

FINAL ENVIRONMENTAL ASSESSMENT**Earthquake Fuels Project**

DOI-BLM-NV-C010-2011-0520-EA

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September, 2011

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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1.0 INTRODUCTION/PURPOSE & NEED

1.1 INTRODUCTION

The Carson City District Stillwater Field Office of the Bureau of Land Management (BLM) is proposing a fuels treatment project on BLM administered lands located west of Middlegate Nevada. The Earthquake Fuels Treatment would create a fire resistant strip of vegetation along approximately 10 miles of dirt road east of Fairview Peak, in Churchill County, Nevada. The size of this unit is 1,659 acres. The restoration strategy would include a prescribed fire application to remove the existing plant material, a chemical treatment to control the annual weed (cheatgrass) invasion and a reseeding effort to create a more fire resistant plant community. The project is part of a nation-wide initiative to protect communities that are considered at high risk from wildfire damage. Middlegate is included on the list of at risk communities found in the Federal Register Volume 66, Number 3 Thursday, January 4, 2001 and has been assigned a Moderate Hazard category in the Churchill County Wildfire Risk/Hazard Assessment Project (2004).

Maintaining or restoring land health is one of BLM's highest priorities. Among the obstacles to maintaining healthy lands and restoring impaired ecosystems are noxious and invasive weeds. These plants dominate many sites, can cause long term damage to plant communities, and degrade resource values. Based on satellite imagery from 2003, about 11 million of the almost 48 million acres of BLM Nevada lands had at least 10% cover of cheatgrass and other annual grasses. While this may not seem like much, when such areas burn, the cheatgrass can be released, greatly increasing in coverage, initiating a cheatgrass fire cycle, and ecologically dominating that site.

Presently cheatgrass is by far the most problematic of the invasive annual grasses in Nevada. One problem with invasive annual grasses is the "annual grass fire cycle." In years with weather favorable to cheatgrass, for example, it can fill in the natural open spaces between the native plants. If a fire starts, it spreads easily through these continuous fuels and can get much bigger than without cheatgrass. Many native plant species recover slowly from burns, while cheatgrass is adapted to respond quickly to the open space and release of nitrogen and other nutrients following a burn. Native plant communities that once burned every 35 to 100 years are now burning every five to ten years. Several repeated fires can remove many of the native species from the plant community. The resultant plant communities are much simpler with fewer resource and habitat values.

1.2 PURPOSE & NEED

The project area was burned in the Sand Springs wildfire (17,437 acres), started by the military west of Fairview Peak in July of 1999. People at the hamlet of Middlegate had to be evacuated briefly on the afternoon of the first day of the incident. Due to the rugged terrain, the very unpredictable nature of the fire behavior, and considering firefighter safety, direct attack opportunities are limited in this country. A strategic passive fuels treatment would supplement firefighting efforts, making indirect suppression tactics more effective. Most of the west slopes of Fairview Peak have burned in the past 30 years, since 1992 three other human caused wildfires have burned into the proposed project area.

The effectiveness of a fuels modification project in reducing wildfire spread may be increased by disrupting fuel continuity. Fuel continuity can be disrupted by replacing cheatgrass, which grows in a mat-like pattern, with fire resistant non-native species or bunchgrasses that have larger spaces between individual plants. This treatment reduces the spread of surface fires, since discontinuous fuels do not carry a fire as well as continuous fuel (Anderson and Brown 1988). As cheatgrass seedbanks are relatively short lived, and most cheatgrass seed either germinates and grows or is not viable after 1 year

(Meyer 2003), the suppression of cheatgrass germination as a result of the herbicide treatment should provide adequate time for the seeded and native plant communities to re-establish. Once that plant community is firmly re-established, it would be more resistant to wholesale cheatgrass invasion, although careful monitoring and follow-up spot treatments along invasion corridors could still be needed.

1.3 LAND USE PLAN CONFORMANCE STATEMENT

The proposed action and alternatives described below are in conformance with the Carson City Field Office Consolidated Resource Management Plan (2001):

FIR-2.1 Restore fire as an integral part of the ecosystem, improve the diversity of vegetation and to reduce fire hazard fuels.

LSG-1.1 Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland and watershed values.

LSG-1A Maintain a sufficient quality and diversity of habitat and forage for livestock, wildlife, and wild horses through natural regeneration and/or vegetation manipulation.

1.4 RELATIONSHIPS TO STATUTES, REGULATIONS, AND OTHER PLANS

The Carson City District Fire Management Plan (2004). The fuel treatment is located in the Churchill Basin Fire Management Unit (NV-030-12). Fire Management guidance for this unit includes the following statements:

- Aggressive initial attack and full suppression will be initiated on all wildfires threatening private property or US Navy facilities.
- Aggressive initial attack will be initiated with the intent of holding all unplanned ignitions to 250 acres or less, 90% of the time in areas dominated by cheatgrass or susceptible to post fire cheatgrass invasion.

The National Fire Plan, Review and Update of the 1995 Federal Wildland Fire Management Policy (January 2001) – states in part: Fire Management and Ecosystem Sustainability - The full range of fire management activities would be used to help achieve ecosystem sustainability, including its interrelated ecological, economic, and social components.

This Environmental Assessment (EA) is consistent with Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States, Programmatic Environmental Impact Statement (2007).

This EA was prepared in accordance with the National Environmental Policy Act (NEPA) and is in compliance with applicable regulations and laws passed subsequently, including the President's Council of Environmental Quality Regulations, US Department of Interior requirements, and guidelines listed in BLM Manual Handbook H-1790-1. The EA assesses the potential environmental impacts of the Proposed Action and reasonable alternatives and documents public participation as well as the decision-making process.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Earthquake Fuels Treatment would attempt to create a fire resistant strip of vegetation along approximately 10 miles of dirt road east of Fairview Peak, in Churchill County, Nevada. The size of this unit is 1,659 acres. The restoration strategy would include a prescribed fire application to remove the existing plant material, a chemical treatment to control the annual weed (cheatgrass) invasion and a reseeding effort to create a more fire resistant plant community.

The prescribed fire would be designed to remove the existing vegetation. Fire specialists would implement an approved prescribed fire plan. The burning would be accomplished by qualified professionals under low to moderate spread potential conditions in the fall of the year. Fireline (up to 16 feet wide) would be constructed using heavy equipment to remove the existing vegetation. Surface disturbance could be up to 6 inches. The fireline would be rehabilitated after the seeding effort.

The BLM, through the use of a service contract, would spray Ammonium salt of imazapic (Imazapic) at a rate of .093 pounds active ingredient per acre on up to 1,659 acres after the prescribed fire, in order to control the spread of cheatgrass existing in the area. The Imazapic would be applied to reduce the competitive ability of cheatgrass. Currently two herbicides with the active ingredient of Imazapic are approved for use by the BLM and the State of Nevada, Panoramic 2SL and Plateau®. Use of Imazapic would comply with manufactures direction and conform to the Record of Decision and methods described for the Vegetation Treatments Using Herbicide in 17 Western States Programmatic Environmental Impact Statement (BLM 2007). Imazapic would be applied using ground spray methods, vehicles or manual application devices.

Following the herbicide application the project area would be seeded with a combination of fire resistant non-native species and native species. Species composition and application rate would be determined prior to implementation. Species under consideration for this project are: Forage Kochia, Siberian Wheatgrass, Fourwing Saltbrush, Sandberg's Bluegrass and Bottlebrush Squirreltail. Due to the amount of rock in the project area, a combination of drill seeding, ATV and helicopter applications could be used to plant the seed. Drill seeding involves the use of agricultural equipment to bury seeds to a depth of 1/4 - 3/8 inch. The seeding would take place about 1 month after herbicide application.

Standard Operating Procedures for Herbicide Application

- 1) Herbicides would be applied as per label instructions.
- 2) All personnel applying herbicides would either be certified by the BLM and/or the State of Nevada, or they would be supervised by a BLM or State of Nevada Certified Applicator.
- 3) Bureau or other personnel applying herbicides would use personnel protective equipment while spraying or handling herbicides.
- 4) Herbicide application operations would be suspended when wind speed exceeds 10 mph or precipitation is imminent.
- 5) Some treatment areas could be signed, if needed, indicating the herbicide used and the date of treatment. Areas which are isolated and/or receive very little use by human beings would not be signed.
- 6) During treatment, all aspects of the operation would be managed in compliance with all state laws and the chemical label requirements, including worker and environmental safety precautions for chemical storage, mixing, and loading. The actual application rate would be measured and calibrated as

needed to assure that the appropriate amount of chemical is applied per unit area of ground. The BLM would provide a certified Contracting Officers Representative (COR) to oversee the spray operation.
7) During treatment, a pre-application sweep of the area would be completed.

Monitoring

Monitoring would be conducted in the project area during and after project implementation. Monitoring would consist of surveys to:

1. Ensure that the initial fuel treatment objectives are met,
2. Evaluate fuel load recovery,
3. Identify invasive species for subsequent treatment.

The types of monitoring to be used could include, but would not be limited to: photo-monitoring, cover, density, ocular monitoring for vigor and overall effectiveness.

2.2 NO ACTION ALTERNATIVE

Under the No Action alternative, the restoration strategy, including a passive strategic fuel break, would not occur. Over time the No Action alternative would most likely lead to perpetuation of the grass-fire cycle. In response to this increasing density of cheatgrass; fire frequency, fire size, and fire intensity would continue to increase, further accelerating the loss of native plant communities. The result would be a permanent vegetation type conversion from native shrublands to non-native grasslands. The continuous fuels created by the invasive grasses means that more ignition sources (i.e., human activities, lightning, cigarettes, vehicle sparks) would strike receptive fuels and start a fire. The increased frequency and size of fires would make it more difficult to control future fires and protect other values of concern from being burned, such as infrastructure, and natural and cultural resources.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter identifies and describes the current condition and trend of elements or resources in the human environment which may be affected by the Proposed Action or Alternatives and the environmental consequences or effects of the action(s).

3.1 SCOPING AND ISSUE IDENTIFICATION

Written communication including a description of the Proposed Action and a map was provided to the Fallon Paiute-Shoshone Tribe on June 28, 2011. Consultation is ongoing.

Internal scoping for the proposed Earthquake Fuels Project was initiated at the regularly scheduled Interdisciplinary Team meeting at the Carson District Office on June 13, 2011 and continued until July 8, 2011.

A scoping letter was sent to the grazing permittee and the United States Navy on July 26, 2011. The letter included a summary and maps of the proposed project. Comments were requested by August 12, 2011. No comments were received.

BLM issued a press release soliciting public comment on the proposed project and posted an information sheet for the project on the Carson City District Office's web page on August 3, 2011. Comments or issue identification were requested by August 15, 2011. No issues were identified. The EA was made available for public review and comment on August 22, 2011. The BLM comment period

closed on September 22, 2011. The Nevada State Clearinghouse provided comments September 19, 2011. The Nevada Division of State Lands and the State Historic Preservation Officer support the proposal. The EA was made available by hard copy at the CCDO, and on the website at: http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa.html.

One comment letter was received during the review process from the Nevada Department of Wildlife (NDOW). NDOW supports the BLM’s efforts at managing rangelands for ecological health. It is NDOW’s recommendation to limit prescribed burning where desirable vegetation exists. This recommendation will be considered and incorporated in the design of the prescribed fire plan.

3.2 PROPOSED ACTION

General Setting

The proposed project area is located east of Fairview peak, in Churchill County, Nevada. The vegetation in the project area is in the process of being converted from a shrubland with perennial bunchgrasses and forbs to non-native annual grasslands. Elevation ranges between 4,200 and 5,700 feet. The terrain is mid-slope with an eastern aspect. The average precipitation is 8 to 10 inches per year.

3.3 SUPPLEMENTAL AUTHORITIES

Appendix 1 of BLM’s NEPA Handbook (H-1790-1) identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents. The table below lists the Supplemental Authorities and their status in the project area. Supplemental Authorities that may be affected by the Proposed Action or Alternatives are further described in this EA.

Table 1. Supplemental Authorities Considered for Analysis

Supplemental Authority*	Not Present**	Present/Not Affected	Present/May Be Affected***	Rationale
Air Quality		X		Churchill County has not been designated as a non-attainment area. Implementing the proposed action within the project area would not affect this designation.
Areas of Critical Environmental Concern	X			
Cultural Resources			X	Carried forward for analysis
Environmental Justice	X			
Farm Lands (prime or unique)	X			
Forests and rangelands (HFRA Projects Only)	X			
Human Health and Safety (Herbicide Projects)			X	Carried forward for analysis
Floodplains	X			
Invasive, Nonnative and Noxious Species			X	Carried forward for analysis

Migratory Birds			X	Carried forward for analysis
Native American Religious Concerns			X	Carried forward for analysis
Threatened and/or Endangered Species	X			After consulting with the BLM wildlife biologist and the USFWS website for Nevada, there are no federally listed threatened or endangered species within the project area (http://www.fws.gov/nevada/protected_species/species_by_county.html).
Wastes, Hazardous or Solid		X		Only small quantities of hazardous and/or solid wastes would be generated by the proposed action. All wastes would be disposed of offsite following all local, state, and federal regulations. Any spill of hazardous materials would be contained, remediated, and disposed of following all local, state, and federal regulations.
Water Quality (Surface/Ground)	X			
Wetlands/Riparian Zones	X			
Wild and Scenic Rivers	X			
Wilderness/WSA	X			

*See H-1790-1(January 2008) Appendix 1 Supplemental Authorities to be Considered.

**Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.

***Supplemental Authorities determined to be Present/May Be Affected must be carried forward in the document.

3.4 RESOURCES OR USES OTHER THAN SUPPLEMENTAL AUTHORITIES

The following resources or uses, which are not Supplemental Authorities as defined by BLM’s Handbook H-1790-1, are present in the area. BLM specialists have evaluated the potential impact of the Proposed Action on these resources and documented their findings in the table below. Resources or uses that may be affected by the Proposed Action or Alternatives are further described in this EA.

Table 2. Resources or Uses Other Than Supplemental Authorities.

Resource or Issue	Present/Not Affected*	Present/May Be Affected**	Rationale
BLM Sensitive Species		X	Carried forward for analysis
Fire Management/ Vegetation		X	Carried forward for analysis
Land Use Authorization		X	Carried forward for analysis
Livestock Grazing	X		Livestock grazing would not be impacted and does not require detailed analysis. The herbicide treatment and drill seeding would take place prior to scheduled cattle grazing in the pasture (12/1 – 3/31). If successful, the proposed action would increase livestock forage through suppressing cheatgrass, allowing native vegetation a greater chance at regeneration. The addition of Kochia would establish a highly nutritious fall/winter food source for cattle.
Recreation		X	Carried forward for analysis
Soils	X		Soil stability and infiltration was negatively affected by the Sand Springs fire in 1999 through the subsequent replacement of native vegetation by cheatgrass and invasive mustards. If successful, the proposed action would likely enhance soil stability and infiltration.
Visual Resource		X	Carried forward for analysis

Management			
Wildlife and Key Habitat		X	Carried forward for analysis

**Resources or uses determined to be Present/Not Affected need not be carried forward or discussed further in the document.*

***Resources or uses determined to be Present/May Be Affected must be carried forward in the document.*

NOTE: If a resources in this Table is “Not Present” the resource can be dropped from this Table. No negative declaration is required.

3.5 ALL RESOURCES PRESENT AND BROUGHT FORWARD FOR ANALYSIS

The following resources are present in the area and may be affected by the Proposed Action.

3.5.1 CULTURAL RESOURCES

Affected Environment

Following BLM regulations (43 CFR Part 8100) and other federal laws including the National Historic Preservation Act (16 USC § 470f) and it’s implementing regulations (36 CFR Part 800), as amended, BLM reviewed the immediate region for historic properties prior to a federal undertaking (issuance of a federal permit). By definition, an historic property is a “prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places” and includes “artifacts, records, and remains that are related to and located within such properties” (36 CFR 800.16(1)(1)).

BLM defined the project Area of Potential Effect (APE) as 1,659 acres of public land managed by the Carson City District, Stillwater Field Office, Bureau of Land Management. A Class III cultural resource inventory would be conducted prior to implementation of the project (1,659 acres). Four cultural resource inventories have been conducted within the APE, resulting in the identification of five cultural resources adjacent to but not directly affected by the current proposed project. Less than 2% or 1202 acres of the 1,659 acres has been previously surveyed to Class III standards. To identify and avoid historic properties, a Class III cultural resource inventory and analysis would be conducted prior to implementation of the proposed project.

A BLM Class I records search of previous Class III cultural resource inventories was conducted for the area of implementation. The review included the Nevada Cultural Resource Information System (NVCRIS), the geodatabase and archives on file at the Carson City District (CCD), a review of current literature (Bingston 2002 and Pendleton et al. 1982) and General Land Office records. Based on research, historic properties represent past human use of the landscape in and around the proposed project area. These include prehistoric-period sites camp/habitation sites, limited activity/procurement sites, rock art, rock alignments, rock shelters and caves, and talus pits utilized over an extensive period of time ranging from the Paleoarchaic (approximately 8500 BP) to the historic contact period extending through the nineteenth-century. Ethno-historic sites have also been documented for activities associated with wood cutting, pine nut procurement, hunting and habitation sites associated with various employment types. Historic-period sites include the following: refuse scatters; stone structures and buildings; roads associated with mining, ranching, and transportation including the Pony Express and the Overland Mail and Stage Routes.

Ground disturbing portion of this project has the potential to adversely affect cultural resources. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, BLM is required to identify and evaluate cultural resources within the area of potential effect for each phase of this project. Historic properties identified and evaluated as eligible under the National Register of Historic places would be avoided

during implementation to result in a no adverse effect to historic property(ies) pursuant to 36 CFR Part 800, and in consultation with the Native American Tribe with cultural affiliations to the proposed project area.

Environmental Consequences

Proposed Action

Based upon the results of a BLM literature review at the Carson City District Office and NVCRIS, four Class III cultural resource inventories have been conducted within the area of implementation (1,659 acres) between 1981 and 2000. Five cultural resources (prehistoric and historic) were documented but not evaluated and would be treated as eligible. To prevent unnecessary or undue degradation to known and unknown historic properties a Class III cultural resource inventory would be conducted and cultural resources would be documented and evaluated for eligibility following the National Register of Historic Places criteria. During surface disturbing activities (drill seeding) historic properties would be avoided for a no adverse effect. In the event of an inadvertent discovery during the project activities work would cease and reported immediately to the BLM.

No Action Alternative

If the proposed action did not occur, then no effect to cultural resources would occur from treatments. However, the current fuel load could result in damage to known or unknown cultural resources in the event of a fire.

3.5.2 HUMAN HEALTH AND SAFETY

Affected Environment

The health and safety of the public, contractors, and agency personnel are of the utmost importance. Two issues have been identified for further analysis. The first concerns hazards directly related to herbicide application operations that could affect the public, contractors, and agency personnel involved in the project. The second concerns the impacts of the proposed treatment on future fire frequency and intensity.

Environmental Consequences

Proposed Action

The proposed action, the herbicide application of imazapic on 1,659 acres, is expected to take 2 weeks. Due to the remoteness of the project area, public contact is not expected. A pre-treatment sweep of the treatment area would be used to insure the area is clear before daily implementation. All direct hazards associated with this operation would be mitigated. It is expected an end product contract would be used to implement the proposed action. During implementation, all aspects of the operation would be managed in compliance with all state laws and the chemical label requirements, including all worker and environmental safety precautions for chemical storage, mixing, and loading. The actual application rate would be measured and calibrated as needed to assure that the appropriate amount of chemical is applied per unit area of ground. The BLM would provide a certified Contracting Officers Representative (COR) to oversee the spray operation.

Long-term, the proposed action would interrupt the grass-fire cycle, which would prevent the escalation of fire frequency, fire size, and fire intensity. By restoring the natural fire regime, firefighters, nearby landowners, and the public would not be exposed to the hazards associated with increased fire frequency, fire size, and fire intensity.

No Action Alternative

Under the No Action Alternative, the treatment would not occur. All direct hazards associated with herbicide application would not occur. The herbicide treatment would not interrupt the grass-fire cycle, which would potentially escalate fire frequency, fire size, and fire intensity.

3.5.3 INVASIVE, NON-NATIVE, AND NOXIOUS SPECIES

Affected Environment

Invasive species are defined by Executive Order 13112 as “an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health”. Alien refers to a species that did not evolve in the environment in which it is found or in other words, non-native. This includes plants, animals, and microorganisms. The definition makes a clear distinction between invasive and non-native species because many non-natives are not harmful (U.S. crops); however, many invasive species have caused great harm (National Invasive Species Council 2005).

Noxious weeds in Nevada are classified by the Nevada Department of Agriculture and the Plant Protection Act (2000) and are administered by the United States Department of Agriculture’s (USDA) Animal and Plant Health Inspection Service (APHIS). Table 3 gives examples and definitions of noxious weeds in Nevada. No noxious weed species have been identified in the project area

Table 3 Noxious Weed Categories, Definitions, and Examples (NDA 2010)

Type	Definition	Examples
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	Dyer’s Woad (<i>Isatis tinctoria</i>) Spotted Knapweed (<i>Centaurea masculosa</i>)
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	Russian Knapweed (<i>Acroptilon repens</i>) Scotch Thistle (<i>Onopordum acanthium</i>)
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	Hoary cress (<i>Cardaria draba</i>) Saltcedar (tamarisk) (<i>Tamarix spp</i>)
For more information on noxious weeds visit: http://agri.nv.gov/nwac/PLANT_No WeedList.htm		

Invasive plant species common in the project area are Russian thistle (*Salsola kali*), halogeton, (*Halogeton glomeratus*), and cheatgrass (*Bromus tectorum*).

Although not a noxious weed; cheatgrass is a highly invasive, non-native, annual grass that is currently established throughout the project area. This annual grass displaces native perennial shrub, grass, and forb species because of its ability to germinate quicker and earlier than native species, thus outcompeting natives for water and nutrients. Cheatgrass is also adapted to recurring fires that are

perpetuated in part by the fine dead fuels that it leaves behind. In general, native plants have a difficult time thriving in these altered fire regimes.

Environmental Consequences

Proposed Action

Under the Proposed Action, the project area would be sprayed with Ammonium salt of imazapic at a rate of .093 pounds active ingredient per acre after the prescribed burn in order to prevent the spread of cheatgrass. Two herbicides with the active ingredient imazapic have been approved for use by the BLM and the State of Nevada, Panoramic 2SL and Plateau®. A pesticide use proposal (PUP) for Plateau® was approved on May 31, 2011, for use on cheatgrass and other invasive species in the Stillwater Field Office. As with Plateau®, herbicide selection and application would be in conformance with Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (EIS) and Record of Decision (ROD) (BLM 2007a,b).

Following the herbicide treatment, the project area would be seeded with native and non-native perennial plants, which would reduce the establishment of invasive species in the future. Monitoring would occur to ensure that fuel treatment objectives were met and to identify invasive plant species for additional treatment. Subsequent treatment with herbicides may be necessary if the cheatgrass is not eradicated.

There may be an increased threat of noxious weeds being introduced into the project area by administrative vehicles associated with the burning, spraying, and seeding. Vehicles used during the project would be cleaned prior to arriving at the job site. Staging and turn-around areas would be specified in the treatment plan to avoid areas of cheatgrass or other weeds. Seeding the project area following the removal of the vegetation could help mitigate the establishment of invasive plants by providing a large seedbank of desirable plants to capture the newly released resources on the site immediately following treatment.

In the event that noxious weeds are discovered on the project area before, during, or after the treatment, they would be recorded, to include the species, size of the infestation, cover class, distribution of plants (linear or irregular), and location. The Stillwater Field Office weed coordinator would be notified of any weeds found and provided with this information. All noxious weeds found would be treated and evaluated. Treatment methods could include biological, cultural/mechanical, and chemical control. When applicable, several of these methods would be combined into an integrated pest management program in order to reduce costs and risks to humans and the environment.

Under the Proposed Action, the project area, as well as the surrounding landscape, would be routinely surveyed for new weed infestations and treated as described above. Areas previously treated with herbicides would continue to be monitored.

The occurrence of invasive and noxious weeds would decrease in the long term as there would be less competition between these plants and the desirable perennial plants. The invasive plants would be treated if observed, allowing more light, water, and nutrients for the desirable perennial species. In addition, more monitoring would be completed as part of this treatment, and this would prevent further spreading of weeds and allow a more timely eradication of the undesirable species.

No Action Alternative

Under the No Action alternative, the project area would not be burned, sprayed with imazapic, or seeded with desirable plant species. The density of the cheatgrass would likely increase, reducing the available

water, nutrients, and sunlight for more desirable perennial plant species. There would be the risk of losing the native vegetation if the cheatgrass was not controlled.

Under the No Action alternative, the project area and surrounding landscape would continue to be routinely surveyed along roadways and other disturbed areas for new weed infestations. The Stillwater Field Office weed coordinator would be notified of any weeds found and provided with the species, size of the infestation, cover class, distribution of plants (linear or irregular), and location. Treatment methods could include biological, cultural/mechanical, and chemical control. When applicable, several of these methods would be combined into an integrated pest management program in order to reduce the costs and risks to humans and the environment. Areas previously treated with herbicides would continue to be monitored.

3.5.4 MIGRATORY BIRDS

Affected Environment

On January 11, 2001, President Clinton signed Executive Order 13186 (EO) placing emphasis on the conservation and management of migratory birds. Migratory birds are protected under the Migratory Bird Treaty Act of 1918 (MBTA) and the EO addresses the responsibilities of federal agencies to protect migratory birds by taking actions to implement the MBTA. BLM management for migratory bird species on BLM administered lands is based on Instruction Memorandum No. 2008-050 (BLM 2007a). Based on this IM, migratory bird species of conservation concern include 'Species of Conservation Concern' and 'Game Birds Below Desired Conditions' (GBBDC). These lists were updated in 2008 (USFWS 2008). The list of migratory species of concern that occur or are likely to occur in the project area is shown in Table 6.

Invasive grasses, and in turn changing fire regimes, are one of the primary threats to the Intermountain West sagebrush habitats that some migratory birds are dependent upon (Rich et al. 2004). Fires are now fueled by the presence of non-native annual grasses, primarily cheatgrass, which increases fire intensity, rate of spread, and fire frequency. Non-native invasive annual grasses tend to return in higher densities after fire leading to an unnatural fire regime and less diverse vegetation community. Non-native annual grasses burn more frequently and at larger scale than the native vegetation. The project area is a prime example of this. This has decreased or eliminated functional habitat for migratory birds (See Wildlife and Key Habitat Affected Environment section and Tables 5 and 6).

Environmental Consequences

Proposed Action

The proposed action would have no negative effects to migratory birds because the treatment would occur outside of the breeding/nesting season, current habitat is marginal or nonexistent, and imazapic does not cause adverse effects in birds exposed to short-term acute exposures (BLM 2007b).

No Action Alternative

With no treatment, cheatgrass would continue to outcompete native vegetation. Continued fires in the area may spread cheatgrass to surrounding areas, thus eliminating additional habitat that would otherwise be available to sagebrush dependent migratory birds. Therefore, no action may lead to declines in abundance for some migratory birds over time.

3.5.5 NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment

One Native American Tribe has cultural affiliation with the project area, the Fallon Paiute-Shoshone Tribe. Per 36 CFR Part 800 and 43CFR Part 8100 (BLM), as amended, correspondence including a

general summary of the proposed project, and a map of the Project APE were provided to the Fallon Paiute-Shoshone Tribe (June 28, 2011). No comments and concerns have been documented however consultation would be ongoing throughout the implementation of the proposed project.

The proposed activities may potentially have an effect on known and unknown historic properties and Traditional Cultural Places. BLM would review tribal concerns as identified and conduct Native American coordination and consultation with the Fallon Paiute-Shoshone Tribe throughout the life of the project implementation.

Environmental Consequences

Proposed Action

The BLM has been and would continue to conduct government to government consultation with the Fallon Paiute-Shoshone Tribe during the project. Per 36 CFR Part 800 and 43 CFR Part 8100, as amended, BLM would review tribal concerns as identified and conduct Native American coordination and consultation for the project including but not limited to correspondence including a general summary and map of the project, results of each cultural resource inventory, face to face meetings and field trips to the project area with Tribal Council members and other staff as requested.

No Action Alternative

If the proposed action did not occur, then no change in the current condition or concerns would change.

3.5.6 BLM SENSITIVE SPECIES

Affected Environment

Species designated as Bureau sensitive must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either:

1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or
2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.

A list of sensitive animal and plant species associated with BLM lands in Nevada was signed in 2003 (BLM 2003). Many of these species that depend on sagebrush and cold desert scrub ecosystems are currently impacted through decreased plant species diversity and increased fire frequency within the project area. No BLM Sensitive Plant species are currently known to occur in the project area. See the General Wildlife Affected Environment section for a more detailed discussion on existing habitat. Table 6 displays the species that may currently utilize the area or benefit from the restored habitat in the future.

Environmental Consequences

Proposed Action

The impacts from the Proposed Action would be the same as described in the Wildlife Environmental Consequences section.

No Action Alternative

Without imazapic treatment, cheatgrass would likely continue to outcompete native vegetation. Continued fires in the area may spread cheatgrass to surrounding areas, thus eliminating additional habitat that would otherwise be available to BLM Sensitive Species that utilize sagebrush habitats for food, forage, or cover. Over time, this could lead to decreased population abundance, which is contradictory to BLM Sensitive Species management.

3.5.7 FIRE MANAGEMENT/VEGETATION

Affected Environment

The proposed Earthquake Fuel Break project is located in the Churchill Basin Fire Management Unit (NV-030-12). Aggressive initial attack is initiated with the intent of holding all unplanned ignitions to 250 acres or less, 90% of the time in areas dominated by cheatgrass or susceptible to post fire cheatgrass invasion.

The project area was burned in the Sand Springs wildfire (17,437 acres in July of 1999). Since 1992 three other human caused wildfires have burned into the proposed project area. Currently cheatgrass dominates the sight. As cheatgrass continues to invade and increase after each fire, the time between fires becomes shorter. Since the native vegetation is slower to re-establish after fire, the increased fire frequency fueled by cheatgrass eventually eliminates most of the native shrubs and grasses from the landscape. Cheatgrass also displaces the native grasses and herbaceous (non-woody) plants because as a winter annual, cheatgrass is able to establish earlier in the growing season than most native grasses and herbaceous plants. In this way, cheatgrass depletes soil moisture and competes against the native species until the native species are eventually crowded out of large areas as the grass-fire cycle continues.

Fire regime condition class (FRCC) describes the degree of fire regime departure from historical fire cycles due to fire exclusion and other influences (selective timber harvesting, grazing, insects and disease, the introduction and establishment of non-native plants). FRCC identifies changes to key ecosystem components such as species composition, structural stage, tree or shrub stand age, and canopy closure. It characterizes the landscape by five “Fire Regime Groups” and three “Fire Condition Classes”. Wildfire risk conditions are identified by the Fire Regime Groups and are measured by the Fire Condition Classes. Specifically, the natural historic frequency and severity of fire within an ecosystem is the identified Fire Regime, and Fire Condition Class identifies the departure of current conditions from the historical reference condition. The National Fire Plan and Healthy Forest Restoration Act dictate that the federal agencies use FRCC as criteria for planning projects.

The project area can be characterized by Fire Regime Group III which has a natural historical fire frequency of 35-100 years and a mixed fire severity. The condition class for the project area can be characterized as primarily Condition Class 3, meaning the fire regimes on the landscape have been significantly altered from historical ranges and vegetation attributes have been significantly altered from the historical range of attributes.

Environmental Consequences

Proposed Action

The proposed action is designed to replace the existing cheatgrass monoculture with a more fire resistant strategic strip of vegetation that would create a passive fuel break. The reduction in cheatgrass would move the condition class from a rating of 3 to 1, meaning the project area would be more in line with historical fire regimes and the risk of losing key ecosystem components would be lower. Increasing the fire return interval would reduce the frequency and severity of wildfires in project area.

No Action Alternative

Under the No Action Alternative, the condition of the understory species would continue to decline with the increase of the cheatgrass seed bank. The areas represented as Condition Class 3 would increase creating further departure from the historical fire regime. The risk of losing key ecosystem components would continue as the area moves toward a monoculture of cheatgrass.

3.5.8 LAND USE

Affected Environment

Several right-of-ways are near or within the project area. All are held by the U.S. Department of the Navy and are listed on Table 4. Of particular concern to a controlled burn is the electronic warfare communications facility found in MDM, T. 15 N., R. 34 E., sec. 3, NE¼SW¼, for it includes buried diesel fuel tanks as part of the authorized facilities. The other uses include the access road, a power line, and two authorizations for communication line which runs both underground and aerially concurrent with the power line right-of-way.

Table 4 – Authorized Land Uses in Project Area

Serial Number	Holder	Casetype	Authority
NVN 037924	Navy	Power Line	FLPMA
NVN 045135	Navy	EWR site	FLPMA
NVN 045141	Navy	Access Road	FLPMA
NVN 046515	Navy	Comm. Line	FLPMA
NVN 046516	Navy	Comm. Line	FLPMA

Access to the right-of-ways would be limited or denied during a controlled burn. The Holder of the right-of-ways would be notified via a Letter of Notification concerning this project.

Environmental Consequences

Proposed Action

The Proposed Action would not have a negative effect on the right-of-ways. Due to the very nature of the action, fuels reduction, the right-of-ways would benefit from the successful breaking of the invasive fuels cycle by having less fire threat.

No Action Alternative

With no fuels treatment, the area could experience more severe fires, which would have the possibility of damaging or destroying the authorized federal facilities. Moreover, larger fires could introduce larger areas within the right-of-ways exposed to invasive fuels mixtures, in turn threatening greater sections of the linear features with the possibility of more intense fire cycles.

3.5.9 RECREATION

Affected Environment

Recreational opportunities in the project area are comprised primarily of back country driving, hunting, and exploring the unique earthquake fault zones on the eastern side of Fairview Peak. The primary attraction is the Fairview Peak Earthquake Faults located six miles south of Highway 50 adjacent to the

project area. Access to the parking area, trailhead and interpretive signs which are located approximately 1,400 feet to the west of the project boundary is through the project area. This site is visited by schools kids, the general public, as well as amateur and professional geologist who study the exposed fault lines.

The project area falls within Nevada Hunt Unit 181. Hunting in this area is focused primarily on big game species including mule deer (*Odocoileus hemionus*) and desert bighorn sheep (*Ovis Canadensis nelson*). Hunting occurs primarily in the fall in the rugged, steeper, rockier terrain found at higher elevations.

The dirt road adjacent to the project area provides backcountry access from Highway 50 to four wheel drive roads and trails frequently used for dispersed recreational activities including hunting, exploring and camping.

Environmental Consequences

Proposed Action

There would be no long term or cumulative effects on recreation from the proposed activities. Fuel reduction treatments may have an important beneficial impact on recreation opportunities by lessening wildfire probability and reducing future scaring of the land. Several phases of the project may impose temporary impacts by restricting access to the Earthquake Fault trailhead or other roads. These impacts would be short term in nature and could be reduced or minimized by keeping roads open unless closure is required for public health and safety purposes. The project activities should not impact hunting opportunities which would occur in areas of higher elevations.

No Action Alternative

Not implementing the proposed project would have little impact on recreational opportunities. The risk of human caused fires from the public recreating in the area would remain and possibly increase as the spread of invasive species continues. Public enjoyment of the fault zones would be decreased from the negative impacts to surrounding vegetation and natural settings from additional fires.

3.5.10 VISUAL RESOURCE MANAGEMENT

Affected Environment

Visual Resource Management (VRM) objectives have not been established for public lands within the proposed project area. The Carson City Consolidated Resource Management Plan requires the establishment of an Interim Visual Management objective for all projects until the VRM Class has been designated through the land use planning process. Based upon the VRM classification guidelines, the project area would be required to meet the Class III or Class IV standards which would allow projects that would partially retain the existing character of the landscape or allow major modifications to the existing character of the landscape for management activities respectively.

Characteristics of the landscape in the project area have been modified from their natural state repeatedly by wildfires over the years to the point they would not be considered visually natural. Restoration activities following the Sand Springs wildfire in 1999 further modified the natural setting of the area through mechanical activities. Alteration of the landscape from the contoured drill seeding and the change in native plant species is readily apparent in aerial photographs.

Environmental Consequences

Proposed Action

Activities from the proposed project would conform to the VRM Class III or Class IV objectives without undue impairment to the visual quality of the landscape. Temporary unavoidable impacts would be visible from the prescribed burning, mechanical construction of the fuel break on the west side of the project, and visual rows from mechanical seeding along the topographic contour lines but the visual effects would be short term in nature.

The proposed action under the long term would serve to enhance visual resources by removal of invasive cheatgrass and restoration of the natural setting. This would have the potential to improve the appearance of the landscape by increasing plant species diversity and composition. Eventual succession of the restoration species to native species as recovery takes place would aide in restoring the natural visual quality of the landscape. There are no cumulative impacts to visual resources in this area.

No Action Alternative

Under the current management objectives, visual resources would continue to degrade through the continued spread of cheatgrass and the increased frequency of wildfires. The change in composition of native vegetation to invasive species following additional fires would further alter the landscape and negatively impact the visual quality of the area.

3.5.11 WILDLIFE AND KEY HABITAT

Affected Environment

Based on the **Southwest Regional GAP Analysis Project**, the Nevada Department of Wildlife's Wildlife Action Plan (2006) characterized Nevada's vegetative land cover into 8 broad ecological system groups and linked those with Key Habitat types, which are further refined into Ecological Systems characterized by plant communities or associations (USGS 2005). The **primary** Key Habitat types that should exist in the project area are sagebrush and cold desert scrub. The associated plant communities are displayed in Table 5. A few of the known or potential wildlife species that could be supported by the plant communities are displayed in Table 6. Because intensive plant and animal surveys have not been completed, abundance and distribution of most wildlife species can only be inferred from available habitat. Key habitats are delineated using GIS vegetation data (Peterson 2008). Because of past fires and large areas of non-native mustards and cheatgrass invasion, the plant communities associated with the Proposed Action contain very little vegetation to support viable wildlife communities. Cheatgrass (*Bromus tectorum*) is an invasive annual grass that displaces native perennial shrub, grass, and forb species because of its ability to germinate quicker and earlier in the year than native species, thus outcompeting natives for water and nutrients. Cheatgrass is also adapted to recurring fires that are perpetuated in part by the fine dead fuels that it leaves behind. In general, native plants have a difficult time thriving in these altered fire regimes. However, the proposed action, if successful, would facilitate restoration of the plant communities that existed prior to cheatgrass invasion and non-historic fire cycles.

Big Game

Desert Bighorn Sheep — The desert bighorn sheep found in the proposed action area is one of four desert subspecies of bighorn sheep (*Ovis canadensis*) found in North America. They prefer rough, rocky, and steep terrain; require freestanding water in the summer months or during drought; and mainly eat grasses, shrubs, and forbs. The proposed action area is adjacent to occupied habitat by the Fairview/Slate herd (NDOW 2010).

Pronghorn — Pronghorn (*Antilocarpa americana*) have an evolutionary history of 20 million years in North America. They were almost wiped out in the 1800s but have rebounded due to changes in wildlife

and rangeland management techniques. Pronghorn primarily eat forbs and shrubs with grasses being the least preferred forage. The proposed action area is delineated as year-round and crucial summer habitat. **Mule Deer** — Mule deer (*Odocoileus hemionus*) generally browse on forbs, grasses, and shrubs depending on the time of year. For instance, forbs and grasses are most important in spring and summer while shrubs are most utilized during winter and the dry summer months. The proposed action area is adjacent to delineated year round habitat. However, the primary factor limiting distribution is water availability (NDOW 2010).

Table 5 Key habitat types and primary plant communities that should exist in the proposed action area (Based on NRCS soils surveys and SWReGAP descriptions (USGS 2005)).

Key Habitat and Associated Ecological Systems	Potential Plant Species	Scientific Name
Key Habitat — Sagebrush Key Habitat — Cold Desert Scrub Ecological System — Great Basin Xeric Mixed Sagebrush Shrubland Ecological System — Inter-mountain Basins Big Sagebrush Shrubland Ecological System — Inter-mountain Basins Mixed Salt Desert Scrub	Bud Sagebrush	<i>Picrothamnus desertorum</i>
	Bailey’s Greasewood	<i>Sarcobatus vermiculatus</i>
	Bottlebrush Squirreltail	<i>Elymus elymoides</i>
	Desert Needlegrass	<i>Achnatherum speciosum</i>
	Great Basin Wildrye	<i>Leymus cinereus</i>
	Indian Ricegrass	<i>Achnatherum hymenoides</i>
	Mormon Tea	<i>Ephedra</i> spp.
	Needle And Thread	<i>Hesperostipa comata</i>
	Sandberg Bluegrass	<i>Poa secunda</i>
	Shadscale Saltbush	<i>Atriplex confertifolia</i>
	Spiny Hopsage	<i>Grayia spinosa</i>
	Winterfat	<i>Krascheninnikovia lanata</i>
	Wyoming Big Sagebrush	<i>Artemisia tridentata</i> ssp. <i>Wyomingensis</i>

Table 6 Potential BLM designated sensitive species, migratory bird species of conservation concern (as per IM 2008-050), and general wildlife that may use components of the restored habitat.

Key Habitats	Potential Wildlife Species	Scientific name	BLM Sensitive Species	Listed as per IM 2008-050 (December 18, 2007)	Primary Habitat Use Affected
Sagebrush	Black-throated Sparrow	<i>Amphispiza bilineata</i>	No	N/A	Increased nesting cover
Cold Desert	Brewer’s Sparrow	<i>Spizella breweri</i>	No	Yes	Increased

Key Habitats	Potential Wildlife Species	Scientific name	BLM Sensitive Species	Listed as per IM 2008-050 (December 18, 2007)	Primary Habitat Use Affected
Scrub					nesting cover
	Dark Kangaroo Mouse	<i>Microdipodops megacephalus</i>	No	N/A	Increased food sources
	Desert Horned Lizard	<i>Phrynosoma platyrhinos</i>	No	N/A	Increased cover
	Great Basin Collared Lizard	<i>Crotaphytus bicinctores</i>	No	N/A	Increased food sources
	Great Basin Pocket Mouse	<i>Perognathus parvus</i>	No	N/A	Increased food sources
	Great Basin Rattlesnake	<i>Crotalus viridis lutosus</i>	No	N/A	Food sources and thermal cover
	Kit Fox	<i>Vulpes macrotis</i>	No	N/A	Increased prey base
	Long-nosed Leopard Lizard	<i>Gambelia wislizenii</i>	No	N/A	Cover and increased food sources
	Pale Kangaroo Mouse	<i>Microdipodops pallidus</i>	No	N/A	Increased food sources
	Sage sparrow	<i>Amphispiza belli</i>	No	Yes	Increased nesting cover
	Sagebrush Vole	<i>Lemmiscus curtatus</i>	No	N/A	Increased winter food sources and cover for burrow entrances
	Burrowing owl	<i>Athene cunicularia</i>	Yes	Yes	Increased prey base
	California myotis	<i>Myotis californicus</i>	Yes	N/A	Increased prey base
	Ferruginous hawk	<i>Buteo regalis</i>	Yes	Yes	Increased prey base
Fringed myotis	<i>Myotis thysanodes</i>	Yes	N/A	Increased prey base	

Key Habitats	Potential Wildlife Species	Scientific name	BLM Sensitive Species	Listed as per IM 2008-050 (December 18, 2007)	Primary Habitat Use Affected
	Golden eagle	<i>Aquila chrysaetos</i>	Yes	Yes	Increased prey base
	Loggerhead shrike	<i>Lanius ludovicianus</i>	Yes	Yes	Increased nesting cover
	Long-eared myotis	<i>Myotis evotis</i>	Yes	N/A	Increased prey base
	Pallid bat	<i>Antrozous pallidus</i>	Yes	N/A	Increased prey base
	Northern Harrier	<i>Circus cyaneus</i>	No	Yes	Increased prey base
	Prairie Falcon	<i>Falco mexicanus</i>	Yes	Yes	Increased prey base
	Small-footed myotis	<i>Myotis ciliolabrum</i>	Yes	N/A	Increased prey base
	Swainson hawk	<i>Buteo swainsoni</i>	Yes	Yes	Foraging habitat

Environmental Consequences

Proposed Action

The environmental risks of imazapic were analyzed in the Vegetation Treatments Using Herbicides on BLM lands in 17 Western States Programmatic EIS (2007). The risk categories for terrestrial animals were direct spray, off-site drift (wind erosion), indirect contact with foliage after direct spray, ingestion of contaminated vegetation or prey, and runoff, which includes percolation to the root zone, at typical and maximum application rates. The Proposed Action would not exceed the maximum application rates. The assessments also included the risks from typical adjuvants. These aid in proper wetting of foliage and absorption of the active ingredient (i.e. imazapic) into plant tissue. Adjuvant is a broad term that includes surfactants, selected oils, anti-foaming agents, buffering compounds, drift control agents, compatibility agents, stickers, and spreaders (BLM 2007c).

The risk assessment concluded that in general this herbicide, even at high doses, does not adversely affect terrestrial animals, including invertebrates, as it is rapidly metabolized in urine and feces, and does not bioaccumulate in animal tissue. The document did state that during pregnancy mammals may be more at risk and long-term exposure had negative effects on birds. However, application of imazapic would occur in the fall, which is outside of the gestation period for most animals that may use the project area; therefore these risks would be negligible (BLM 2007b, BLM 2007c).

Herbicides could come into contact with and impact non-target plants through drift, runoff, wind transport, or accidental spills and direct spraying. Potential impacts include mortality, reduced productivity, and abnormal growth. However, implementing the associated standard operating procedures outlined in the Record of Decision for the Vegetation Treatments Using Herbicides on BLM lands in 17 Western States Programmatic EIS (2007) would minimize or eliminate these risks to wildlife habitat adjacent to the project site.

Drill seeding or prescribed fire could displace, injure, or kill individuals. However, these potential impacts would be short-term, temporary, and would not be expected to lead any one species' population to lose the ability to be self-sustaining.

The Proposed Action, if successful, would benefit species dependent on sagebrush and cold desert ecosystems for food and cover as well as species that prey on wildlife that inhabit these habitats by diminishing or preventing the current invasive annual grass fire cycle that decreases plant diversity and changes habitat structure. Seeding of forage kochia is intended to suppress or eliminate the invasion of invasive annual weeds like cheatgrass, halogeton, and Russian thistle. It is not highly invasive and does not spread aggressively into healthy plant communities and does not compete well with perennial grasses (Pratt et al. 2011, Kettle and Davison 2007). Therefore; cheatgrass should be diminished in its vigor, which would allow native plants to grow back over time, which should create a mosaic of shrub heights and spacing, which would lead to greater wildlife diversity and abundance.

No Action Alternative

Without the proposed action, cheatgrass would likely continue to outcompete native vegetation. Continued fires in the area may further spread cheatgrass to surrounding areas, thus eliminating additional habitat that would otherwise be available to wildlife species that utilize sagebrush and cold desert scrub habitats for food, forage, or cover. Therefore, no benefits could be realized for wildlife species dependent on a healthy, diverse sagebrush vegetation community.

3.6 CUMULATIVE EFFECTS

The purpose of the cumulative impacts analysis is to evaluate the combined, incremental effects of human activity within the scope of the project. CEQ regulations define scope to include connected actions, cumulative actions, and similar actions (40 CFR 1508.25). Though the Council on Environmental Quality (CEQ) regulations do not explicitly state that cumulative effects should be addressed in an EA the BLM's National Environmental Policy Act Handbook (H-1790-1) states, "For an EA, we recommend that you consider connected or cumulative actions in the same EA...". Therefore, the scope of the cumulative analysis would be restricted to actions within the vicinity of the Sand Springs Fire, which encompasses the treatment area. CEQ regulations formally define cumulative impacts as follows:

'...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time' (40 CFR 1508.7).

The 1997 CEQ Handbook *Guidelines for Assessing and Documenting Cumulative Impacts* suggests the analysis can be focused on those issues and resource values identified during scoping that are of major importance. The only issue of major importance identified during scoping for the proposed action was the potential impact to non-target plants and wildlife from the herbicide.

Past Actions

The Sand Springs Fire was controlled on July 27, 1999. Approximately 15,200 acres of public rangeland burned. Approximately 1,116 acres were drill seeded in December 1999. 12,512 acres were aerial seeded in February 2000. Approximately 563 acres were aerially seeded and 425 acres were drill seeded inside the project boundary. The success of the Sand Springs restoration project varies due to environmental factors and site characteristics. The proposed action has been designed to enhance the

Sand Springs restoration project by reducing the competition from the non-native annual grass species cheatgrass. The cumulative effect of the proposed action would be positive for the restoration effort in the area.

Present Actions

As mentioned in the introduction, reducing the amount on cheatgrass in the project area is the first step in the integrated management plan for the Earthquake project. The best chance for the restoration of this site, including the lengthening of the fire return interval, would include additional treatments to establish or enhance plant species that are either more fire resistant or native to the area. The cumulative effect of the proposed action would increase the chance of success of the burned area rehabilitation for the area.

Reasonably Foreseeable Future Actions

The reasonably foreseeable future actions (RFFAs) within the project area include the following:

The proposed action is designed to reduce the cover and density of the non-native annual cheatgrass. The success of the project would be determined through monitoring and vegetation inventories to be completed before and after implementation. If positive results are measured by increases in native or more fire resistant plant species, future projects in the area could be considered. A new EA would be prepared for any future action.

Vegetation

Vegetation may be affected both positively and negatively from RFFAs. In the short term there could be negative effects to the existing vegetation. Long term the cumulative effects of the proposed action and additional projects should restore the plant community to a mix of shrubs, grasses and forbs. Restoring the plant community would lengthen the fire return interval for the area. Reduced wildland fire activity would be a benefit to the vegetation in the area.

Wildlife (including special status species)

Wildlife may be affected negatively from RFFAs by displacement or disruption of normal behavioral patterns due to construction, project operations and maintenance, and site rehabilitation. In addition, some of these projects and actions could increase traffic, conflicts with humans, and competition for habitat niches in the short term. Some RFFAs may also decrease forage quality, quantity, and composition. Overall, the proposed action would seek to increase habitat availability and standard operating procedures for herbicide treatment would diminish or negate any affects to individual animals; thereby contributing a negligible amount to cumulative effects on wildlife and BLM Special Status species within the scope of the Proposed Action.

Invasive, non-native, and noxious species

The cumulative impact analysis area for invasive, non-native, and noxious species consists of a portion of the Clan Alpine Allotment adjacent to Highway 361. When combined with the effects from past, present, and reasonably foreseeable future actions, cumulative effects have been determined to be positive. The risk of wildfire would be reduced with the reduction of cheatgrass, making conditions more favorable for the desired native plant species to become established. Any short term and long term effects that may be considered negative from herbicide application to control the invasive, nonnative, and noxious species would be negligible since the herbicides would be applied as per label instructions.

3.7 MONITORING

The monitoring described in the Proposed Action is sufficient for this action.

4.0 PERSONS, GROUPS, AND AGENCIES CONSULTED

4.1 LIST OF PREPARERS

Bureau of Land Management

NAME	TITLE	PROJECT EXPERTISE
Linda Appel	Range Specialist	Grazing
Keith Barker	Fire Ecologist	Project Lead
Jill Devaurs	Range Specialist	Invasive ,non-native, and noxious species
Steve “Chip” Kramer	Planning & Environmental Coordinator	NEPA Compliance
Susan McCabe	Archaeologist	Cultural resources
Dave Schroeder	Reclamation Specialist	Wastes, Hazardous or Solid
Dan Westermeyer	Recreation Specialist	VRM, Recreation
John Wilson	Wildlife Specialist	Wildlife, Soils, BLM Sensitive Species

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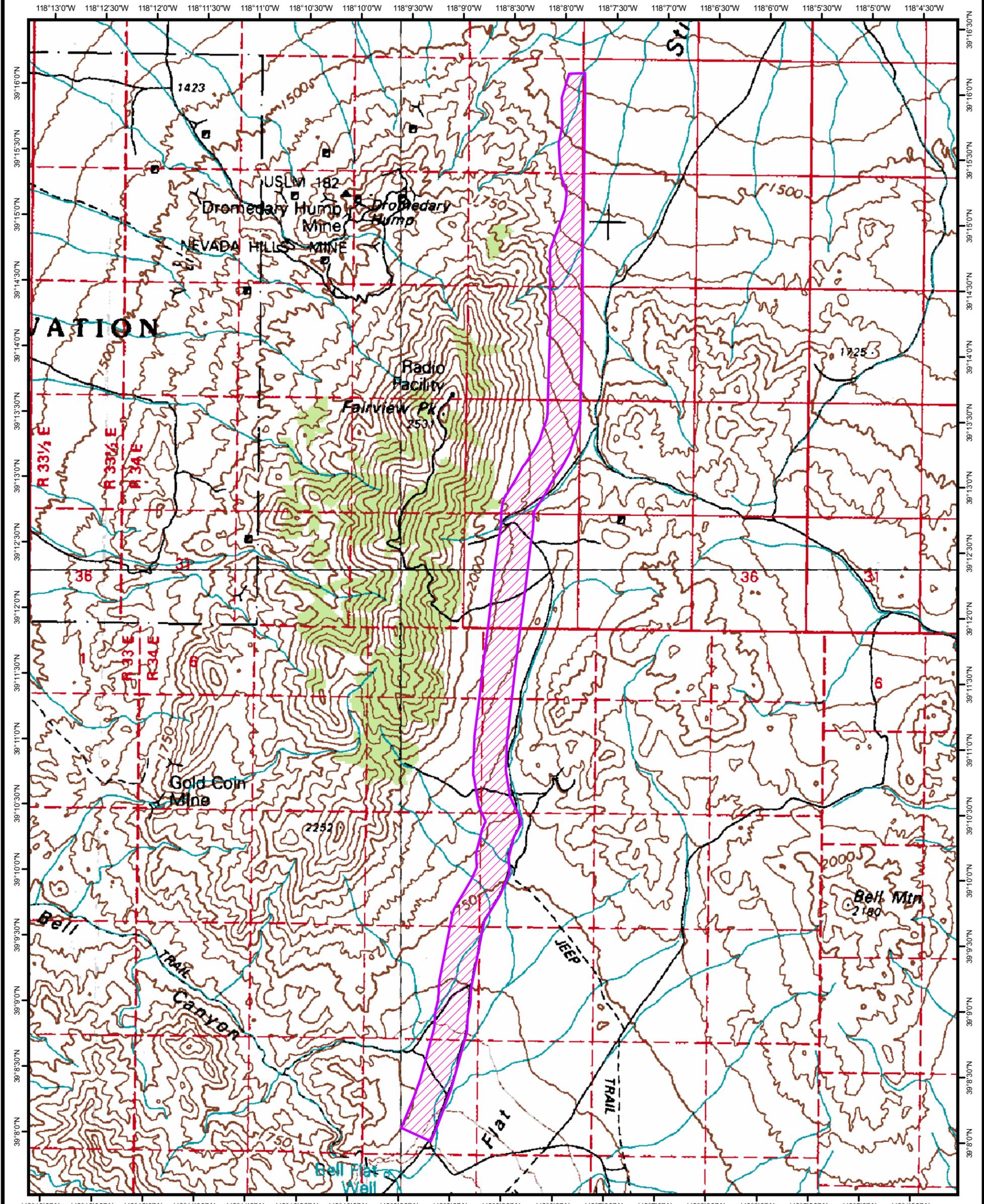
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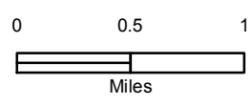
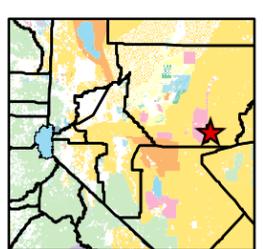
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6.0 PROJCT AREA MAP



Legend

 Project Boundary (1,659 acres)



**Bureau of Land Management
Carson City District
Fuels Management**

United States Department of the Interior
Bureau of Land Management (BLM)
Carson City District
5665 Morgan Mill Road
Carson City, NV 89701



Earthquake Project
7.5 minute map name: Bell Canyon and Drumm Summit
T15N R34E Sections: 3,9,10,15,16,21,and 28
T16N R34E Sections: 10,15,22,27 and 34

No warranty is made by the BLM as to the accuracy, reliability or completeness of these data for individual or aggregate use with other data.