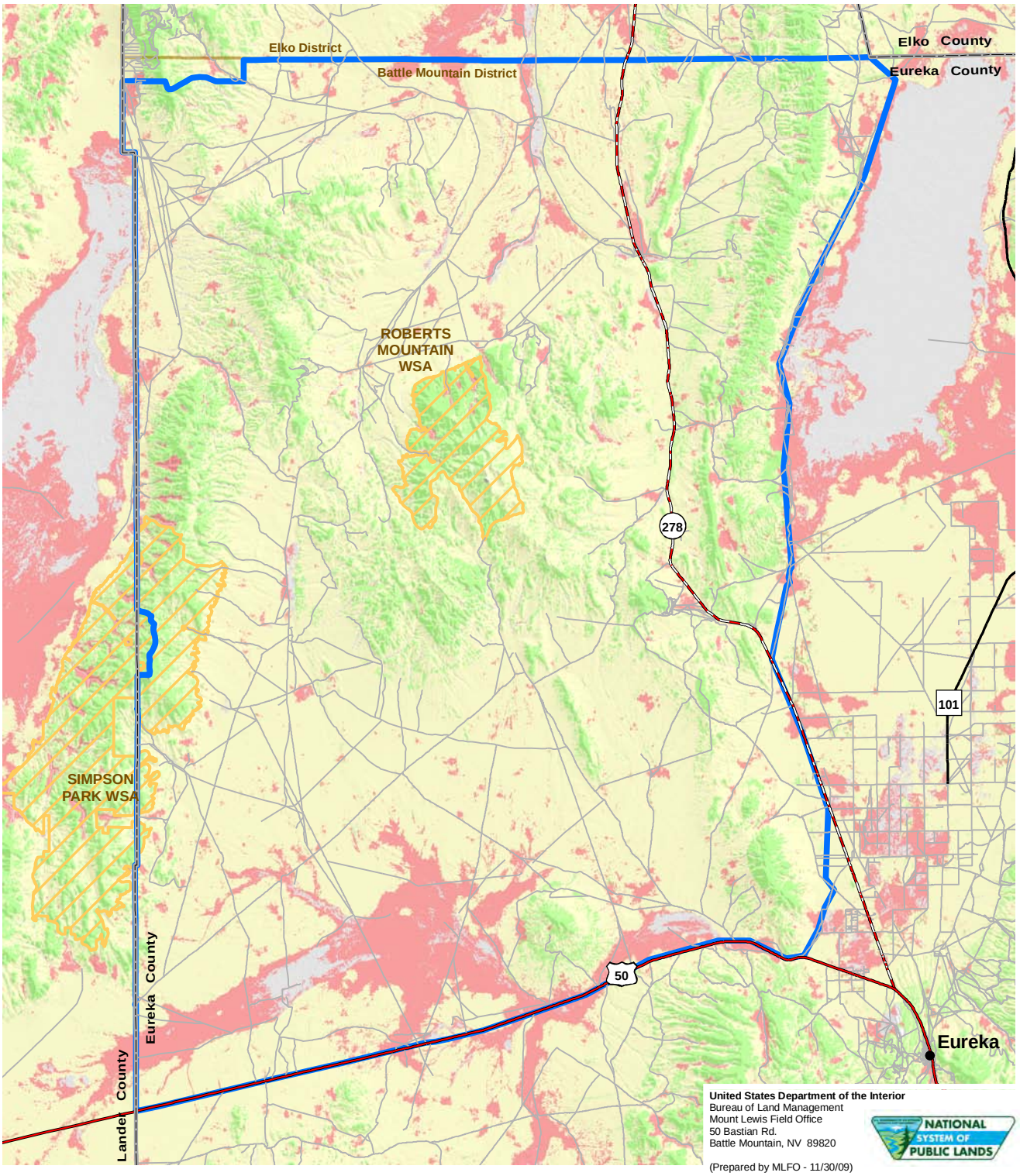
Year	Number of Fires	Total Acres Burned	Year	Number of Fires	Total Acres Burned
1985	8 17,0	37	**1997**	4 2	
1986	4 12		**1998**	8 2,55	0
1987	1 0		**1999**	16 99,7	00
1988	6 652		**2000**	11 1,39	8
1989	7 .3		**2001**	16 13	
1990	10 0.1		**2002**	16 6	
1991	5 1		**2003**	15 31	
1992	8 10.1		**2004**	6 2	
1993	2 0.2		**2005**	21 228	
1994	13 1,30	7	**2006**	9 910	
1995	14 162		**2007**	7 22	
1996	12 2,26	5	**2008**	9 187	

Note: Averag e num ber of fires per y ear = 9.36; aver age acres burned per y ear = 1,218. 2; and for 24- year period, there have been 288 fires that have burned 126,500 acres.

Table 2.4. Fire Regime Descriptions (Historical Fire Regimes)

Group	Frequency	Severity	Severity Description	Number of Acres in Project Area*
I	0 – 35 years	Low / mixed	Generally low-severity fires replacing less than 25% of the dominant overstory vegetation; can include mixed-severity fires that replace up to 75% of the overstory	0
II	0 – 35 years	Replacement	High-severity fires replacing greater than 75% of the dominant overstory vegetation	0
III	35 – 200 years	Mixed / low	Generally mixed-severity; can also include low-severity fires	102,000
IV	35 – 200 years	Replacement	High-severity fires	576,750
V	200+ years	Replacement / any severity	Generally replacement-severity; can include any severity type in this frequency range	71,250

* Estimated from LANDFIRE database



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NATIONAL SYSTEM OF PUBLIC LANDS

Legend

- 3-Bars Project Area - PROPOSED
- Wilderness Study Area

Fire Regimes

- Fire Regime Group III
- Fire Regime Group IV
- Fire Regime Group V

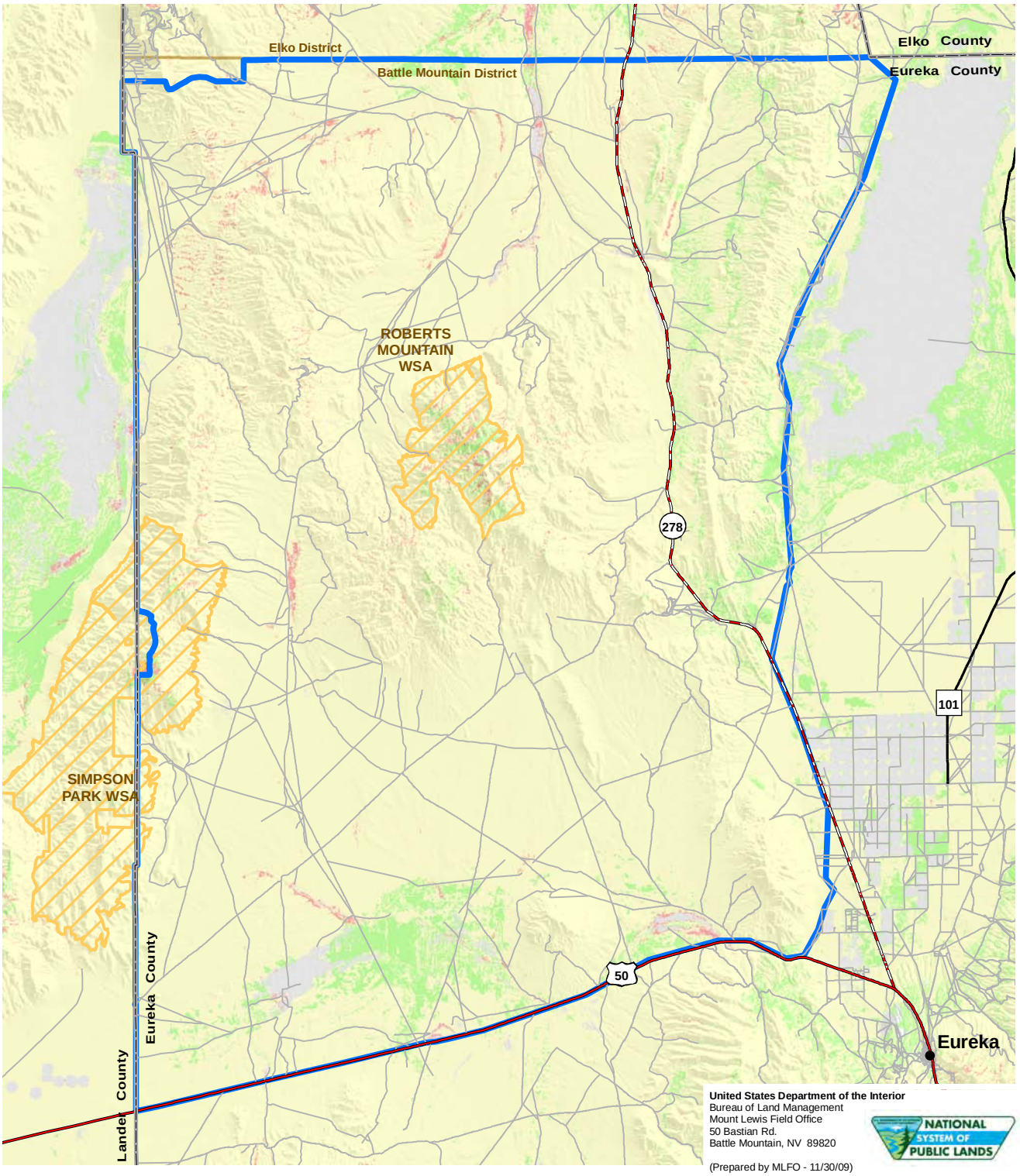
Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.7.1

Natural Fire Regimes

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



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Legend

- 3-Bars Project Area - PROPOSED
- Wilderness Study Area

Fire Regime Condition Class

- Condition Class 1
- Condition Class 2
- Condition Class 3

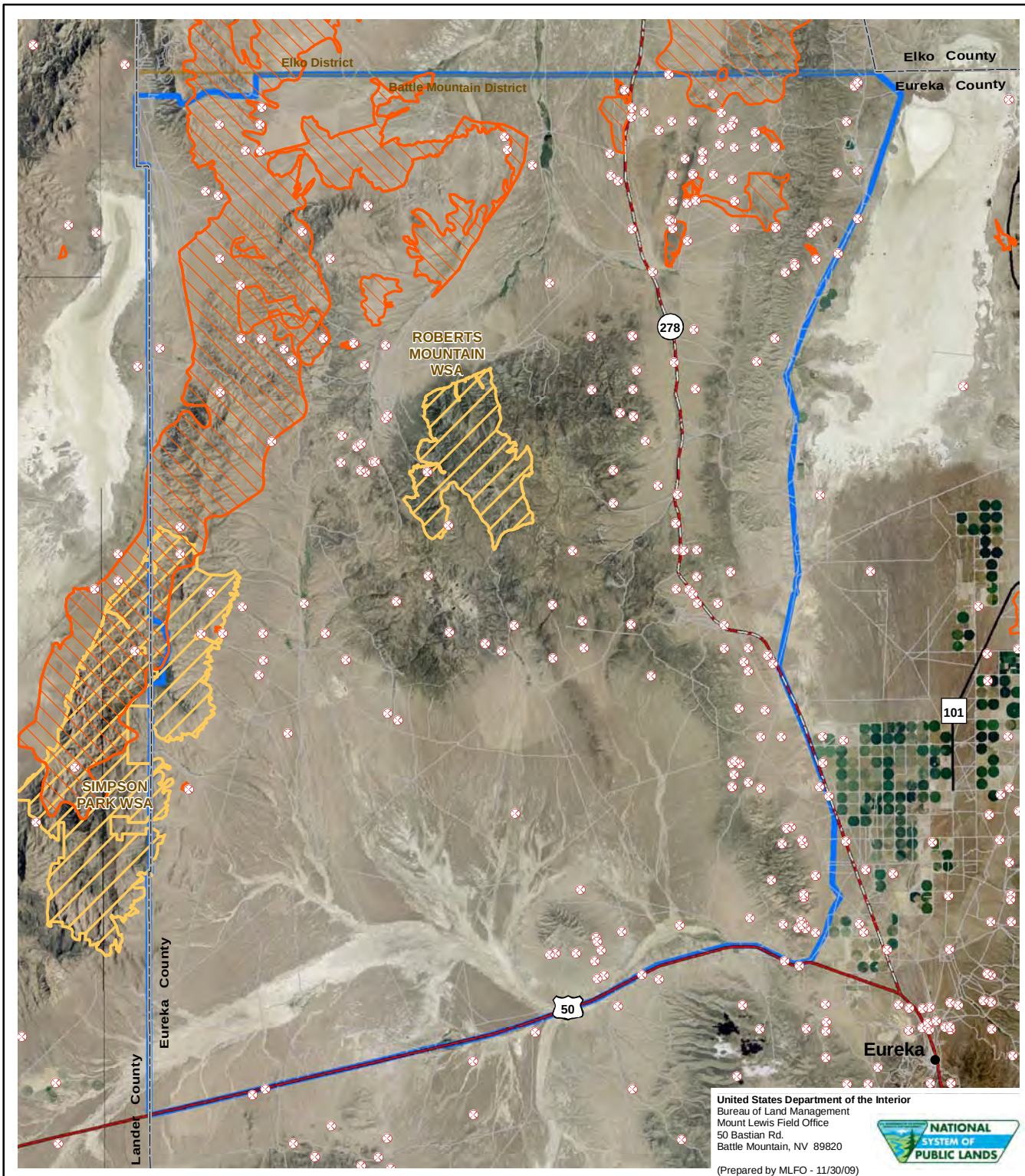
Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.7.2

Current Fire Regime Condition Class

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



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NATIONAL SYSTEM OF PUBLIC LANDS

Legend

- 3-Bars Project Area - PROPOSED
- Fire Starts (1985 - 2008)
- Large Fire Perimeter (1985 - 2008)
- Wilderness Study Area

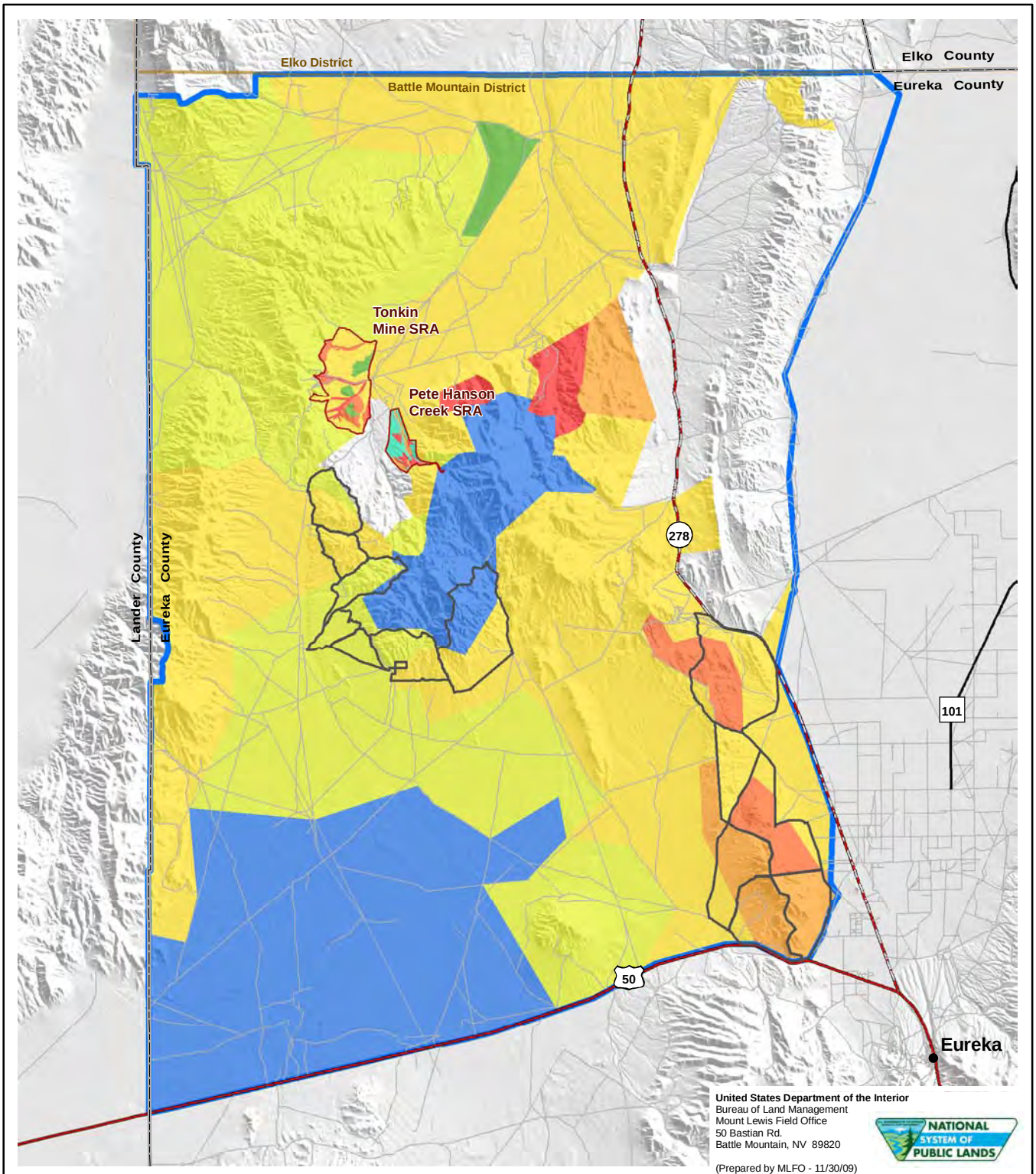
Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.7.3

Fire History and Occurrence

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N



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NATIONAL SYSTEM OF PUBLIC LANDS

Legend

- 3-Bars Project Area - PROPOSED
- Current Identified "Strategic Areas" Site/Risk Assessment
- Strategic Areas - Ongoing Assessments

Fire Risk

- Low to Moderate
- Moderate
- Moderate to High
- High
- High to Very High
- Very High
- Very High to Extreme
- Extreme

Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.7.4

Current Risk of Catastrophic Wildfire and Threat to Resource Values

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N

2.8 WETLANDS/RIPARIAN ZONES AND WATER QUALITY AND QUANTITY

Current Conditions and Regulatory Framework

Abundant, clean water is vital to support the diverse range of natural resource values and multiple uses on the 3-Bars ecosystem. Meadows, springs, and streams that are functioning properly absorb snowmelt runoff and attenuate streamflow levels into the summer. This water allows for wetland vegetation to thrive and provide forage for livestock and habitat for wildlife. Roads, historic grazing regimes, and pinyon-juniper encroachment have negatively altered riparian and wetland functions and values, water quantity and timing, and water quality. Many of the livestock issues that negatively influence riparian and wetland functionality are associated with the degree and timing of vegetative use and can be mitigated. Within the 3-Bars ecosystem, the occurrence of knickpoints, which are locations within a river or channel where there is a sharp change in channel slope, such as a waterfall or lake resulting from differential rates of erosion above and below the knickpoint, indicate poor riparian condition.

The 3-Bars ecosystem lies within three Hydrographic Unit Categories (HUC), including Diamond-Monitor Valley (HUC 160600050; approximately 422,842 acres); Pine Valley (HUC 16040104; approximately 268,251 acres); and Northern Big Smoky Valley (HUC 16060004; approximately 58,450 acres). There are 335 springs/seeps, 102 miles of perennial streams, and 66 acres of meadow within the 3-Bars ecosystem. The BLM has conducted Proper Functioning Condition assessments in the 3-Bars ecosystem. Proper Functioning Condition assessments consider the hydrology, vegetation, and erosion/deposition (soils) attributes and processes to assess riparian health. The Proper Functioning Condition assessment uses the following general categories: proper functioning condition, functioning at risk, non-functioning, or unknown. Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy during high water flows. Proper Functioning Condition ratings for the 3-Bars ecosystem are:

- Proper functioning condition - 31 miles and 39 acres
- Functioning at risk with upward trend - 24 miles and 5 acres
- Functioning at risk with trend not apparent- 14 miles and 5 acres
- Functioning at risk with downward trend - 21 miles and 15 acres
- Non functioning - 12 miles and 2 acres

The *Clean Water Act* regulates discharges into waters of the United States, including wetlands. As authorized by the Clean Water Act, Executive Order 11990, *Protection of Wetlands*, ensures that federal agencies minimize the destruction, loss, or degradation of wetlands, and enhance and preserve the natural and beneficial values of wetlands, when carrying out actions on federal lands.

The State of Nevada defines water quality goals of a waterbody by designating uses of the water and by setting criteria necessary to protect the beneficial uses of classes of water, from A to D, with Class A being the highest quality. Beneficial uses include recreation, aquatic life, fisheries, irrigation, and drinking water. Water quality standards for Nevada are contained in the Nevada Administrative Code, Chapter 445A.118-445A.225. Waterbodies designated for beneficial uses in the 3-Bars ecosystem include Tonkin Reservoir (Class A), Roberts Creek (Class A), Denay (Class B), and JD ponds (Class C).

Key Findings

The following are key findings from the assessment of wetlands/riparian zones and water quantity and quality on the 3-Bars ecosystem:

- Functioning stream reaches and meadows are threatened by knickpoints, which indicate vertical instability and a point source for accelerated erosion.
- Physical processes for dissipation of flood energies in stream reaches and meadows are not functioning properly because of problematic road location, which has also decreased the potential area for meadows.
- Pinyon-juniper forests have encroached into sagebrush steppe and their increased demand for water is causing water to be lost to the atmosphere (through increased evapotranspiration and sublimation), which has impacted the amount of water that infiltrates into the ground and discharges to seeps and springs.
- Stock ponds inhibit sediment transport conditions locally, store sediment, and cause channel incision downstream.
- Decline in seral status, plant vigor and density for meadow and riverine community types.
- Decline in bank stability.
- Deterioration of riparian and wetland functioning and decrease in potential area.
- Decline of upland perennial deep-rooted grasses resulting in decreased infiltration rates and increased run-off and surface erosion.

There is a need to:

- Improve riparian and wetland resources to Proper Functioning Condition, to improve physical and ecological processes of the creeks, meadows, springs/seeps, and to improve the trend of riparian-wetland to its minimum standard of Proper Functioning Condition in order to restore wildlife habitats, multiple values, and uses.
- Improve road locations or implement best management practices where roads inhibit wetland and riparian function.
- Improve upland water retention, infiltration, and residence time by reducing upland pinyon-juniper canopy cover and increasing key perennial plant species.

Desired Conditions

The following wetlands/riparian zones and water quantity and quality conditions are desired by the BLM for the 3-Bars ecosystem:

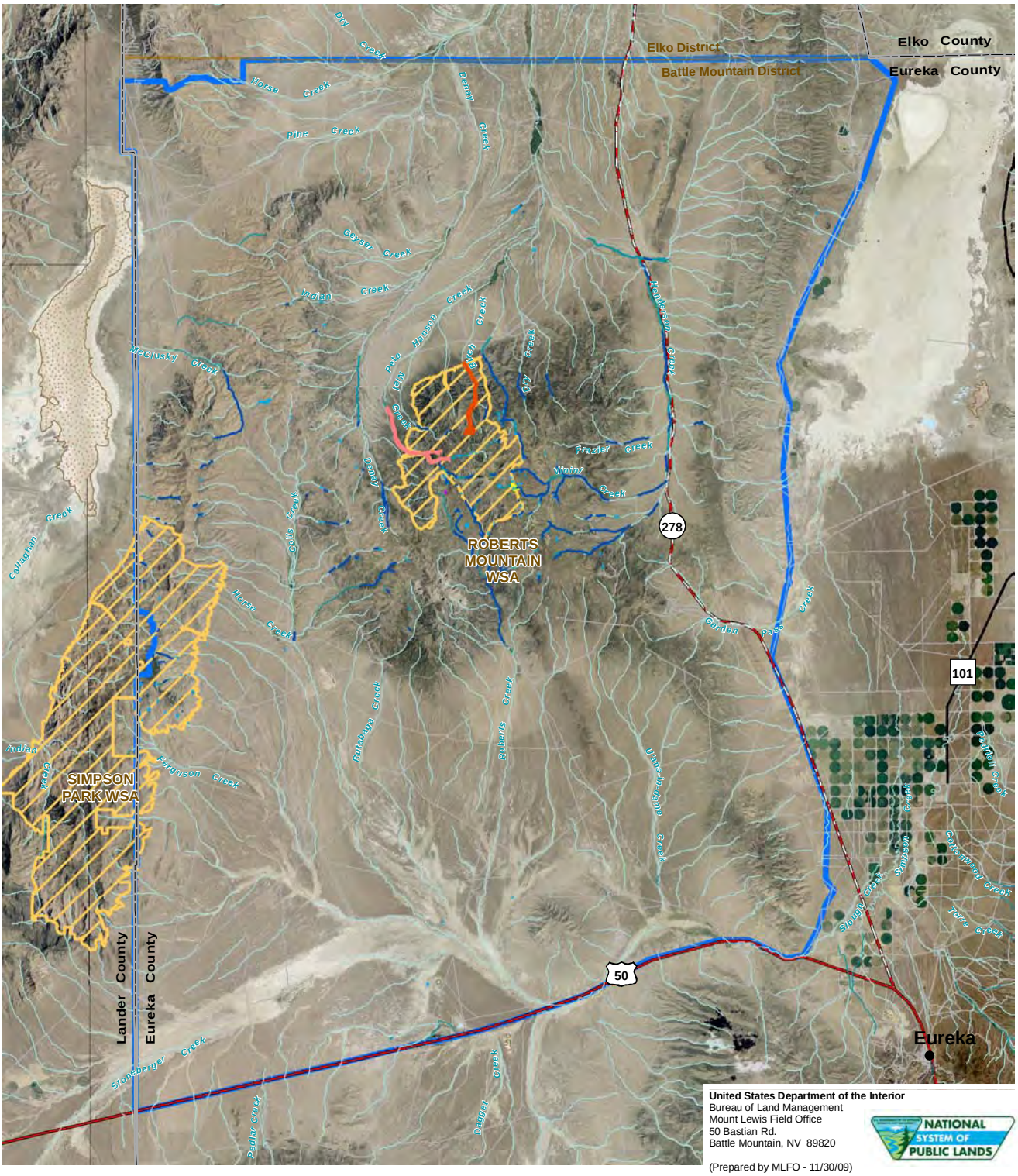
- Proper Functioning Condition is achieved for all riparian and wetland features
- Water quality parameters are in compliance with State of Nevada water quality standards
- Condition and trend are progressing towards desired conditions for a given site
- Woodland stand conditions are not negatively impacting infiltration and ground water recharge

Ongoing and Proposed Studies

- Continued Proper Functioning Condition assessments, multiple indicator monitoring, and Rosgen surveys conducted on Roberts Allotment (Summer 2010).
- Water quality/quantity automated monitoring stations on Lahontan cutthroat trout and other streams in the project area are planned.
- Detailed information pertaining to the project area groundwater system, including depth to water, permeability of the area geologic formations and other hydrogeologic parameters has been collected to support Mount Hope mining efforts; the Hydro-geological Numerical Model and Conceptual Report will be available soon.

Maps and Figures

- Figure 2.8.1 - Wetland and Riparian Conditions



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Legend

- Perennial Stream Reach
- Intermittent Stream
- Wilderness Study Area

Wetland and Riparian Conditions (Not to Scale)

- Creeks not meeting PFC standard or FAR UP yielding significant progress
- Meadows not meeting PFC standard or FAR UP yielding significant progress
- Meadow is decreased in size, accelerating erosion, and accelerating evaporation due to road location
- Pinyon-Juniper encroaching riparian vegetation
- Poor riparian vegetation from Pinyon-Juniper encroachment
- Knickpoint eroding streambed

Proposed 3-BARS Ecosystem and Landscape Restoration Project 750,000 acres

Figure 2.8.1

Wetland and Riparian Conditions

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000
N

2.9 NATIVE AMERICAN TRADITIONAL/CULTURAL VALUES, PRACTICES, AND RESOURCES

Current Conditions and Regulatory Framework

In accordance with the *National Historic Preservation Act* (P.L. 89-665), *National Environmental Policy Act* (P.L. 91-190), the *Federal Land Policy and Management Act* (P.L.94-579), the *American Indian Religious Freedom Act* (P.L. 95-341), the *Native American Graves Protection and Repatriation Act* (P.L. 101-601), and Executive Orders 13007 (*Indian Sacred* Sites) and 13084 (*Consultation and Coordination with Tribal Governments*), the BLM must provide affected tribes an opportunity to comment and consult on proposed projects. The BLM must attempt to identify locations having traditional/cultural importance and reduce or possibly eliminate any negative impacts to identified traditional, cultural, spiritual sites, activities, and/or resources from proposed project actions.

Various tribes and bands of the Western Shoshone have stated that federal projects and land actions can have widespread effects to their culture and traditional practices as they consider the landscape as sacred and as a provider. Various locations throughout the BLM Mount Lewis Field Office administrative area continue to host traditional/spiritual/cultural use activities. Sites, activities, and resources considered sacred or detrimental to the continuation of tribal traditions include, but are not limited to: ancestral habitation sites, water sources (hot and cold springs), edible/medicinal plant harvesting (e.g., pine nuts), sites of ceremony and prayer, trail systems, prehistoric and ethno-historic archaeological sites, burial and cemetery locations, "rock art" sites, certain minerals used in ceremonies, and features associated with family history, tribal origins, and creation stories.

Key Findings

The following are key findings from the assessment of Native American traditional/cultural values, practices, and resources on the 3-Bars ecosystem:

- Decline in distribution and abundance of traditional/edible, medicinal plants
- Decreased pine nut production and tree vigor
- Decline in wild game species

There is a need to:

- Improve the relative abundance of desirable plant species in previously identified locations (obtained through Native American Consultation) in order to increase distribution and abundance of traditional/edible, medicinal plants.
- Reduce pinyon-juniper stocking rates by 280 to 1,200 stems/acre in order to encourage pine nut production and tree vigor in traditional or proposed harvest areas.
- Improve habitat for desired game species, especially mule deer and sage-grouse.

Desired Conditions

The following Native American traditional/cultural values, resources, and practices conditions are desired by the BLM for the 3-Bars ecosystem:

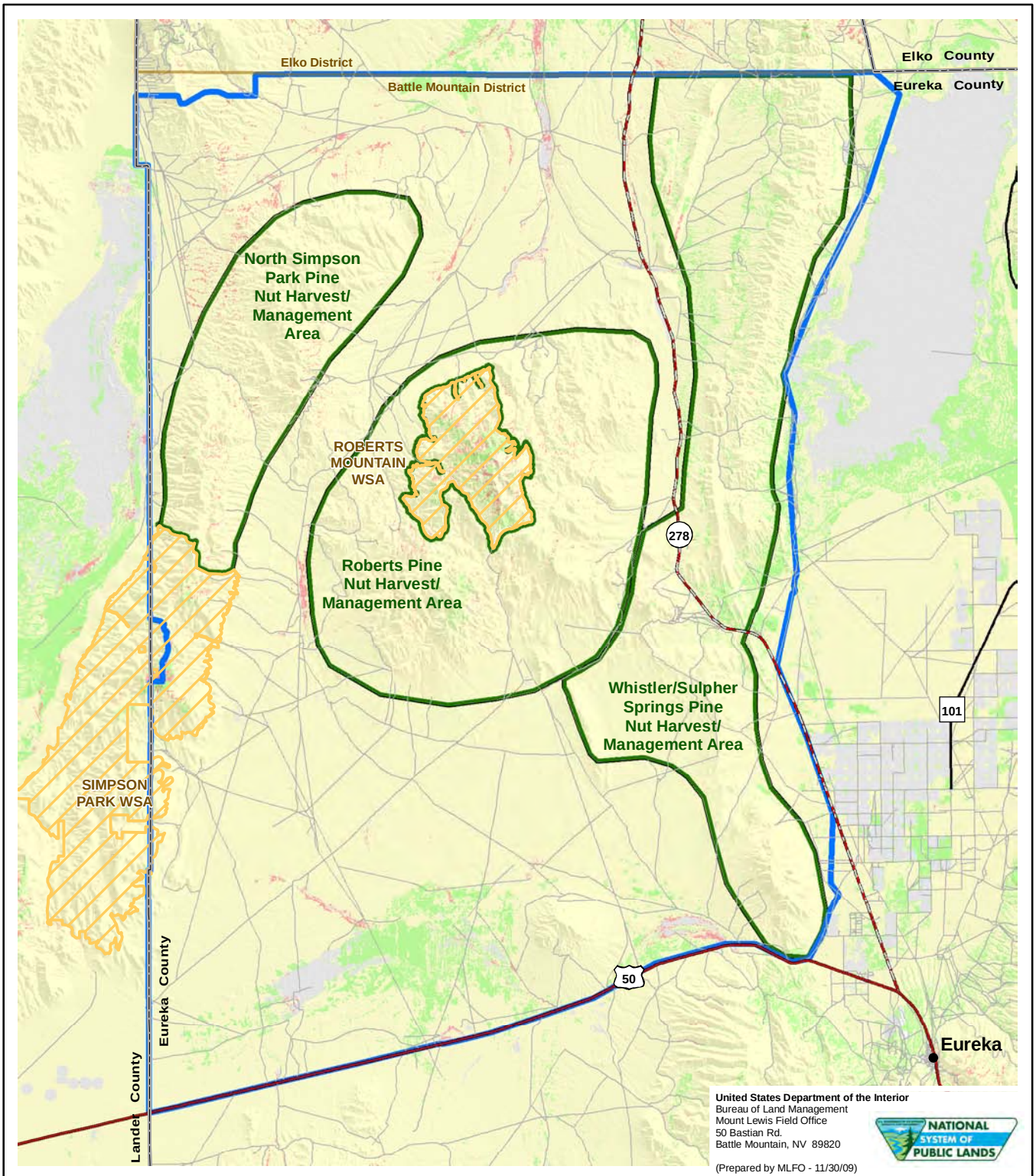
- Distribution and abundance of traditional, edible, and medicinal plants are stable or increasing.
- Persistent and old-growth woodlands are managed for sustainable yields of forest products to include pine nuts within allowed pine nut harvest areas:
  - 20 to 200 trees/acre dependant on management objectives for a given stand.
- Fire Regime Condition Class I (defined in **Table 2-2**).
- Mule deer and sage-grouse habitats are restored and maintained.

Ongoing and Proposed Studies

- Through Native American consultation, identify existing and traditional use-areas to address historic and current distribution and abundance of traditional/edible and medicinal plants.
- Pinyon juniper mapping to include old-growth, persistent, and expansion woodlands.
- Woodland surveys/transects/remote sensing and GIS.
- Woodland Phase Class assessments.
- Current pine nut production data.
- Fire Regime Condition Class Assessments for forest health and pathogens/mortality.

Maps and Figures

- Figure 2.9.1 - Condition of Current Pine Nut Harvest Areas



Legend

- 3-Bars Project Area - PROPOSED
- Wilderness Study Area
- Potential for Declining Production of Pine Nut Crops

Fire Regime Condition Class

- Condition Class 1
- Condition Class 2
- Condition Class 3

Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.9.1

Condition of Current Pine Nut Harvest Areas

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000
N

2.10 CULTURAL RESOURCES

Current Conditions and Regulatory Framework

Federal historic preservation legislation provides a legal environment for documentation, evaluation, and protection of archaeological and historic sites that may be affected by federal undertakings, or by private undertakings operating under federal license or on federally managed lands. The *Historic Sites Act of 1935* provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance. The *National Historic Preservation Act (NHPA) of 1966* requires federal agencies to take into account the potential affects of their actions on properties that are listed or are eligible for listing on the National Register of Historic Places, and to consult with State Historic Preservation Officers, Indian tribes, and local governments regarding the effects of federal actions on historic properties. The *Archeological Resources Protection Act of 1979* prohibits the excavation, removal, damage, or other alteration or defacement of archaeological resources on federal or Indian lands without a permit. Potential adverse impacts to cultural sites must be completely identified on all lands to the extent possible. If necessary, appropriate mitigation actions should be developed to reduce or eliminate potential adverse effects to eligible sites located on public lands.

Key Findings

The following are key findings from the assessment of cultural resources on the 3-Bars ecosystem:

- Unresolved eligibility status of Pony Express Trail bisecting the 3-Bars ecosystem.
- Degradation of Pony Express trail segments within the 3-Bars ecosystem.
- 3-Bars ecosystem's high historical significance not currently recognized.
- Potential for understanding the dynamics of land use change through time not realized due to areas of consistent prehistoric and historic use not being fully recorded or analyzed.
- Site management currently "piecemeal" resulting in fracturing of historic landscape and loss of integrity.

There have been no eligible trail segments associated with Pony Express nominated to the National Register of Historic Places within the 3-Bars ecosystem.

There is a need to:

- Conduct additional inventory, recordation of findings and assessment in order to resolve eligibility status and support National Register of Historic Places nominations.
- Improve trail condition trend to "stable" or "improved" in order to protect trail integrity.
- Conduct cultural resource surveys. Approximately 80% of 3-Bars ecosystem has not been surveyed and little is known about prehistoric and historic landscape level utilization of area. No historic context exists for evaluation of sites (individually or at landscape level); and significant research questions remain unanswered. Virtually no sites within the 3-Bars ecosystem have been evaluated or analyzed as components of an historic landscape. This limits the potential for interpretation of these thematically related sites and diminishes their potential significance.

- Determine the historical significance of the 3-Bars ecosystem. Cultural resources within the 3-Bars ecosystem are not being managed appropriately since the archaeological, ethnographic, and historical documentation for the area has not been integrated into a coherent management plan and no effort has been made to relate site activity to landscape.
- Develop a coherent management plan for the treatment, management, and protection of cultural resources throughout the 3-Bars ecosystem.

Desired Conditions

The following cultural resource conditions are desired by the BLM for the 3-Bars ecosystem:

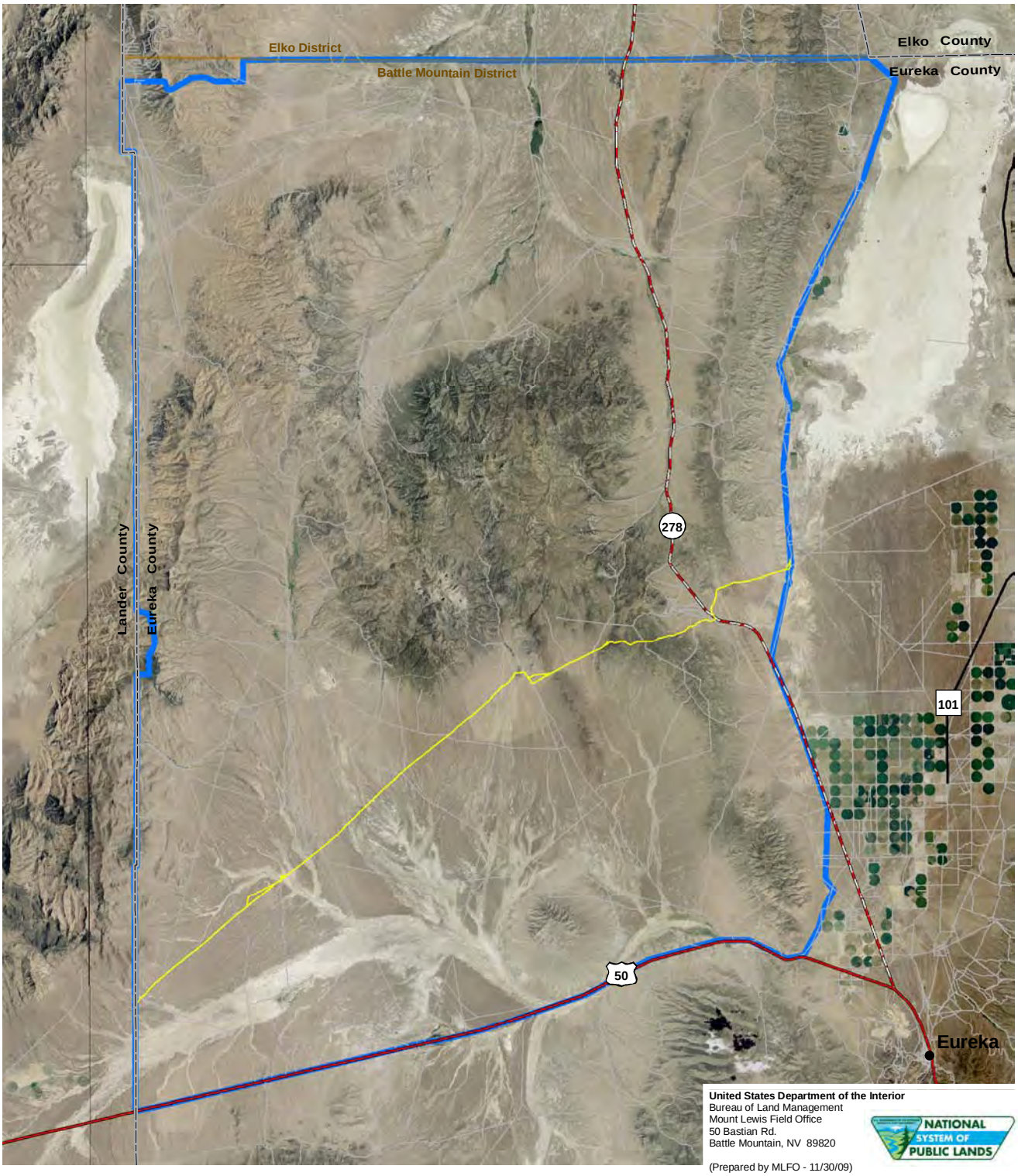
- 100% inventory and recordation of all Pony Express trail segments within the project boundary.
- 100% of eligible Pony Express trail segments nominated to National Register of Historic Places.
- Integrity of Pony Express trail segments are stabilized or improved.
- Cultural resources maintain integrity and interpretive potential through a cohesive management approach, relating site activity to landscape:
  - Sites are thematically related to landscape or resources.

Ongoing and Proposed Studies

- Regional context is currently being developed for the project (and surrounding) area(s).
- Cultural inventory for the approved Sulfur Springs Fuels Reduction Project is ongoing.

Maps and Figures

- Figure 2.10.1 - Pony Express Trail Segment Condition



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Legend

- 3-Bars Project Area - PROPOSED
- Pony Express Trail requires condition assessment and stabilization as indicated

Proposed
3-BARS Ecosystem and Landscape Restoration Project
750,000 acres

Figure 2.10.1

Pony Express Trail Segment Condition

0 1 2 3 4 5 10 Miles
0 1 2 3 4 5 10 Kilometers
1:400,000

N

3.0 POTENTIAL TREATMENT METHODS AND RESOURCES THAT COULD BE AFFECTED BY METHODS

Using the Assessment of Existing and Current Conditions information summarized in **Section 2.0**, the BLM Interdisciplinary Team identified potential treatment methods that could be used to address the key findings and achieve the desired conditions for each resource area. These treatments will form the basis for the alternatives that will be developed and analyzed in the EIS. These treatment methods are subject to change, modification, and further development through the scoping process.

Table 3.1 Summary of Possible Mechanical Treatments and Resources Potentially Affected

Resource	Mechanical Treatments				
	Tree Removal	Brush Modification	Brush Removal	Seeding	Road Relocation/Construction
Water Quality and Quantity	●		●	●	●
Geology and Minerals					●
Air Quality					●
Soils	●		●	●	●
Vegetation	●	●	●	●	●
Wildlife and Fisheries	●		●	●	●
Special Status Species	●	●	●	●	●
Threatened and Endangered Species	●		●	●	●
Range	●	●	●	●	●
Land Use					●
Recreation and Wilderness	●	●	●		●
Visual	●	●	●	●	●
Auditory	●	●	●	●	●
Social and Economic Values	●	●	●	●	●
Hazardous Materials					●
Cultural Resources	●	●	●	●	●
Native American Religious Concerns	●	●	●	●	●
Paleontology					
Environmental Justice					●
Noxious Weeds/Invasive, Non-Native Species	●	●	●	●	●
Floodplains	●	●	●		●
Wetlands/Riparian Zones	●	●	●	●	●
Migratory Birds	●	●	●		●
Human Health and Safety					●
Wild Horses and Burros	●	●	●	●	●
Fire Management	●	●	●	●	●
Forestry and Woodland Resources	●				●

Table 3.2 Summary of Possible Prescribed Fire, Chemical, and Biological Treatments and Resources Potentially Affected

Resource	Prescribed Fire. Chemical, and Biological Treatments					
	Pile Burning	Broadcast Burning	Wildland Fire-Use	Spraying (herbicides)	Fungus / Pathogen Introduction (species-specific)	Fertilizing
Water Quality and Quantity	●	●	●	●	●	●
Geology and Minerals						
Air Quality	●	●	●	●	●	●
Soils	●	●	●	●	●	●
Vegetation	●	●	●	●	●	●
Wildlife and Fisheries		●	●	●	●	●
Special Status Species		●	●	●	●	●
Threatened and Endangered Species		●	●	●	●	●
Range	●	●	●	●	●	●
Land Use		●	●	●	●	●
Recreation and Wilderness	●	●	●	●	●	●
Visual	●	●	●	●	●	●
Auditory						
Social and Economic Values		●	●	●	●	●
Hazardous Materials						
Cultural Resources	●	●	●	●	●	●
Native American Religious Concerns		●	●	●	●	●
Paleontology		●	●			
Environmental Justice						●
Noxious Weeds/Invasive, Non-Native Species	●	●	●	●	●	●
Floodplains		●	●	●	●	●
Wetlands/Riparian Zones	●	●	●	●	●	●
Migratory Birds	●	●	●	●	●	●
Human Health and Safety	●	●	●	●	●	●
Wild Horses and Burros		●	●	●	●	●
Fire Management	●	●	●	●	●	
Forestry and Woodland Resources	●	●	●	●	●	●

Table 3.3: Summary of Possible Manual Treatments and Resources Potentially Affected

Resource	Physical / Manual Treatments					
	Modification / Removal of Fences	Installation of Protective Fences	Pine-nut Orchard Development	Hand Planting Woody Species	Vegetation Soil Bio / Toe Protection	Sedge Plugs – Plug and Pond Reclamation
Water Quality and Quantity			●	●	●	●
Geology and Minerals						
Air Quality					●	
Soils	●	●		●	●	●
Vegetation	●	●	●	●	●	●
Wildlife and Fisheries	●	●		●	●	●
Special Status Species				●	●	●
Threatened and Endangered Species				●	●	●
Range	●	●	●	●	●	●
Land Use	●	●	●			●
Recreation and Wilderness	●	●	●	●	●	●
Visual	●	●	●	●	●	●
Auditory						●
Social and Economic Values	●	●	●	●	●	●
Hazardous Materials						
Cultural Resources	●	●	●	●	●	●
Native American Religious Concerns		●	●	●		
Paleontology						
Environmental Justice			●			
Noxious Weeds/Invasive, Non-Native Species	●	●	●	●	●	●
Floodplains	●	●			●	●
Wetlands/Riparian Zones			●	●	●	●
Migratory Birds	●	●	●	●	●	●
Human Health and Safety	●	●				●
Wild Horses and Burros	●	●	●	●		
Fire Management	●	●	●	●		
Forestry and Woodland Resources	●	●	●	●		

Table 3.4: Summary of Possible Manual Treatments and Resources Potentially Affected

Resource	Physical / Manual Treatments					
	Stream Revetment Actions / Vertical Control Structures	**Well / Spring Development**	**Install Water Development Infrastructure**	**Trail/Road Engineering (culverts, shoring)**	**Development of Seed Banks using Local Greenhouses and/or Cold Storage**	**Installing Interpretative Signs / Kiosks**
Water Quality and Quantity	●	●	●	●		
Geology and Minerals	●	●	●			●
Air Quality				●		
Soils	●	●	●	●	●	
Vegetation	●	●	●	●	●	●
Wildlife and Fisheries	●	●	●	●	●	●
Special Status Species	●	●	●	●	●	●
Threatened and Endangered Species	●			●	●	●
Range	●	●	●	●	●	●
Land Use		●	●	●	●	●
Recreation and Wilderness	●	●		●		●
Visual	●	●	●	●		●
Auditory		●	●	●		
Social and Economic Values		●	●	●	●	●
Hazardous Materials		●		●		
Cultural Resources	●	●	●	●	●	●
Native American Religious Concerns	●	●	●		●	●
Paleontology		●	●	●		●
Environmental Justice		●	●	●	●	●
Noxious Weeds/Invasive, Non-Native Species		●	●	●		●
Floodplains	●	●	●	●		
Wetlands/Riparian Zones	●	●	●	●	●	●
Migratory Birds		●	●	●	●	●
Human Health and Safety		●	●	●		●
Wild Horses and Burros		●	●		●	●
Fire Management			●	●	●	
Forestry and Woodland Resources		●		●		

Table 3.5: Summary of Management Actions and Resources Potentially Affected

Resource	Mitigation / Management Actions					
	Change Grazing Season	Modify Permitted Use	Establish Range of AML for Roberts Mountain HMA	Development of Herd Management Plans	Conduct Wild Horse Gathers	Implement Fertility Controls (wild horse)
Water Quality and Quantity	●	●	●	●	●	●
Geology and Minerals						
Air Quality		●	●		●	
Soils		●	●	●		●
Vegetation	●	●	●	●	●	●
Wildlife and Fisheries	●	●	●	●	●	●
Special Status Species	●	●	●	●	●	●
Threatened and Endangered Species					●	
Range	●	●	●	●	●	●
Land Use	●	●		●	●	
Recreation and Wilderness	●	●	●	●	●	●
Visual		●		●	●	
Auditory					●	
Social and Economic Values	●	●	●	●	●	●
Hazardous Materials					●	●
Cultural Resources	●	●	●	●	●	
Native American Religious Concerns	●	●		●		
Paleontology						
Environmental Justice	●	●				
Noxious Weeds/Invasive, Non-Native Species	●	●	●	●	●	
Floodplains	●	●		●		
Wetlands/Riparian Zones	●	●	●	●	●	
Migratory Birds	●	●	●	●	●	
Human Health and Safety					●	
Wild Horses and Burros	●	●	●	●	●	●
Fire Management	●	●				
Forestry and Woodland Resources	●	●				