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BUREAU OF LAND MANAGEMENT**

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Environmental Assessment

For the

North Rim Vegetation Treatment Project

ID230-2007-EA-3343



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I. INTRODUCTION

A. Background

The sagebrush steppe plant community along the North Rim of the Snake River has been altered by wildfires and other disturbances. The North Rim is dominated by annual exotic vegetation with scattered infestations of noxious weeds. The 2005 Canyon Allotment Standards for Rangeland Health and Guidelines for Livestock Grazing assessment determined that the South pasture along the North Rim is meeting the Bureau of Land Management (BLM) Idaho Standards for Rangeland Health and was evaluated utilizing the indicators for Standard 6, Exotic Plant Communities. However, because of the poor vegetation condition and Wildland Urban Interface issues, the BLM has identified the South pasture of the Canyon Allotment and adjacent areas of the North Rim as a high priority for vegetation treatment and hazardous fuels reduction.

B. Purpose and Need for Action

The purpose of the North Rim Vegetation Treatment project is to reduce hazardous fuel conditions in the Wildland Urban Interface, create a more natural and resilient vegetation complex, restore sagebrush steppe habitat important for sagebrush obligate species, and create conditions that allow progression toward increased rangeland health¹ on the North Rim of the Snake River Canyon.

The proposed project area is dominated by annual exotic vegetation that has crossed an ecological threshold (Westoby et al 1989) or that has depleted herbaceous layers lacking an adequate seed source for natural recovery. Based upon this crossing of an ecological threshold, the plant communities in the North Rim would not make significant progress toward increased rangeland health without active intervention treatments.

II. GENERAL SETTING AND AFFECTED RESOURCES

A. General Setting

The North Rim Vegetation Treatment project area (6,187 acres) is located in Jerome County, north of Twin Falls, Idaho and the Snake River Canyon. The project area includes the Blue Lakes, Interstate, and Canyon allotments, and the I Farm and Jerome Golf Course tracts (See North Rim Vegetation Treatments Map). Elevation along the North Rim project area ranges from approximately 3,650 feet to 3,900 feet. The climate of the area is characterized by warm, dry summers and cold, wet winters. The majority of precipitation occurs from November through May. The average annual precipitation is 8-10 inches but may vary widely.

Precipitation data from the Western Regional Climate Center database collected at Jerome, Idaho, which best represents the North Rim, indicates that the average annual precipitation for years 1949 to 2004 is 10.24 inches.

¹ Conversion of the annual exotic vegetation plant community to one dominated by perennial vegetation would increase rangeland health by providing for proper nutrient cycling, hydrologic cycling, and energy flow.

B. Affected Resources and Resource Management Issues

1. Soil, Water and Air Quality

Soils in the allotment consist primarily of Rock outcrop-Banbury-Paulville, Banbury-Rock outcrop, Suepert-Taunton, and Kecko-Emberton complexes. Banbury, Paulville, Suepert, and Taunton soils are loamy with a slight to moderate wind erosion hazard. The Kecko and Emberton complex are sandy soils with a severe wind erosion hazard. Less than 10 percent of the project area is within the Kecko and Emberton complex.

The Snake River from Shoshone Falls downstream to Auger Falls, borders the North Rim project on the south, is listed as water-quality impaired on the State of Idaho 303d list. Temperature and altered flow regimes are the sources of impairment. Blue Lakes Spring is located below the North Rim, west of State Highway 93. The spring is a primary water source for the City of Twin Falls.

The proposed treatment area is within a Class II area. Class II areas have limits on increases of particulate matter and sulfur dioxide above baseline concentrations. While generally below the national average for most pollutants, the areas relative ranking varies depending on the specific pollutant. Sources of pollutants are both local and regional. Emission sources within the project area are limited to automobile exhaust, smoke from wildfires, agricultural burns, wood burning stoves, and wind-blown dust.

2. Vegetation

The USDA's Natural Resources Conservation Service publishes site description information for ecological sites within the State of Idaho. There are three ecological sites with associated potential natural plant communities in the project area including:

1. A shallow loamy 8 to 12-inch precipitation, Wyoming big sagebrush/bluebunch wheatgrass. Other major plant species include bottlebrush squirreltail, Sandberg bluegrass, Indian Ricegrass, tapertip hawksbeard, Hooker balsamroot, and lupine.
2. A loamy 8 to 12-inch precipitation, Wyoming big sagebrush/bluebunch wheatgrass. Other major plant species include Sandberg bluegrass, arrowleaf balsamroot, and tapertip hawksbeard.
3. A sandy 8 to 12 inch precipitation, basin big sagebrush/Indian ricegrass/needle-and-thread grass. Other potential plant species include sand dropseed and Thurber needlegrass.

However, the current plant community found on the North Rim project area has little correlation to the potential natural plant community. Vegetation is primarily comprised of undesirable exotic annual vegetation. Wildfire history in the allotment and the invasion of cheatgrass (*Bromus tectorum*) has altered the potential natural plant community. Additionally, the present plant community includes crested wheatgrass (*Agropyron cristatum*), rubber rabbitbrush (*Chrysothamnus nauseosus*), and Sandberg bluegrass. Annual weeds and forbs include Russian thistle (*Salsola kali*), sunflower (*Helianthus spp.*), and purple-headed mustard (*Chorispora tenella*). Moth mullein (*Verbascum blatteria*), Palmer penstemon (*Penstemon palmeri*), and biscuitroot (*Lomatium spp.*) are also present in small amounts.

There are no known special status plants or habitat in the project area.

The following 2004 photo shows the typical vegetation cover found over the majority of the North Rim project area. Exotic annual vegetation dominates the plant community. Exotic annuals cure earlier, provide more continuous fuel, and are vulnerable to ignition for a longer period of time than a perennial dominated plant community. As a result, the frequency and scale in which natural fires occur has increased (Whisenant 1990, West 1999).

North Rim Vegetation



Biological soil crusts can occur on any soil within the treatment area, but tend to be best developed on finer textured soils with perennial plant cover. Biological crusts have not been observed as a conspicuous element in much of the project area. This is likely due to disturbance history, including land use and fire, and the dominance of cheatgrass and other exotic vegetation.

Fire Management

The National Fire Plan (NFP) was initiated in 2000 to address the needs identified in the Federal Wildland Fire Management Policy. The NFP is a nationally coordinated effort to protect communities and natural resources from the harmful effects of increasing wildland fire occurrence and severity in the United States. The NFP establishes the overarching purpose and goals of the effort, which are articulated and carried forward through the Cohesive Strategy (USDA 2000), and other supporting documents.

The four primary goals of the NFP are:

1. Improve wildland fire prevention and suppression,
2. Reduce hazardous fuels
3. Restore fire adapted ecosystems, and
4. Promote community assistance/protection

The Cohesive Strategy establishes a classification system known as Fire Regime Condition Class (FRCC), which describes the amount of departure from the historic condition of an area or landscape to present conditions. This departure from the natural state may be a result of changes in one or more ecosystem components such as fuel composition, fire frequency, or other ecological disturbances. FRCC is defined as follows:

Fire Regime Condition Class 1 (FRCC1): Fire regimes in this condition class are within historical ranges. Thus, the risk of losing key ecosystem components from the occurrence of fire remains relatively low. Maintenance management such as prescribed fire, mechanical treatments, or preventing the invasion of non-native species, is required to prevent these lands from becoming degraded.

Fire Regime Condition Class 2 (FRCC 2): Fire regime on these lands have been moderately altered from their historical range by either increased or decrease fire frequency. A moderate risk of losing key ecosystem components has been identified on these lands. To restore their historical fire regimes, these lands may require some level of restoration through prescribed fire, mechanical, or chemical treatments, and the subsequent reintroduction of native plants.

Fire Regime Condition Class 3 (FRCC 3): These lands have been significantly altered from their historical range. Because fire regimes have been extensively altered, risk of losing key ecosystem components from wildland fire is high. Consequently, these lands verge on the greatest risk of ecological collapse. To restore their historical fire regimes, before prescribed fire can be utilized to manage fuel or obtain other desired benefits, these lands may require multiple mechanical or chemical restoration treatments, or reseeding.

A fuels inventory was completed on the North Rim project area. The project area is classified as FRCC 3. The ecological condition has deviated from natural conditions due to wildfires and proximity of agricultural land. A high presence of cheatgrass is indicative of this altered fire regime. The project area is considered a high priority for hazardous fuel reduction treatment due to its inclusion in a Wildland Urban Interface area.

3. Livestock Grazing

The Canyon, Interstate/Northeast Interstate, and Blue Lakes grazing allotments would be affected by the proposed treatments (See North Rim Vegetation Treatments Map).

Canyon Allotment

The 13,935 acre Canyon Allotment is managed based on a Cooperative Agreement signed on January 12, 1989. Under the agreement, the allotment is managed as a three pasture rotation system. The three pastures in the allotment are Bacon Pond, East, and South pastures. The South pasture would be the only pasture affected by the proposed treatments. Approximately 3,741 acres of the South pasture (BLM-3,373 acres/Private-368 acres) would be treated. State lands in the pasture would not be affected by the treatments.

Wood River Ranch and Valley View of Magic Valley, Inc. hold permits to graze livestock in Canyon Allotment. EHM Engineers, Inc. is permitted to utilize the Canyon Allotment under an Exchange-of-Use Agreement (EOU) through a lease with the Idaho State Department of Lands. The unfenced State lands are situated within the boundary of Canyon Allotment in the South pasture. Livestock numbers, season of use, and animal unit months (AUMs) for each permittee in the Canyon Allotment are shown in Table 1.

Table 1 Canyon Allotment Livestock Permit Information				
Permit Holders	Livestock #/Kind	Season of Use	Percent Public Land	AUMs
Valley View of Magic Valley, Inc.	75 Cattle	4/16 to 7/15	100	225
Wood River Ranch	407 Cattle	11/1 to 5/15	100	2,424
EHM Engineers, Inc.	12 Cattle	11/16 to 5/15	EOU	72

Other than the livestock grazing agreement held by EHM Engineers, Inc., Wood River Ranch is the only permit holder which grazes livestock in the South pasture. Under the Final Grazing Decision dated 12/01/06 Valley View and Wood River Ranch alternately graze the Bacon Pond and East pastures on an annual basis, i.e., each pasture is grazed once by either of the permit holders during a grazing cycle.

Interstate Allotment

The 1,104 acre Interstate Allotment is managed as a single-unit allotment, i.e., there are no pastures in the allotment. There is a fenced State section adjacent to the allotment which is typically grazed in conjunction with the Interstate Allotment or following use of the allotment in April and May.

EHM Engineers holds the permit to graze livestock in Interstate Allotment and it also holds the lease for 33 AUMs on the adjacent State section. The permit held by EHM Engineers on Interstate Allotment is for 64 head of cattle from January 1 to March 31 annually for 178 AUMs (See Table 2). Upon implementation of the proposed project in the Interstate Allotment, all 178 permitted AUMs would be affected. Approximately 1,348 acres would be treated in the Interstate Allotment (BLM-1,204 acres/Private 144 acres). State lands would not be affected by the proposed treatments.

Table 2 Interstate Allotment Livestock Permit Information				
Permit Holder	Livestock #/Kind	Season of Use	Percent Public Land	AUMs
EHM Engineers, Inc.	64 Cattle	1/01 to 3/31	94	178

Blue Lakes Allotment

The 719 acre Blue Lakes Allotment is managed with a two pasture rotation system. The grazing permit is held by Mary Allen and is for 131 cattle from April 25 –May 16 annually for 20 AUMs

(See Table 3). Approximately 748 acres would be treated in the Blue Lakes Allotment (BLM-229 acres/Private/519 acres). State lands would not be affected by the proposed treatments.

Table 3				
Blue Lakes Allotment Livestock Permit Information				
Permit Holder	Livestock #/Kind	Season of Use	Percent Public Land	AUMs
Mary Allen	21 Cattle	4/25 to 5/16	59	9
Mary Allen	110 Cattle	4/25 to 5/16	14	11

4. Wildlife and Special Status Species

The predominance of an exotic annual plant community on the proposed treatment sites results in few native animals occurring in the area. A few of the more common birds that may occur in the project area include horned lark, western meadowlark, savannah sparrow, and long-billed curlew. Common raptors which forage in or near the area are: American kestrel, red-tailed hawk, Northern harrier, and golden eagle. Small mammals which occur in or near the subject area are black-tailed jackrabbit, yellow-bellied marmot, montane vole, deer mouse, and coyote.

The proposed project area currently supports a migratory population of mule deer. Historically, it is likely that mule deer populations which occurred in the foothills north of the project area would migrate to the Snake River Rim during winters with heavy snow accumulation. These deer would have moved south in search of cover and forage. During severe winters, mule deer may migrate into the proposed project area in search of winter forage. Interstate highway I-84 on the north boundary of the project area acts as a barrier to migration which limits the use by deer migrating into the area. Deer have direct but restricted access to the proposed project area by traveling through an underpass associated with I-84. The present lack of shrub cover and dominance of annual exotic vegetation provides largely unsuitable mule deer winter range habitat values.

The U.S. Fish and Wildlife Service’s Biannual Resource Area Species List SP #14420-2010-SL-0081, lists federally listed Threatened or Endangered Species known or suspected to occur on lands managed by the BLM in the Shoshone Field Office. The listed animal species which potentially may occur in the vicinity of the proposed project area include the following: Utah valvata snail, Snake River physa snail, and the Bliss rapids snail. Seven BLM Sensitive Animal Species are known or suspected to occur during a portion of the year in plant communities similar to the proposed vegetation treatment areas. Listed and BLM sensitive species are shown in Table 4.

Table 4 Federally Listed and BLM Sensitive Animal Species		
Common Name	Scientific Name	General Habitat Use
Type 1-Threatened (T), Endangered (E), or Proposed (P)		
Utah valvata snail (E)	<i>Valvata utahhensis</i>	Aquatic, Riparian
Snake River physa snail (E)	<i>Haitia (Physa) natricina</i>	Aquatic, Riparian
Bliss Rapids Snail (T)	<i>Talorconcha serpenticola</i>	Aquatic, Riparian
Type 2-Range-wide/Globally Imperiled Species		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Riparian
Type 3-Regional/State Imperiled Species		
Townsend's Big-eared Bat	<i>Plecotus townsendii</i>	Sagebrush, Grassland, Cave
Fringed Myotis	<i>Myotis thysanodes</i>	Sagebrush, Grassland
Prairie Falcon	<i>Falco mexicanus</i>	Sagebrush, Grassland
Loggerhead Shrike	<i>Lanias ludovicianus</i>	Sagebrush
Brewer's Sparrow	<i>Spizella breweri</i>	Sagebrush
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Grassland
Type 4-Idaho Peripheral Species		
California Myotis	<i>Myotis californicus</i>	Sagebrush, Grassland, Cave
<p><i>Type 1-Threatened, Endangered, and Proposed Species</i> -These species are listed by the Fish and Wildlife Service or National Marine Fisheries Service as threatened or endangered, or they are proposed for listing under the Endangered Species Act.</p> <p><i>Type 2- Range-wide/Globally Imperiled Species</i> -These are species designated as FWS candidate or are ranked by the Natural Heritage program network as globally rare to critically imperiled.</p> <p><i>Type 3-Regional/State Imperiled Species</i> -These are species that are in danger of becoming extirpated from Idaho in the foreseeable future if factors contributing to their decline, or habitat degradation or loss, continue.</p> <p><i>Type 4-Peripheral Species</i> -These are species that are in danger of becoming extirpated from Idaho and (a) may be local endemics with currently low threat levels or (b) peripheral, rare species in Idaho.</p>		

Utah valvata snail-The Utah valvata snail was listed as Endangered in 1992. The snail lives in deep pools adjacent to rapids or in perennial flowing waters associated with large spring complexes and generally avoids areas with heavy currents or rapids. This species is found in muddy habitats and feeds on submerged vegetation, plant debris and microscopic prey such as diatoms. It is typically absent from gravel bottomed rivers and springs. At present, the snail occurs in a few springs and at main stem Snake River sites in the Hagerman Valley.

Snake River physa snail-The Snake River physa snail was listed as endangered in 1992 and occurs in only a few locations along the Snake River including a disjunct population in Lake Walcott and at only a few known locations in the Hagerman and King Hill reaches of the Snake River in Gooding County. The Snake River physa occurs only in the free flowing Snake River, while the Utah valvata and Bliss Rapids occur in the Snake River and also in springs-like habitats.

Bliss Rapids snail-The Bliss Rapids snail was listed as threatened in 1992. Known river populations only occur in spring-influenced habitat near the edge of mainstream rapids. The Bliss Rapids snail occurs on cobble-boulder substratum in the Snake River main stem and in some spring habitats in the Hagerman Valley. It commonly grazes at night along mud and rocky surfaces on a diet of diatoms and plant debris. A population of Bliss Rapids snails have been documented in the Blue Lakes spring complex located in the Snake River Canyon south of the boundary of the project area.

The BLM sensitive species that may potentially occur in the general project area are the bald eagle, prairie falcon, loggerhead shrike, Brewer's sparrow, grasshopper sparrow, Townsend's big-eared bat, fringed myotis, and California myotis.

The occurrence of the bald eagle in the project area would most likely occur during the winter months, being associated primarily with the Snake River. There are no documented active bald eagle nest sites on public land within the project area. There is documentation of a bald eagle nest site located on private land near the 12th green of the Blue Lakes Country Club golf course. The nest was active in 1993 but has not been occupied since then. This inactive nest site is located about one-quarter mile from the nearest border of the proposed project area.

Prairie falcons, Townsend's big-eared bats, fringed myotis and California myotis may make light incidental use of the general area during the spring, summer, and fall seasons for dispersed foraging activities. These four sensitive species would make greater use of vegetation communities that contain a shrub component than the more open grassland areas. The loggerhead shrike, Brewer's sparrow, and grasshopper sparrow may use habitat that contains some shrub cover for nesting, foraging and brood rearing during the spring, summer and fall season. The grasshopper sparrow may also use grassland areas for nesting, foraging and brood rearing activities during the spring, summer and early fall season.

5. Recreation, Visual Resources and Wildland Urban Interface

The North Rim of the Snake River Canyon to I-84 and from Auger Falls to Hansen Bridge was leased to Jerome County in July 2004 through the Recreation & Public Purposes Act for the purposes of recreation development, conservation and restoration (Lease #IDI-34292). The proposed vegetation treatment project area falls within the lease area. A North Rim advisory committee, made up of a variety of user and interest groups, was assembled in 2005 to make recommendations to Jerome County concerning the development and preservation of the North Rim Park. The committee will develop a foundation for developing a multi-use park that balances recreation activities while preserving the natural qualities of the land.

Due to the proximity and convenience of the North Rim to urban areas and mild climate, visitation occurs year round with the most intense months being spring and fall. Due to high summer temperatures, use decreases in July and August.

Recreation activities and opportunities throughout the North Rim area are diverse along with the experiences and beneficial outcomes. Recreation activities vary and include: motorized recreation (rock crawling, ATV's, motorcycle riding, and motocross), recreational shooting, hunting, paint balling, archery, horseback riding, mountain biking, hiking, trail running, geocaching, rock climbing, and bird watching.

Many of these activities occur and are concentrated on Idaho Department of Lands (IDL) property. The exception would be some of the motorized recreation and recreational shooting. Motorized recreation users use IDL lands as staging areas concentrating use there; however use does occur on BLM lands utilizing existing roads and play areas that are within a half mile of IDL lands. The majority of recreational shooting does occur on BLM lands. This is based on the existing network of roads, trails and OHV play areas along with BLM staff field observations.

Visitor experiences associated with these activities are diverse as well. These experiences range from developing skills and abilities, enjoying risk taking activities, learning more about things, enjoying some needed physical exercise, enjoying being able to be more contemplative, releasing or reducing some built-up mental tensions and escaping everyday responsibilities for a while. These activities and experiences also tie to multiple on and off site benefits, including: diminished mental anxiety, improved skills for outdoor enjoyment with others, stronger ties with friends and family, enhanced sense of personal freedom, more positive contributions to local-regional economy.

Since there are several competing interests that are not necessarily compatible there are negative impacts associated with activities on the North Rim. Those impacts include: increased personal stress, loss of an important sense of place, reduced ability to cultivate outdoor-oriented lifestyle, increased exposure of at-risk youth to delinquency, greater conflict with outsider attitudes towards community, increased disregard for other visitors and loss of environmental quality within the recreation area.

The market for the North Rim would be community, consisting of residents primarily from Jerome and Twin Falls. However, neighboring recreational venues such as rafting the Murtaugh Section of the Snake River would be considered a destination market attracting visitors from the entire northwestern United States.

The existing setting can be broken down into Physical, Social, and Administrative settings (See the Natural Resource Setting Matrix in Appendix 1). The remoteness and naturalness portions of the Physical setting can be classified as Middle Country, Front Country and Rural. Even though there is a proliferation of unmarked trails within the project area, the majority of roads and trails are within ½ mile of an improved road or primary highway. Facilities would be classified as Primitive and Backcountry, little or none.

The contacts and group size characteristics of the Social setting are classified as Middle Country, Primitive, and Back Country. However the evidence of use characteristics would be considered Front Country, Rural and Urban. This is very evident by the amount of vegetation and soil impacts from vehicles as well as frequent litter. Litter often times comes in the form of large appliances, yard waste, and household trash.

The entire North Rim has an "Open" Off-Highway Vehicle designation with the exception of Devils Corral and Vineyard Lake that are "Closed". The Open classification is defined as an

area where all types of vehicle use is permitted. Therefore, mechanized use under the Administrative setting varies from Primitive to Middle Country, Front Country and Rural; Devils Corral and Vineyard Lake would be Primitive. Visitor services and management controls would be classified as Primitive and Back Country. The only evidence of management controls is a sign located just off of HWY 93 stating that BLM land along the North Rim is closed between the hours of 10 pm and 5 am.

The proposed treatment areas are primarily in a Visual Resource Management (VRM) Inventory Class II area, and a smaller portion in a Class III area on the west side of the project. VRM classes describe a degree of modification allowed in the basic elements of the landscape. Management direction for Class II is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape.

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

The current high use recreation activities that occur within the North Rim have resulted in a proliferation of unmarked trails and ways throughout the project area. Large areas of soil and vegetation disturbance have provided a seedbed for expansion of noxious weeds and other annual vegetation. Heavy recreation use is generally not compatible with establishment of newly seeded vegetation due to the trampling and disturbance associated with this activity.

Interstate highway I-84 borders the north boundary of the project area. State highway 93 bisects the project area from north to south. State Highway 93 is one of the busiest highways in the state. It is the major access route into the City of Twin Falls from the north. Wildfires in this area can disrupt traffic and create a safety hazard due to low visibility from smoke.

6. Cultural and Historic Resources

In 2006, a comprehensive cultural resource inventory was completed for the proposed North Rim project area. The greatest concentrations of prehistoric resources were discovered near the rim precipice, in side-canyon environments (Devils Corral, Vineyard Lake), and benches at the base of the cliffs. These resources include rock structures, rock shelters, and lithic scatters. The remains of an historic wagon road and the remains of old Highway 93 near the Perrine Bridge were also recorded.

None of these cultural resources is currently listed on the National Register, although several resources have been determined eligible and others have been identified as *potentially* eligible for the National Register listing. These include parts of the North-side Alternate Emigrant Trail, the Starrh's Ferry Wagon Road and the Walgamot Road from Shoshone Falls to Ketchum.

North-side Alternate or “Emigrant Spur” Wagon Route

The North-side Alternate Wagon Route dates from the mid 1800s, and purportedly follows the north side of the Snake River from the vicinity of Fort Hall to the Thousand Springs, and traverses the North Rim Site from east to west. It connects with the North Alternate Oregon Trail at Thousand Springs, a route opened for wagon traffic in 1852. Although routes that extended south of the Snake River were more heavily traveled, Hudson’s Bay Company traders preferred the north route that traverses the North Rim Site. The lack of diary descriptions for the route makes it difficult to determine how heavily the trail was used. Portions of this trail have been surveyed and determined *potentially* eligible for National Register Listing.

Historic Stage Roads

An important wagon thoroughfare that extended from the north side ferry landing at Shoshone Falls, the Walgamot Road enabled transport of goods and building materials from forested areas north of the Snake River to the City of Twin Falls during the early part of the 20th century. Portions of this historic road probably converge with existing unpaved routes, but indications of the original route are no longer clearly visible in the project area.

Remains of the Starrh’s Ferry Wagon Road are also present in the project area. In use around 1881, this road ran between the Shoshone Falls ferry and Starrh’s Ferry near Burley. Existing ruts correlate perfectly with the route plotted on the 1881 survey plat.

I-Farm

Approximately 246 acres of BLM managed land east of the Idaho Farm and Ranch Museum (I-Farm) Recreation and Public Purposes Lease A(R&PP) is also proposed for vegetation treatment. Jerome County, in cooperation with the Jerome Historical Society, has developed the I-Farm on the R&PP lease area to preserve, illustrate, and interpret the agricultural history of Southern Idaho. The Jerome Historical Society has expressed concern with the potential of a wildfire impacting historical wooden structures and equipment on the lease area. Developments are immediately adjacent to the BLM tract.

III. RESOURCE MANAGEMENT OBJECTIVES

A. Land Use Plan Conformance

The applicable land use plan for the project area is the 1985 Monument Resource Management Plan (RMP) and Final Environmental Impact Statement (FEIS). The proposed action and alternatives analyzed in this EA are in conformance with the following objectives and management actions set forth in the Monument RMP:

- 1) Maintain or improve wildlife habitat for crucial mule deer winter range;
- 2) Improve poor or fair condition rangeland;
- 3) Maintain, improve, protect, and restore watershed conditions;
- 4) Control the spread of noxious weeds on public lands and eradicate them where possible and economically feasible; and

5) Plowing, disking, and seeding may be used to eliminate brush and cheatgrass competition, and the use of chemicals to control unwanted vegetation may be used where it is environmentally acceptable and cost effective.

The Monument RMP was amended in 2008 by the *Fire, Fuels, and Related Vegetation Management Direction Plan Amendment and Final Environmental Impact Statement* (FMDA). The FMDA specifically provides for using chemical, mechanical, and seeding treatments with appropriate plant materials following wildland fire (pp. 17 and 18).

The proposed action and alternatives analyzed in this EA are in conformance with the following landscape-level objectives and management actions set forth in the FMDA (BLM 2008):

Objective - Make Progress toward Desired Future Condition (DFC) in Low-elevation Shrub, Perennial Grass, Invasive Annual Grass, Mid-elevation Shrub, and Juniper vegetation types.

Management Action - Use chemical, mechanical, seeding, and prescribed fire treatments as appropriate to achieve DFC.

B. Relationship to other Environmental Analyses

During the preparation of this EA, the following EIS and EA documents were consulted because they help to reduce redundant analysis. These NEPA documents are incorporated by reference because they cover similar issues, effects, and/or resources. The first two documents analyzed similar issues at a broader scale which allows a more narrow focus for the analysis of the proposed North Rim project.

1. Proposed vegetation treatments would be tiered to the 2007 *Vegetation Treatments Using Herbicides on BLM lands in the 17 Western States Programmatic EIS* (Vegetation Treatments EIS 2007). The Record of Decision for the Final EIS identified herbicide active ingredients that were approved for use on BLM lands and standard operating procedures to use when applying herbicides. Only herbicide active ingredients approved for use in the ROD would be used. Herbicide treatment activities in the proposed action would follow the standard operating procedures.
2. In 1992, a Shoshone District-wide EA (#ID050-EA-92031) for noxious weed control was completed. This EA further addresses the impacts of herbicide use for noxious weed control at the local level.
3. In 2003, an EA was completed for the Recreation and Public Purposes Act Lease to Jerome County for the use of the public lands on the North Rim of the Snake River Canyon.

C. Resource Management Objectives

The Monument RMP provides land use direction in a planning area of over one million acres. Large-scale management actions are described and analyzed in the land use plans. The purpose of this section is to display specific, attainable resource management objectives for the proposed project in a concise format. These objectives are built on the foundation of specific resource issues and concerns, desired future conditions, and proposed management actions defined in the

Monument RMP. The proposed action and alternative represent different ways of meeting these objectives. Monitoring of field conditions will measure progress toward meeting the objectives.

Objective 1: Reduce annual exotic vegetation by 80% of current cover, utilizing prescribed burning, herbicide (*Glyphosate*) and mechanical seeding treatments on approximately 6,187 acres² within the North Rim project area.

Rationale: Prepares seedbed by reducing competing annual exotic vegetation, reduces hazardous fuels, and increases success of perennial vegetation establishment.

Objective 2: Reestablish a sagebrush steppe plant community consisting of perennial grasses, forbs, and shrubs on approximately 6,187 acres within the North Rim project area.

Rationale: Restores more natural plant community and resilience along with structural and species diversity, restores plant community resistance to invasion of exotic annuals and noxious weeds, increases habitat for sagebrush steppe game and non-game wildlife, and allows progression toward increased rangeland health.

Objective 3: Inventory, identify, and control noxious weeds utilizing spot herbicide application on the proposed vegetation treatment areas pre- and post treatment.

Rationale: Noxious weed control enhances the success of seeding establishment and natural vegetation recovery by reducing competition.

² This acreage includes approximately 5,156 acres of public land and 1,031 acres of private land.

IV. PROPOSED ACTION

Approximately 6,187 acres in the North Rim project area would be treated to reduce hazardous fuel conditions, establish perennial vegetation, and restore sagebrush steppe habitat. The project area includes the Blue Lakes, Interstate, and Canyon allotments, and the I Farm and Jerome Golf Course tracts (See North Rim Vegetation Treatments Map). Prescribed burning, chemical, drill/harrow seed, aerial seed, and hand plant treatments would be implemented to achieve the established resource management objectives.

A. Proposed Action Vegetation Treatments

1. Canyon, Interstate, Jerome Golf Course, and I-Farm Tracts

Seedbed Treatments

a. Prescribed Burn Seedbed Treatment

The Canyon, Interstate, Jerome Golf Course and I-Farm Tracts where big sagebrush has been depleted due to wildfire or other disturbance, and where the understory is dominated by annual exotic vegetation, would be treated to reduce the exotic vegetation and reestablish a perennial sagebrush steppe plant community.

A prescribed burn treatment would be utilized as an initial seedbed treatment to reduce annual vegetation cover. Approximately 5,439 acres would be treated with prescribed burning in mid-summer to late fall (July through October). A prescribed burn plan would be developed to describe burning parameters, address safety and smoke management.

Dozer lines would be utilized to provide burn control lines near critical resource or property line boundaries.

b. Herbicide Seedbed Treatment

To effectively reduce competition from cheatgrass and other exotic annuals, the prescribed burn area would be treated with the herbicide *Glyphosate*. *Glyphosate* would be aerially or ground applied in the **Fall** and **Spring** at a rate of 8-16 ounces/acre of active ingredient per 3 gallons of water. The fall *Glyphosate* treatment would be implemented if a fall germination of cheatgrass occurs as a result of favorable fall growing conditions. Only one fall treatment would occur.

The first spring application would coincide with early seed head emergence of cheatgrass. A second application would be done in the spring if a second germination occurs and further control is required. Monitoring of the spray area would determine if a second application is needed.

No aerial spraying would occur within 200 feet of the canyon rim. Aerial spraying operations would only be conducted when winds are from a southerly to southwest direction, away from the canyon rim.

Seed Treatments

a. Drill Seeding

The prescribed burn and herbicide treated areas would be drill seeded with a standard rangeland drill in the fall following the last seedbed treatment with the seed mix in Table 5.

Table 5 North Rim Drill Seed Mixture Canyon, Interstate, Jerome Golf Course, I-Farm 5,439 Acres	
Species and Variety	Seed Rate Lbs/Acre
Grasses	
1. 'Vavilov' Siberian Wheatgrass	3.00
2. 'Secar' Snake River Wheatgrass	2.00
3. 'Alkar' Tall Wheatgrass	1.00
4. 'Sherman' Big Bluegrass	0.10
5. 'Covar' Sheep Fescue	0.10
Forbs	
1. 'Eski' Sainfoin	2.00
2. 'Munroe' Globemallow	0.10

b. Dixie Harrow and Broadcast Seed

Following the prescribed burn and herbicide seedbed treatments approximately 100 acres would be mechanically treated by a Dixie Harrow or rangeland disc followed by a broadcast seed treatment. This harrow and seed treatment is proposed as a fuel break along western boundaries of the I-Farm and Interstate allotment tracts (See North Rim vegetation Treatment Map). The width of the fuel breaks would be approximately 300 feet. The seed mix in Table 6 would be broadcast seeded following the harrow or disc treatment.

Table 6 North Rim Fuel Break/Harrow Seed Mixture 100 Acres	
Species and Variety	Seed Rate Lbs/Acre
Shrubs	
1. Forage Kochia	3.00

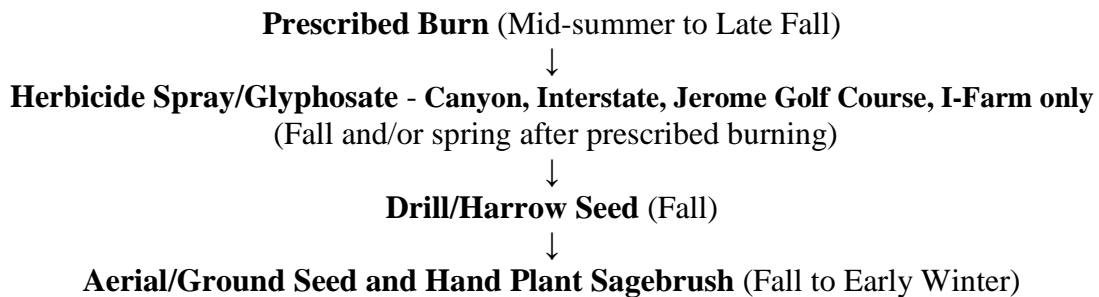
c. Aerial Seed and Hand Plant Treatments

Following completion of the fall drill seeding treatments, sagebrush would be aerial or ground seeded on the drill seed treatment areas at the rates shown in Table 7. The sagebrush seeding would be strip seeded over the drill treatment. No sagebrush seeding would occur in the kochia fuel break treatment area.

Table 7 North Rim Sagebrush Canyon, Interstate, Jerome Golf Course, I-Farm 2,600 Acres	
Species and Variety	Seed Rate Lbs/Acre
Shrubs	
1. 'Basin' Big Sagebrush	0.50 (bulk)
2. 'Wyoming' Big Sagebrush	0.50 (bulk)

In addition to the aerial sagebrush seeding, selected plots of hand planted big sagebrush and bitterbrush seedlings would be established in the project area. Up to 30,000 seedlings would be planted every year for three years following a drill treatment.

The following is a summary of treatment sequence for the Canyon, Interstate, Jerome Golf Course and I-Farm Tracts.



2. Blue Lakes Tract

Seedbed Treatment

a. Prescribed Burn Treatment

The Blue lakes tract lies north of the Blue Lakes spring complex. No aerial or ground spraying of *Glyphosate* for seedbed treatment would occur. Prescribed burning would be utilized to prepare the seedbed.

A prescribed burn seedbed treatment would be utilized on the Blue Lakes Tract to reduce annual vegetation cover. Approximately 720 acres would be treated with prescribed burning in mid-summer (June through July). Ideally, the prescribed burn treatment would be implemented during the red phase of cheatgrass before seed drop. A prescribed burn plan would be developed to describe burning parameters, address safety and smoke management.

Dozer lines would be utilized to provide burn control lines near critical resource or property line boundaries.

Seed Treatments

a. Drill Seed Treatment

The prescribed burn area (*Blue Lakes Tract*) would be drill seeded with a standard rangeland drill in the fall following prescribed burning with the seed mix in Table 8.

Table 8-North Rim Drill Seed Mixture Blue Lakes Tract 748 Acres	
Species and Variety	Seed Rate Lbs/Acre
Grasses	
1. 'Vavilov' Siberian Wheatgrass	4.00
2. 'Nordan' Crested Wheatgrass	2.00
3. 'Alkar' Tall Wheatgrass	1.00
4. 'Sherman' Big Bluegrass	0.20
5. 'Covar' Sheep Fescue	0.10
Forbs	
1. 'Eski' Sainfoin	2.00

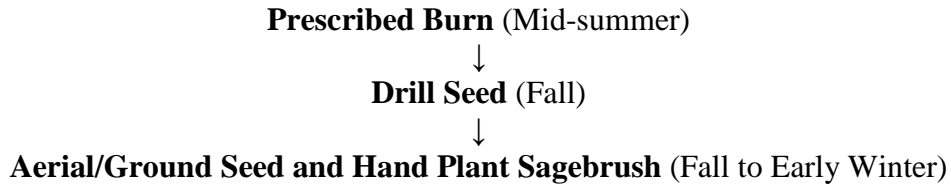
b. Aerial Seed and Hand Plant Treatments

Following completion of the fall drill seeding treatments, sagebrush would be aerial or ground seeded on the drill seed treatment areas at the rates shown in Table 9. The aerial seeding would be strip seeded over the drill treatment.

Table 9 North Rim Sagebrush Blue Lakes Tract 300 Acres	
Species and Variety	Seed Rate Lbs/Acre
Shrubs	
1. 'Basin' Big Sagebrush	0.50 (bulk)
2. 'Wyoming' Big Sagebrush	0.50 (bulk)

In addition to the aerial sagebrush seeding, selected plots of hand planted big sagebrush and bitterbrush seedlings would be established in the project area. Up to 10,000 seedlings would be planted every year for three years following a drill treatment.

The following is a summary of treatment sequence for the Blue Lakes Tract.



3. Noxious Weeds

Noxious weeds in the North Rim project area would be spot treated with approved herbicides as described in the Shoshone District Noxious Weed Control Environmental Assessment and the 2007 Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic EIS.

B. Vegetation Monitoring

Monitoring would be implemented to evaluate success of the treatments and is an integral part of this vegetation treatment project. Monitoring would be the responsibility of a Shoshone Field Office interdisciplinary team. The methods used to monitor the treated area may include qualitative field observations, photo plots, cover transects (line point intercept method) and density plots.

Seeded areas would be considered successful and available for livestock grazing when the resource management objectives (See Resource Management Objectives Section) and criteria below are met:

1. The proportion of bare mineral soil (lacking cover of plants, litter, or biological soil crust) to vegetation cover is within a range that protects the soil surface from accelerated erosion.
2. The seeded herbaceous plants have developed enough above and below ground vigor to withstand defoliation by livestock.
3. The seeded grass and forb species reach a total density of: 5 plants per square meter.

The seeding treatment would be considered successful when the resource management objectives are met. However, there are circumstances where weather and other influences outside of BLM's control impact the success or progress of a treatment. In these cases, the interdisciplinary team may determine that a treatment has failed or requires more rest in order to meet objectives. Criteria for assisting BLM in coming to this decision include;

1. Objectives and monitoring criteria are not achieved and vegetation conditions are not trending towards meeting resource management objectives.

C. Livestock Grazing Management

Seeded burn areas would be closed to livestock grazing to promote recovery of vegetation and facilitate the establishment of seeded species. Seedling and young plants are vulnerable to uprooting following the first full growing season and have limited ability to recover from grazing. The following course of action is oriented toward protecting young plants and allowing

the seeding to become established and capable of maintaining itself prior to resumption of livestock grazing.

Livestock would be excluded from seeded areas;

1. until the resource management objectives are met, or
2. the seeding treatments have been determined a failure

Grazing use supervision of the treatment area would be done to insure the grazing closure remains in effect until plant recovery and establishment occurs. Resumption of livestock grazing would ultimately depend on monitoring and meeting of the site-specific resource management objectives. The BLM interdisciplinary team will analyze the vegetation monitoring data and make recommendations when livestock grazing can resume.

D. Interim Grazing Allotment Management

1. Canyon Allotment

The current livestock grazing schedule for the Canyon Allotment would be modified to accommodate the restoration treatments and ensure proper management of remaining pastures. The South pasture would be the first priority for treatment. Once treatments begin, the South pasture would be temporarily closed to livestock grazing. The remaining pastures would be available for livestock grazing and would be grazed according to the schedule shown in Table 10. Table 10 displays the rotation by year through 2015 (if required) that would be implemented if treatments were to begin in the summer of 2011. The actual year treatment occurs would begin this 5 year rotation plan (if required) as described below.

Wood River Ranch would have the option to graze from 11/1 to 2/15 or 2/15 to 5/15 in the designated pasture for that year. In years in which they choose to graze from 11/1 to 2/15 livestock AUMs grazed cannot exceed 1,309 (46% reduction). In years in which they choose to graze from 2/15 to 5/15, livestock AUMs grazed cannot exceed 1,115 (54% reduction).

EHM Engineers, Inc. would be required to fence the State Land lease and graze livestock on State Land only while this restoration treatment period is in effect. Their Exchange of Use authorization for livestock use on the BLM Canyon Allotment would be cancelled while the restoration occurs.

Table 10					
Canyon Allotment Proposed Grazing Rotation					
	2011	2012	2013	2014	2015
Wood River Ranch	East Pasture 11/1 to 2/15 or 2//15 to 5/15	Bacon Pond 11/1 to 2/15 or 2/15 to 5/15	East Pasture 11/1 to 2/15 or 2/15 to 5/15	Bacon Pond 11/1 to 2/15 or 2/15 to 5/15	East Pasture 11/1 to 2/15 or 2/15 to 5/15
Valley View	Bacon Pond 4/16 to 7/15	East Pasture 4/16 to 7/15	Bacon Pond 4/16 to 7/15	East Pasture 4/16 to 7/15	Bacon Pond 4/16 to 7/15

2. Interstate Allotment

Vegetation treatments in the Interstate Allotment would not be implemented until recovery of the South pasture in the Canyon Allotment. Once implementation begins the allotment would be temporarily closed to livestock grazing as described above. The Idaho State Lands in this allotment could be grazed as a separate pasture since it is fenced as a separate unit.

3. Blue Lakes Allotment

Implementation of vegetation treatments in the Blue Lakes Allotment would be implemented in conjunction with the South pasture of the Canyon Allotment. The entire allotment would be treated in one phase. If treatment begins in 2011 the allotment would be temporarily closed to livestock grazing as described above.

E. Cultural and Historic Resources Mitigation

Standard BLM procedures and the National Historic Preservation Act require a site-specific, cultural resource inventory and State Historic Preservation Office consultation prior to surface-disturbing activities. The North Rim project area has been inventoried for the presence of cultural resources. Inventoried sites potentially eligible for listing on the National Register of Historic Places would be flagged and protected from ground disturbing activities.

G. Recreation, Wildland Urban Interface and Public Safety

In order to provide for public safety, the project area would be closed to public use during prescribed burning and herbicide treatment operations. This action would be coordinated with Jerome County, Idaho State Patrol and BLM law enforcement personnel. Prescribed burning and aerial application of the herbicide *Glyphosate* are proposed as seedbed treatments to control annual exotic vegetation on the project area. The project area receives high recreation visitation during the spring/summer months when burning and herbicide application would occur.

During the prescribed burning treatment, I-84 and State Highway 93 would be monitored for visibility which could be impacted due to smoke. Wind direction would be critical when burning is occurring adjacent to the traffic. Burning would not be conducted when winds are expected to carry smoke across highway traffic. The Idaho State Patrol would be contacted to help coordinate public notice and traffic control during prescribed burn operations.

V. ALTERNATIVES TO THE PROPOSED ACTION

This section describes three alternatives to the proposed action. The alternatives are described in terms of how they differ from the proposed action. Standard procedures, land use plan conformance, and management actions are the same as the proposed action. Anything not mentioned in the description of an alternative is the same as what was described for the proposed action.

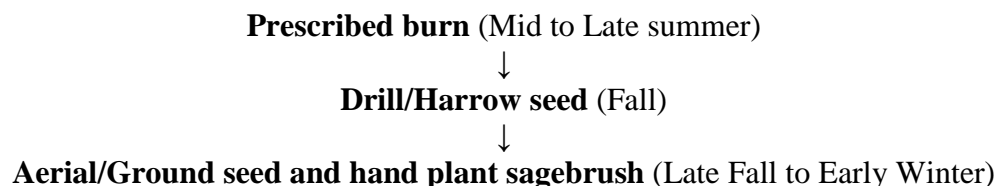
The alternatives are viable courses of action with different approaches for the implementation of the vegetation treatment project. The Shoshone Field Office Manager may select the proposed action, an alternative, or a combination of proposed and alternative actions.

A. No Chemical Seedbed Treatment Alternative

This alternative is essentially the same as the proposed action except there would be no application of *Glyphosate* to control annual exotic vegetation and the drill seed mix would be modified. The fuel break/harrow (Table 7) and sagebrush seed (Table 8) mixtures and hand planting would be implemented as described in the proposed action. The prescribed burn would be implemented in mid to late summer (June through August) with the drill/harrow seed treatment following in the fall. Table 11 displays the modified drill seed mix proposed under this alternative.

Table 11-North Rim Drill Seed Mixture No Chemical Seedbed Treatment Alternative	
Species and Variety	Seed Rate Lbs/Acre
Grasses	
1. 'Vavilov' Siberian Wheatgrass	4.00
2. 'Nordan' Crested Wheatgrass	2.00
3. 'Alkar' Tall Wheatgrass	1.00
4. 'Sherman' Big Bluegrass	0.20
5. 'Covar' Sheep Fescue	0.10
Forbs	
1. 'Eski' Sainfoin	2.00

The following is a summary of the treatment sequence.



B. Public Land OHV Closure Alternative

This alternative is similar to the proposed action except that the public lands would be temporarily closed to Off-Highway Vehicle (OHV) use until establishment and recovery of vegetation. The closure would be instituted prior to the prescribed burning treatment. The closure would be rescinded once monitoring determines that the seeded plants have established to the point where they can progress toward a healthy plant community. County maintained roads through the closure area and other designated routes would remain open.

C. No Action Alternative

There would be no vegetation treatment in the North Rim Vegetation Treatment project area.

VI. ALTERNATIVES CONSIDERED BUT ELIMINATED FROM ANALYSIS

A spring prescribed burn followed by the *Glyphosate* herbicide treatment was discussed and considered by the interdisciplinary team. Under this alternative, the prescribed burn treatment would have occurred in the early spring (approximately March 1-April 1). The *Glyphosate* treatment would have occurred after the completion of the burn. This alternative was found to be unfeasible due to unpredictable weather and operational constraints during this time period. Spring weather can be highly variable reducing the ability to conduct a prescribed burn that would provide the needed effects. Personnel and equipment available to conduct a prescribed burn during this time period would be limited. Due to these concerns, this alternative was considered but eliminated from detailed analysis because operationally it would be unfeasible to implement.

VII. ENVIRONMENTAL IMPACTS

Impacts of the alternatives to the Proposed Action are discussed relative to how they differ from the impacts of the Proposed Action.

Table 12 lists the Supplemental Authorities considered. An impact determination was made for each resource component. Determinations were made from the list below. The primary rationale for each determination is also provided. Supplemental Authorities that are present and are likely to be affected are discussed further in the impacts section.

Determinations

NP = not present in the area impacted by the proposed or alternative actions.

NI = present, but not affected to a degree that meaningful analysis is possible.

PI = present with potential for significant impact analyzed in detail in the EA.

Table 12 – Supplemental Authorities Considered

Element	Determination	Authority	Rationale for Determination
Air Quality	PI	The Clean Air Act as amended (42 USC 7401 et seq.).	Prescribed burning and ground disturbing treatments would temporarily deteriorate air quality in and adjacent to treatment areas.
Areas of Critical Environmental Concern	NP	Federal Land Policy and Management Act of 1976 (43 USC 1701).	There is no designated ACEC within the proposed treatment area.
Cultural Resources	PI	National Historic Preservation Act as amended (16 USC 470).	Ground disturbing treatments could displace, damage, or destroy undetected cultural or historic resources. A cultural clearance has been conducted and identified resources would be conducted prior to ground disturbing treatments.
Environmental Justice	NP	E.O. 12898 2/11/94.	Minority and low-income groups would not be disproportionately affected by environmental effects due to implementation of the proposed action or alternatives.
Farmlands (Prime or Unique)	NP	Surface Mining Control and Reclamation Act of 1977 (30 USC 1201 et seq.).	There is no prime/unique farmland located within the proposed project area.
Floodplains	NP	E.O. 11988, as amended, Floodplain Management, May 24, 1977.	Vegetation restoration treatments would not result in occupation or modification of floodplains.
Invasive, Non-native Species	PI	Lacey Act as amended, Federal Noxious Weed Act of 1974, as amended Endangered Species Act of 1973, as amended E.O. 13112, Invasive Species, 2/3/99.	Implementing vegetation treatments would reduce annual exotic vegetation but may allow noxious weeds to become established or increase. However, over the long-term the establishment of a healthy perennial vegetative community would decrease the probability of invasive species dominating the project area.
Native American Religious Concerns	PI	American Indian Religious Freedom Act of 1978 (42 USC 1966).	Prior to implementation of the Proposed Action, the appropriate Federally Recognized Tribes would be consulted to ensure the activity plan is developed with sensitivity to American Indian traditional use areas, treaty rights, and sacred sites.

Table 12 – Supplemental Authorities Considered

Element	Determination	Authority	Rationale for Determination
Threatened, Endangered or Candidate Plant Species	NP	Endangered Species Act of 1973 as amended (16 USC 1531).	There are no Threatened, Endangered, or Candidate plant species found on the proposed treatment areas.
Threatened, Endangered or Candidate Animal Species	PI	Endangered Species Act of 1973 as amended (16 USC 1531).	The proposed action would have no affect on the Utah valvata, Snake River physa, and Bliss Rapids snails. Prey habitat for the bald eagle would increase with establishment of sagebrush steppe vegetation on the North Rim. Proposed treatments would not be within snail habitat along the riparian and aquatic zone of the Snake River. Increase in watershed values above the canyon rim could decrease potential sediment impacts on the river.
Wastes (hazardous or solid)	NI	Resource Conservation and Recovery Act of 1976 (42 USC 6907 et seq.), Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended (42 USC 9615).	No hazardous or solid wastes would be generated from implementation of the proposed action or alternatives.
Water Quality (drinking/ground)	PI	Safe Drinking Water Act as amended (42 USC 300f et seq.) Clean Water Act of 1977 (33 USC 1251 et seq.).	Establishment of a perennial sagebrush steppe plant community would improve water quality by reducing soil erosion potential.
Wetlands/Riparian Zones	NP	E.O 11990, Protection of Wetlands, May 24, 1977.	Vegetation restoration treatments would not result in the destruction, loss, or degradation of wetlands or riparian areas.
Wild and Scenic Rivers	NP	Wild and Scenic Rivers Act as amended (16 USC 1271).	There is no designated Wild & Scenic River located within the project area.
Wilderness	NP	Federal Land Policy and Management Act of 1976 (43 USC 1701 et seq.) Wilderness Act of 1964 (16 USC 1131 et seq.).	There is no designated Wilderness or Wilderness Study Area in the project area.

A. Soil, Water and Air Quality

1. Proposed Action Soil, Water and Air Quality Impacts

Soil

The proposed mechanical treatments (drilling and harrowing) would cause minor soil disturbance. Drill treatments often exhibit higher infiltration rates and less surface runoff and soil erosion during precipitation events than untreated sites due to the creation of furrows. Potential impacts on water or air quality from drill treatments are minor. Long-term benefits from reestablishing perennial vegetation would quickly out-weigh the short-term soil disturbances because treatment would provide long term perennial vegetative cover, thus enhancing soil stability and watershed stability. In addition, controlling annual grasses and

establishing native or desirable non-native vegetation would result in more natural fire regimes that are less damaging to soil and vegetation and produce less erosion in the long-term.

Prescribed burning is proposed for the Canyon, Interstate, Jerome, Golf Course, and I-Farm Tracts during the mid-summer to late-fall time period (July through October). The proposed prescribed burn during this period would remove standing vegetation cover. The burn area is dominated by exotic annuals, primarily cheatgrass. It is expected that a late fall burn would remove standing vegetation but would be cool enough to leave a substantial amount of unburned litter on the ground. A summer burn could potentially consume more of the available litter dependent on burning conditions (i.e. temperature and humidity).

The burn area would be treated with *Glyphosate* the following spring which would result in reduced cover values by prohibiting growth of annual vegetation in the spring. The remaining litter cover would be available to protect the soil surface and inhibit potential accelerated erosion. The amount of soil movement likely to occur is dependent on the physical properties of the soil, its geographic position, soil surface cover, soil moisture, and most importantly, the amount and intensity of wind and water.

The planned vegetation manipulation actions would result in a net long-term reduction in soil dislocation potential, following the establishment of a stable perennial vegetation plant community versus an annual vegetation plant community. The occurrence of unusual climatological events, like extremely high winds (sustained winds >45 mph) while the soil is lacking vegetation cover, may increase soil surface losses. There is a likelihood that a wind of this magnitude would occur while the treatment area is lacking standing vegetation cover. Winds of this magnitude usually appear in the spring during March and April. The long-term benefits of establishing a deep rooted perennial vegetation community out-weigh the short-term risks of soil movement or loss.

Soil disturbing activities such as mechanical seedbed preparation, seeding, and seed cover treatments, may affect air quality for a short duration. Mechanical treatments would cause a short-term increase in the amount of ambient dust being raised during ground-disturbing activities. This would affect local air quality for a short period of time. During drill treatment adjacent to roads, driver visibility could be obscured in the direct vicinity of the ground-disturbing activities. The amount of dust raised is expected to be minimal and would only occur while the actual activity is taking place. The dust would settle in a few hours once the ground disturbing treatment is discontinued.

Air Quality

Reestablishment of perennial vegetative cover would indirectly reduce air quality impacts by potentially reducing fire frequency and size. This reduction of fire size would reduce the amount of airborne ash and dust that occurs during and following a wildfire. The proposed native and non-native species that would be used for re-vegetation would be more resilient to future fire disturbance and would reduce the long-term air quality impacts associated with frequent, unplanned, large-scale, high intensity fires fueled by annual grasses.

There would be a short-term, temporary adverse impact to the air quality downwind from the project area from the smoke produced by prescribed burning. The particulate material put in the air by the burn would be short duration and quickly dissipate upon the completion of the burn. A

fall prescribed burn implemented out of the major part of the wildfire season, would reduce short term air quality impacts. Overall, no Class 1 Air Quality Control Regions are expected to be adversely affected by the prescribed burn.

Water

Because the Snake River and the Blue Lakes spring area are in a 500-foot deep canyon below the North Rim, vegetation restoration activities have minimal, if any, effect on water quality. No herbicide spraying would occur within 200 feet of the rim and would be further mitigated by spraying with a south to southwesterly wind. Spray drift would move away from the rim and the river below.

There are no surface waters within the project area; therefore, there would be no impact to surface waters from restoration activities. When *Glyphosate* comes in contact with soil it is bound to soil particles. Ground water resources would not be affected due to the strong affinity between *Glyphosate* and soil particles. This strong affinity with soil keeps *Glyphosate* from leaching out of the soil profile and entering ground water. The affinity between *Glyphosate* and soil remains until the *Glyphosate* is degraded.

2. No Chemical Seedbed Treatment Soil, Water and Air Quality Impacts

Impacts to soil, water and air quality due to the prescribed burning and drill seeding treatments that would occur under this alternative would be similar to the impacts described for the proposed action. The major difference would be that the time period that soils would be exposed to wind and water erosion would be less under this alternative since prescribed burning and drill seeding treatments would occur within the same year. Under the proposed action, the drill seeding treatment would occur up to a year later after prescribed burning. The shortened time period between burning and drill seeding under this alternative would reduce the potential for accelerated wind or water erosion.

3. Public Land OHV Closure Soil, Water and Air Quality Impacts

There would be a short term (3 years following treatment) positive impact to soil resources. Closing the project area to off- road travel would reduce the potential for soil compaction. Once the closure is lifted the potential for soil compaction would increase.

Water and air quality impacts would be no different than those described for the proposed action.

4. No Action Soil, Water and Air Quality Impacts

The combination of herbaceous litter and the annual crop of cheatgrass would provide some protection from soil surface erosion. The degree of surface protection afforded by annual exotic vegetation is dependent on annual growing season soil moisture. The weak fibrous root system of annuals does not provide as high a level of soil stabilization as that provided by a mixed community of perennial plants with deep fibrous root systems and the woody tap roots of native shrubs.

Under the no action alternative there would be no impact to water and air quality.

5. Cumulative Effects on Soil, Water and Air Quality

Reducing exotic annual vegetation (hazardous fuels) and increasing plant community resiliency would potentially reduce fire frequency and size and would benefit soil, water, and air quality over the long term. Wildfires expose soil to potential accelerated erosion. Decreasing potential soil exposure by establishing perennial vegetation would maintain soil and plant productivity.

B. Vegetation

1. Proposed Action Vegetation Impacts

Glyphosate is a broad-spectrum non-selective herbicide. However, when applied at low concentrations (8-16 ounces/acre) it is effective at controlling current year growth of cheatgrass and annual exotic weeds without harming perennial grasses, forbs, and shrubs. The use of *Glyphosate* would not have any long-term effect on existing perennial plants at the prescribed application rate. Monitoring of similarly treated areas in the Shoshone Field Office has shown no long term effects to existing perennial plants. Short-term (< 1year) effects could be reduced growth and seed production.

Since *Glyphosate* does not stay active in the soil, it must come in direct contact with cheatgrass while it is actively growing (green phase) prior to seed set (red phase). Consequentially, more than one application of herbicide may be needed if precipitation patterns are conducive to additional cheatgrass crops. Subsequent applications may be necessary because viable cheatgrass seed remaining after the initial treatment could germinate as long as environmental conditions are favorable for growth. Therefore, the timing of chemical treatments would need to be kept flexible in order to maximize the effect on cheatgrass.

Spraying *Glyphosate* for seedbed preparation would control exotic annual vegetation thereby reducing future moisture competition with germinating perennial grasses, forbs, and shrubs, an important factor for successful establishment of perennial vegetation. Utilizing *Glyphosate* and prescribed burning as a seedbed treatment would increase the probability of perennial vegetation establishment success by reducing annual exotic vegetation.

Prescribed burning would remove standing vegetation and a portion of the thick litter layer deposited by cheatgrass, thus enhancing the effectiveness of the *Glyphosate* treatment by removing vegetation cover that would intercept the herbicide before contact with targeted annual vegetation. Mid-summer burning may remove more of the litter dependent on burning conditions (temperature and humidity). Because of generally lower temperatures and higher humidity, fall burning may preserve more of the ground litter providing increased soil surface cover.

Successful establishment of a perennial dominated plant community would introduce a more diverse mixture of plants into an area now composed primarily of cheatgrass and other annuals. Fine fuels (cheatgrass and other exotic annuals) would be reduced with establishment of a perennial dominated plant community. Perennial plant communities do not burn as readily as annual exotic plant communities due to discontinuity of fine fuels and a longer green period. Fire frequency and uniformity of burns would be reduced which would increase the probability of big sagebrush reestablishment and persistence in the area. Noxious weeds would also be more effectively controlled with long-term stability in the plant community (Anderson and Inouye 2001). Conversion of the annual exotic vegetation plant community to one dominated by

perennial vegetation would increase rangeland health by providing for proper nutrient cycling, hydrologic cycling, and energy flow.

2. No Chemical Seedbed Treatment Vegetation Impacts

Without the use of the herbicide *Glyphosate*, control of annual exotic vegetation would be minimal. The use of prescribed burning would prepare the seedbed for rangeland drilling but has limited utility for controlling cheatgrass and other annuals. Prescribed burning must be conducted during the red phase of cheatgrass in order to have any effect on seed mortality. Even with timely burning during the red phase, enough seed would generally survive to provide effective competition against seeded perennial species.

Because of the anticipated competition from annual vegetation and low average precipitation a seed mix comprised primarily of introduced species must be utilized. The proposed introduced species generally have higher seedling vigor than native species and can effectively compete against annual exotic species, given ideal growing season conditions. Given adequate spring growing season moisture, the proposed introduced species in the long term (3-5 years) can displace the annual exotic community. In the case of a below normal growing season precipitation, especially the first and second year after seeding, the seeded species may not be able to establish effectively in order to successfully replace the annuals in the long term.

3. Public Land OHV Closure Vegetation Impacts

Public closure of treatment areas to OHV use during the establishment and recovery period could have long term lasting effects on vegetation establishment. Seeded plants are extremely vulnerable to uprooting and trampling during the first growing season. Limiting OHV use during this time period would decrease the probability of damage occurring to plants during this critical stage of growth. Limiting disturbance during the critical stage of growth would increase the probability of establishment. After prescribed burning and herbicide treatments noxious weeds can also expand into the area due to reduced competition and exposed soils. Reducing vehicle travel in the treated area would reduce the probability of introducing noxious weeds into the area from outside the project area.

4. No Action Vegetation Impacts

The present vegetation community, with a dominance of cheatgrass, would continue and potentially expand into adjoining areas. The highly competitive nature of cheatgrass and other annuals creates an environment where natural reestablishment of perennial vegetation is restricted or precluded.

5. Cumulative Effects on Vegetation

Cumulative effects of proposed vegetation treatments are primarily defined in the context of effects to the vegetation resource in the North Rim project area, which influences other natural and cultural resources. Cumulative effects of treatment actions on vegetation are discussed in detail below.

Past Actions

Past vegetation treatment actions in the North Rim area have occurred primarily through the Emergency Stabilization and Burned Area Rehabilitation projects.

The 2001 Bacon Pond fire rehabilitation project established approximately 5,000 acres of perennial herbaceous vegetation north of Interstate 84. The 2001 Devils Corral fire rehabilitation project established approximately 200 acres of perennial herbaceous vegetation in the Devils Corral area directly east of the proposed treatment area. These projects have contributed to the establishment of desirable perennial vegetation in the North Rim area. Treatment and conversion of annual exotic vegetation in the North Rim project would increase perennial herbaceous dominated plant communities. Establishment of perennial herbaceous vegetation reduces wildfire potential which should allow the establishment of shrub species in the long term.

Present Actions

Recreation activity over the last 20 years has increased in the North Rim area. Present recreation activity has increased to a level where negative impacts to soil and vegetation resources are occurring in some areas.

Future Actions

Establishment of perennial vegetation would increase the resiliency of the plant community across the North Rim. This resiliency allows for recovery of vegetation following disturbances, such as wildfires. With increased resilience, it is expected that less economic input would be required to allow the recovery of vegetation. Treatments applied (i.e. monitoring, noxious weed) would probably be relatively short-term to ensure recovery and maintain resiliency. A stable vegetation community over the long term would reduce and prevent noxious weed invasion, not only at the project level but across the Snake River Plain.

C. Livestock Grazing

1. Proposed Action Livestock Grazing Impacts

Vegetation treatments would temporarily reduce the area available to grazing in the affected allotments and disrupt rotation systems. Permittees have indicated a willingness to make adjustments in use to accommodate successful restoration. Actual use would not exceed adjudicated capacity within the remaining used pastures. Increased perennial plant cover over the long-term would outweigh this short-term loss of grazing use because of the more reliable forage capacity of a perennial dominated plant community. There would be a temporary loss of permitted AUMs during the restoration activity. These AUMs would be reinstated upon completion of the vegetation treatment project.

2. No Chemical Seedbed Treatment Livestock Grazing Impacts

The treatments under this alternative would temporarily reduce the area available to grazing in the affected allotments and disrupt the rotation system for a shorter period than the proposed action. In effect this would be a minimum of one year less than the prescribed burn and *Glyphosate* seedbed treatment. Utilizing *Glyphosate* as a seedbed treatment the following spring after prescribed burning essentially adds a year to the livestock grazing closure. However, under this alternative there would a lower probability of establishing a perennial dominated plant community.

3. Public Land OHV Closure Livestock Grazing Impacts

Impacts to livestock grazing would be no different than those described for the proposed action.

4. No Action Livestock Grazing Impacts

There would be no direct impact to livestock grazing use. Forage capabilities and reliability would be inconsistent with maintenance of the annual vegetation community, especially during below normal growing season precipitation years. In these drought years forage production would be less in comparison to a perennial vegetation community. This could affect the grazing season of use in these years.

5. Cumulative Effects on Livestock Grazing

Establishment of a perennial plant community provides for a more reliable forage base for livestock grazing. A perennial plant community is more resilient, productive and reliable than the existing annual exotic plant community. Annual exotic plant communities burn more frequently and are prone to produce large scale fires. Large fires displace livestock permittee operations from an allotment for 2-3 year period. Wildfires in perennial plant communities tend to be less frequent and are generally at a smaller scale. Reducing frequency and scale of wildfires would provide a more stable management situation for the livestock permittees in the long term.

D. Wildlife and Special Status Species

1. Proposed Action Wildlife and Special Status Species Impacts

The 2007 *Vegetation Treatments Using Herbicides on BLM Lands in the 17 Western States Programmatic EIS* addressed the impacts of the herbicide *Glyphosate*. The EIS specifically assessed: non-target species hazard, non-target species exposure, and non-target species risk. *Glyphosate* applications pose low to moderate risk to several terrestrial wildlife receptors under multiple exposure scenarios involving applications at the typical and maximum application rates (Vegetation Treatments EIS 2007, Volume 1, Table 4-23; SERA 2003). The proposed application rate of 8-16 ounce/acre is half the typical rate analyzed in the EIS and thus poses low risk to wildlife. The EIS approved the use of *Glyphosate* and found it to have no adverse impacts on the quality of the human environment.

The reestablishment of a perennial grass, forb and shrub plant community would provide long-term habitat benefits to wildlife species that utilize sagebrush steppe habitats. The establishment of a more diverse perennial plant community would help provide more reliable forage for seasonal big game dietary needs. The establishment and recovery of shrub cover over the long term would increase habitat values for sagebrush obligate species.

An established perennial grass, forb, and shrub plant community would provide increased structural and plant species diversity. This increased diversity would improve habitat quality for non-game, upland game, and big game animals that utilize the project area on a seasonal or year-long basis.

The habitat values for many small game and non-game wildlife species would be improved by the restoration of a multi-tiered perennial plant community. Expected changes in the structural qualities of the herbaceous and shrub component would provide an increase in the diversity and array of micro-habitats, providing suitable conditions for an increased number of wildlife species. Wildlife species which require grassland plant communities to supply all or a portion of their life cycle needs would likely decline in number as the seeded shrubs begin to exert more

dominance in the treatment areas. The expected decrease in the number and density of wildlife species which utilize grassland habitats is difficult to quantify but it is expected to be relatively small and localized.

Bald eagles have been documented as nesting along the Snake River. Currently there is no nesting activity occurring in the portion of the canyon bordering the project area. There is a possibility of eagles wintering within the Snake River canyon. Currently the North Rim of the Snake River provides largely unsuitable habitat in terms of potential prey species for eagles. Long-term there could be an increase in habitat for prey species which may provide a small and likely immeasurable benefit to wintering bald eagles.

Implementation of the proposed action would have no effect on the Bliss rapids, Snake River physa, and Utah valvata snails. The snails may inhabit in-stream habitats along the Snake River and the Blue Lakes spring complex that are in an approximately 500-foot deep canyon below the North Rim project area. The vertical 500 foot wall further separates the Snake River from the North Rim project boundary. No herbicide spraying would occur within 200 feet of the rim would be further mitigated by spraying with a south to southwesterly wind. Any herbicide drift would move away from the rim and would have no impact on the river below. In the long term, increases in watershed values above the North Rim could decrease potential sediment impacts on the river, benefiting water quality and snail habitat.

In the short-term, reestablishing components of a sagebrush steppe plant community would create habitat conditions beneficial for the sensitive animal species which utilize open, patchy sagebrush bunchgrass plant communities. With the exception of riparian and coniferous plant communities, sagebrush communities support the highest number of BLM Sensitive Species in the Shoshone Field Office area.

The planned increase in vegetation community complexity is expected to result in increases in insect diversity, leading to improved availability of prey for the two species of sensitive bats which occur in the area. The majority of the beneficial habitat improvements for raptors are expected to be from increases in shrub composition, making the habitat more suitable for prey species.

The creation of a perennial plant community with numerous structural components is expected to create habitat conditions beneficial for loggerhead shrike, Brewer's sparrow, and sage sparrow. The density of wildlife species which use herbaceous communities to supply life cycle requirements would decrease as seeded shrubs exert dominance on the treatment sites. The planned changes in vegetation composition and structure are expected to result in habitat conditions or habitat structural components which are not as suitable for long-billed curlew and grasshopper sparrow foraging, breeding, nesting or brood rearing activities. The proposed vegetation rehabilitation project is not expected to have any adverse effects to the conservation of the identified BLM Sensitive Species across their known range.

Table 13-Summary of Proposed Action Listed and Sensitive Species Impacts			
Species	Short –term Affect	Long- term Affect	Rationale
Bald Eagle	Negative	Positive	There would be no effect on bald eagle nesting or winter habitat as a result of the proposed treatments. Prey habitat increased with establishment of sagebrush steppe vegetation.
Utah valvata snail	None	Positive	Proposed treatments would not be within the riparian and aquatic zone of the Snake River. Increase in watershed values above the canyon rim could decrease potential sediment impacts into the river.
Snake River physa snail	None	Positive	Proposed treatments would not be within the riparian and aquatic zone of the Snake River. Increase in watershed values above the canyon rim could decrease potential sediment impacts into the river.
Bliss Rapids Snail	None	Positive	Proposed treatments would not be within the riparian and aquatic zone of the Snake River. Increase in watershed values above the canyon rim could decrease potential sediment impacts into the river.
Prairie Falcon	Negative	Positive	Prey availability pre-treatment and short-term post treatment low. Improved prey availability with recovery of multi-species, multi-layered habitat.
Loggerhead Shrike	None	Positive	Current quality of habitat for this species is low. With increases in sagebrush steppe habitat greater availability of prey species anticipated.
Brewers Sparrow	Negative	Positive	Current quality of habitat for this species is low. With increases in sagebrush steppe habitat greater availability of both suitable nest site conditions and prey species are anticipated to occur.
Grasshopper Sparrow	None	Positive	Current quality of habitat for this species is low. The anticipated changes in perennial plant community composition and structure would result in the vegetation community providing conditions similar to native sagebrush steppe habitat resulting in an increase in suitable habitat conditions for the grasshopper sparrow.
California myotis	None	Positive	Pre-treatment vegetation community providing poor habitat. Prey availability pre-treatment and short-term post treatment low. Improved prey availability with recovery of multi-species, multi-layered habitat. Short-term impacts no affect; long-term positive impact.
Townsend big-eared bat	None	Positive	Pretreatment vegetation community providing poor habitat. Prey availability pre-treatment and short-term post treatment low. Improved prey availability with recovery of multi-species, multi-layered habitat. Short-term impacts no affect; long-term positive impact.

2. No Chemical Seedbed Treatment Wildlife and Special Status Species Impacts

Impacts to wildlife would be similar to those analyzed under the proposed action. The major difference would be in the seed mix proposed for this alternative. There would be no impact to wildlife from the utilization of *Glyphosate*.

The probability of establishing perennial vegetation though would be less under this alternative because of the potential increased cheatgrass competition; thus, the expected improvements in wildlife habitat quality and suitability may be smaller. The use of more non-native perennial grasses would likely result in suitable rates of establishment of herbaceous plants but this would be offset by creating a less diverse plant community structure.

There would be no affect to the listed special status species under this alternative.

3. Public Land OHV Closure Wildlife and Special Status Species Impacts

Impacts to wildlife and special status species would be no different than those described for the proposed action.

4. No Action Wildlife and Special Status Species Impacts

Unsuitable wildlife habitat conditions would persist in the long-term. This impact to wildlife would be most visible during severe winter conditions when mule deer and pronghorn migrate into the project area. Mule deer and pronghorn would be impacted due to the lack of suitable winter range. The opportunity to improve habitat conditions for sagebrush obligate species would be foregone by failure to establish a native shrub and perennial herbaceous plant community.

The vegetation composition and structure provided by the existing annual plant community would continue to provide suitable habitat conditions for species such as, long-billed curlew, western meadowlark, and grasshopper sparrow. Annual vegetation plant communities provide suitable habitat for foraging, breeding, nesting or brood rearing for these species.

The opportunity to improve habitat conditions suitable for loggerhead shrike, Brewer's sparrow, sage sparrow, prairie falcon, California myotis, and Townsend's big-eared bat would be foregone by failure to establish a native shrub and perennial herbaceous plant community. There would be no effect on the bald eagle or the listed snail species.

5. Cumulative Effects on Wildlife and Special Status Species

Despite some of the short-term negative effects of prescribed burning and soil disturbance, implementation of the proposed action would continue a positive trend of establishing functioning, stable, diverse sagebrush steppe habitat in the North Rim area. In the last 20 years, large acreages have been treated adjacent to the North Rim and the Snake River Plain, typically under ESR projects. These treated areas have recovered and are progressing toward providing productive shrub steppe wildlife habitat. The cumulative effect of the proposed action would be the reduction in fragmentation of wildlife habitat by reducing annual exotic plant communities thus providing increased connectivity at a landscape level.

Sagebrush obligate species are affected at the landscape level by the high fire frequency and subsequent loss of sagebrush steppe habitat. Reduction of fire frequency and sagebrush habitat loss with perennial vegetation establishment would increase habitat potential for sagebrush obligates over the long term.

E. Recreation, Visual Resources and Wildland Urban Interface

1. Proposed Action Recreation, Visual Resources and Wildland Urban Interface Impacts

Vegetation treatment activities would have an effect on recreation development as proposed by the North Rim Park Advisory Committee. The committee is currently developing a plan for future recreation developments. The plan is currently early in the process so the proposed action effects on future development would be minimal. Assuming vegetation treatments are successful, the establishment of perennial vegetation across the park area could aid in the development of recreation facilities by reducing fuel hazards and noxious weed expansion.

The Physical Setting (Natural Resource Setting Matrix) would remain the same, however, since all vegetation would be removed as a result of the prescribed burn, physical obstacles such as rocks and small lava blisters would be visible. Roads and trails that were not readily visible due to vegetation would become more visible after the fire. Therefore OHV's would most likely expand to routes that were not readily used before the prescribed fire. In addition due to the removal of vegetation it would be more inviting for OHV's to travel cross-country.

This would result in an increased amount of roads, trails and soil disturbance in the project area. Vehicle use going cross-country or using existing roads, especially after a fire or in dry conditions, causes the soil to lose cohesion, resulting in more of a powdery consistency, increasing the susceptibility to wind erosion and displacement. This may also influence seed germination and promote noxious weeds.

Recreation users would be displaced during the prescribed burning and herbicide treatment operations. Post-treatment users would be able to participate in their recreation activities. However, for many, dust created by OHV's and wind would decrease the quality of the recreation experience concentrating use and visitation on IDL land. Others, particularly motorized users, may take advantage of the lack of vegetation by driving off road, resulting in route proliferation. This may also result in safety concerns from OHV's driving in areas they have not previously utilized, especially when these areas have been historically used as informal shooting areas.

The project is located on a Class II and III Visual Resource Management areas. Fugitive dust, machinery operation, and mechanical impacts on vegetation and soil would cause short-term contrasts to the characteristic environment.

In the long-term, visual resource characteristics in the project area would change to a perennial dominated plant community and would increase the visual and structural diversity across the landscape, resulting in improved visual integrity as the area returns to a more characteristic landscape. Any existing minor two-track trails could be obliterated by the drill seeding treatment reducing contrast across the landscape.

The establishment of a perennial dominated plant community would decrease the potential for wildfire within the North Rim. Perennial vegetation across the Snake River Plain can stay green up to a month longer than an annual exotic plant community, markedly decreasing the length of the fire season. Due to the high recreation use that occurs on the North Rim a shortened high fire danger season would be a benefit to public safety.

Increased exposure of the soil to wind erosion for a period of 1-2 years could create a potential safety hazard to the public from blowing soil and dust. This would be noticeable along I-84 and Highway 93 due to the prevailing winds. The potential for accelerated wind erosion is dependent on the amount of late fall and winter moisture that falls between burning and the spring herbicide treatment. Late fall burning would maintain a portion of the litter cover that would reduce the potential for accelerated wind erosion.

The 2007 *Vegetation Treatments Using Herbicides on BLM lands in the 17 Western States Programmatic EIS* addressed the impacts of the herbicide *Glyphosate*. For both workers and members of the general public, there are no risks associated with nearly all exposures to *Glyphosate* at the typical or maximum application rate (SERA 2003).

2. No Chemical Seedbed Treatment Recreation, Visual Resources and Wildland Urban Interface Impacts

Impacts to recreation, visual resources, and the Wildland Urban Interface would essentially be the same as those described for the proposed action. The major difference would be the reduced disruption of recreation activities due to the lack of herbicide treatment.

3. Public Land OHV Closure Recreation, Visual Resources and Wildland Urban Interface Impacts

OHV use would be displaced from the treated areas of North Rim until the recovery of the vegetation resource. During the closure, other adjacent areas of public land would have to absorb the use that occurs on the North Rim. This could have a negative effect on adjacent areas of public or private land that would receive increased visitation.

There are currently little to no Administrative Management Controls, (no visitor controls apparent and enforcement presence is rare) in the project area. Therefore, in order to close the area to OHV use there would most likely need to be Administrative Management Controls consistent with the Urban category (continuous enforcement to redistribute use, reduce user conflicts, hazards and resource damage). This is especially true since there are no known locations to redistribute/displace use in the spring, fall and winter months.

4. No Action Recreation, Visual Resources and Wildland Urban Interface Impacts

Recreation users identified in the Existing Environment would continue to participate in their activities, experiences and on and off site benefits.

Recreational opportunities and visual resources would not change from the current condition. The continued dominance of cheatgrass, coupled with the decline of sagebrush communities could result in a gradual reduction in the quality of these resources. Unplanned wildland fire resulting from high fuel loads would reduce the quality of recreational and visual experiences.

Under the no action alternative there would be no immediate impact to public safety. However, the continued dominance of the plant community by annual exotics would maintain a high level of fire danger to the public.

5. Cumulative Effects on Recreation, Visual Resources and Wildland Urban Interface

The North Rim of the Snake River is leased to Jerome County under the Recreation & Public Purposes Act. The North Rim Advisory Committee is working toward recommendations to the county for development of the North Rim for recreation purposes. It is anticipated that proposed

developments would be implemented over the next 20 years. Development of trails (motorized and non-motorized) and highly developed areas for recreation activities is expected to occur.

The North Rim Park project is generally in response to the rapid urban growth in the Magic Valley area that is putting increased pressure on adjacent public lands as people look for recreation opportunities in the area. This urban growth and demand for recreation opportunities is expected to continue into the foreseeable future.

The expected increase in perennial vegetation establishment would enhance the recreation opportunities and visual resources on the North Rim. Establishment of a perennial vegetation community on the North Rim would provide a stable and resilient plant community that can withstand disturbances that may occur during the proposed recreation developments that would occur on the North Rim. It is expected that development of recreation facilities could negatively affect existing vegetation. Establishing resilience in the form of perennial vegetation would lessen the impact of recreation development.

F. Cultural Resources

1. Proposed Action Cultural Resources Impacts

The short-term impact (< 2 years) to cultural resources following prescribed burning would include an increased threat of artifact displacement from erosion and illegal surface collection by unauthorized artifact collectors. In the long-term, there would be the reduced threat of frequent repeated fires, which in turn would reduce erosion and illegal surface collection.

Establishment of a perennial dominated plant community would help to stabilize the cultural resource trails from accelerated soil erosion. Frequent wildfires that typically occur with annual exotic plant communities expose the soil surface to wind and water erosion.

2. No Chemical Seedbed Treatment Cultural Resources Impacts

Impacts to cultural resources would be no different than those described under the proposed action.

3. Public Land OHV Closure Cultural Resources Impacts

Closure of the public land to OHV would have a beneficial impact on inventoried cultural resource sites. The closure would protect these sites from disturbance by vehicle traffic and potential looting until vegetation is re-established.

4. No Action Cultural Resources Impacts

There would be no affect to existing cultural resources until the next natural disturbance such as a wildfire. In the event of a wildfire, cultural resources would be exposed due to the removal of vegetation cover. High frequency fires would also repeatedly expose cultural artifacts making them vulnerable to looting.

5. Cumulative Effects on Cultural Resources

Cultural resources found within the project area would be stabilized over the long term by reducing exposure to the elements after a wildfire. Inventory of the North Rim project area was conducted in 2006 but only records surface deposits. This inventory does not account for

resources below the soil surface. Stabilizing the vegetation resource above ground would protect the below ground deposits which may still exist in the project area.

VIII. BLM INTERDISCIPLINARY TEAM MEMBERS

Joe Russell-Natural Resource Specialist
Clare Josaitis-Rangeland Management Specialist
Gary Wright-Wildlife Biologist
Julie Hilty-Botanist
Scott Uhrig-Fire Rehabilitation Specialist
Lisa Cresswell-Archaeologist
Debbie Kovar-Realty Specialist
Brandon Brown-District Fire Use Specialist
John Kurtz-Outdoor Recreation Planner
Dave Freiberg-Recreation and Wilderness

IX. AGENCIES CONSULTED

Idaho Department of Fish and Game/Magic Valley Region
Idaho Department of Lands
North Rim Park Advisory Committee

X. REFERENCES

- Anderson, J.E. and R.S. Inouye. 2001. Landscape-scale changes in plant species abundance and biodiversity of a sagebrush steppe over 45 years. *Ecological Monographs* 71(4):531-556.
- Syracuse Environmental Research Associates, Inc. (SERA). 2003. Glyphosate-Human Health and Ecological Risk Assessment Final Report. SERA TR 02-43-09-04a. Prepared for the U.S. Department of Agriculture, Forest Service, Arlington, Virginia. Fayetteville, New York.
- U.S. Department of the Interior, Bureau of Land Management (USDI BLM). 2007. *Final Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic Environmental Impact Statement*.
- U.S. Department of Interior, Bureau of Land Management (USDI BLM). 2008. *Record of Decision - Fire, Fuels, and Related Vegetation Management Direction Plan Amendment and Final Environmental Impact Statement: A Regional Assessment for Southeast and South Central Idaho*.
- West, N.E. 1999. *Synecology and disturbance regimes of sagebrush ecosystems*, p. 15-26. Sagebrush Ecosystem Symposium, Boise State Univ., Boise, ID.
- Westoby, M., B. Walker, and I. Noy-Meir. 1989. *Opportunistic management for rangelands not at equilibrium*. *J. Range Manage.* 42:266-274.
- Whisenant, S.G. 1990. *Changing fire frequencies on Idaho's Snake River Plains: ecological and management implications*, p.4-10. Proceedings-Symposium on Cheatgrass Invasion, Shrub Die-off, and other Aspects of Shrub Biology and Management, USDA Forest Service, Intermountain Res. Sta., Ogden UT Gen. Tech. Rep. INT-276.