NORMAL FIRE EMERGENCY STABILIZATION and REHABILITION PLAN
ENVIRONMENTAL ASSESSMENT

Prepared For:

United States Department of the Interior
Bureau of Land Management
Boise District Office and Jarbidge Field Office

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I. INTRODUCTION

A. PURPOSE AND NEED

The purpose of a Normal Fire Rehabilitation Plan (NFRP) is to streamline the Emergency Stabilization and/or Rehabilitation (ESR) plans, actions, and procedures to facilitate orderly and timely on-the-ground treatments that are consistent with the urgent nature of wildland fire emergency stabilization and rehabilitation protection priorities. The NFRP is a programmatic document analyzed in an Environmental Assessment (EA) that was developed on an ecological and regional basis, and contains a description of ESR treatments that would be implemented under normal conditions in the event of a wildland fire and documentation of the potential treatment impacts.

After a wildfire, a NFRP would assist timely and cost-effective implementation of ESR treatments. A NFRP anticipates typical post-fire conditions and is used to develop site-specific ESR plans. Emergency Stabilization actions are initiated within one year of a fire to stabilize and prevent unacceptable degradation of natural and cultural resources; minimize threats to life or property resulting from the effects of a fire; and repair/replace/construct physical improvements necessary to prevent degradation of land or resources. Rehabilitation actions are taken within three years of a fire to repair or improve lands unlikely to recover to a management-approved condition, and repair or replace minor facilities damaged by fire. Emergency Stabilization treatments, including seeding and erosion control structures that fail due to natural factors such as drought or flooding may be considered for retreatment for up to three years after a fire. Treatments beyond three years are outside the scope of a NFRP, cannot be funded under the ESR program, and other program funding would be required.

The goal is to emulate pre-fire ecosystem structure, function (including the re-establishment of the natural fire cycle), diversity, resiliency, and dynamics consistent with approved land management plans, or if that is infeasible, to restore or establish a healthy, stable ecosystem in which native species are well represented. *Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management* includes additional direction concerning post-fire Rehabilitation. Currently, the Boise District and Jarbidge Field Office utilizes three separate NFRP EAs which are 16 and 17 years old (Jarbidge Resource Area NFRP #ID-01-87-61, Kuna Planning Unit NFRP # ID-01-87-110, and Cascade NFRP # ID-01-88-146). They were prepared in 1987 and 1988, and cover approximately 50 percent of the District. The purpose of preparing a new NFRP is to include all lands administered by the Boise District Office and Jarbidge Field Office in the analysis, and to update the existing NFRPs and bring them into compliance with current policy and guidance provided in the *Department of Interior-Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook* (Manual 620 DM Chapter 3) and the *BLM Supplemental ESR Handbook* 1742-1.

Recent ESR program policy and guidance changes, and current resource concerns are the impetus for updating the existing NFRPs. Without an updated NFRP, each ESR plan has to incorporate the new policy and guidance. With the urgent nature of wildland fire, ESR protection priorities, and the time constraints for implementing such actions, a programmatic approach makes the process more efficient and competitive to insure funding is received to accomplish the objectives of ESR. A

programmatic approach for ESR reduces the repetitive preparation of individual EAs, saving time and costs.

The updated NFRP and EA would cover public lands administered by the Boise District Office and Jarbidge Field Office (Figure 1). Other federal, state, and private lands would not be considered in the NFRP. When the term Boise District is used throughout the document it refers to the land in the Boise District and the Jarbidge Field Office in the Twin Falls District.

Emergency Stabilization Plan and Rehabilitation Plan Development

After a wildland fire occurs, an Emergency Stabilization Plan (ES Plan) and Rehabilitation Plan (R Plan) are prepared by an interdisciplinary team to mitigate the adverse affects of wildland fire on public lands. The ES Plan and R Plan are separate plans with distinct treatments and activities. The ES Plan and R Plan describe the site-specific ESR actions to be taken.

The ES Plan and R Plan would be tiered to the NFRP and require a Documentation of Land Use Plan Conformance and Documentation of National Environmental Policy Act Adequacy (DNA). Since site-specific ESR treatments and areas have not been identified in this EA, there would be a need and requirement to ensure consistency with this analysis at the site-specific project level. Site-specific ESR treatments would be addressed using the DNA review process. This internal review process allows the Bureau of Land Management (BLM) to base site-specific proposed actions on a previous NEPA document. A decision record would then be written based on the existing programmatic NEPA document if the proposed action has been adequately covered in that document, and there are no changed circumstances. If the site-specific, proposed action meets these criteria, the BLM would rely on the programmatic document for NEPA compliance. A discovery of a new circumstance may require the BLM to develop a new EA to analyze the impacts of the circumstance that caused the change.

Emergency Stabilization Plan – Emergency Stabilization actions are intended to: 1) stabilize and prevent unacceptable degradation to natural and cultural resources, 2) minimize threats to life or property resulting from the effects of a wildland fire, and 3) repair/replace/construct physical improvements necessary to prevent degradation of land or resources.
Emergency Stabilization protection priorities are: 1) human life and safety, 2) property, and 3) unique or critical biological/cultural resources. ES Plan actions must be implemented and completed within one year after control of a wildland fire.

Rehabilitation Plan – Non-emergency actions that are undertaken within three years of control of a wildland fire to repair or improve fire-damaged lands unlikely to recover naturally to a management-approved condition, or to repair or replace minor facilities damaged by fire.
Rehabilitation protection priorities are to repair or improve lands damaged directly by a wildland fire and restore or establish healthy, stable ecosystems in the burned area.

General Setting

The Boise District manages approximately 3,991,000 acres of public land in 11 counties (Adams, Valley, Washington, Payette, Gem, Boise, Canyon, Ada, Elmore, Camas, and Owyhee) and the Jarbidge Field Office manages approximately 3,128,000 acres of public land in 2 counties (Owyhee and Twin Falls) in southwestern Idaho.

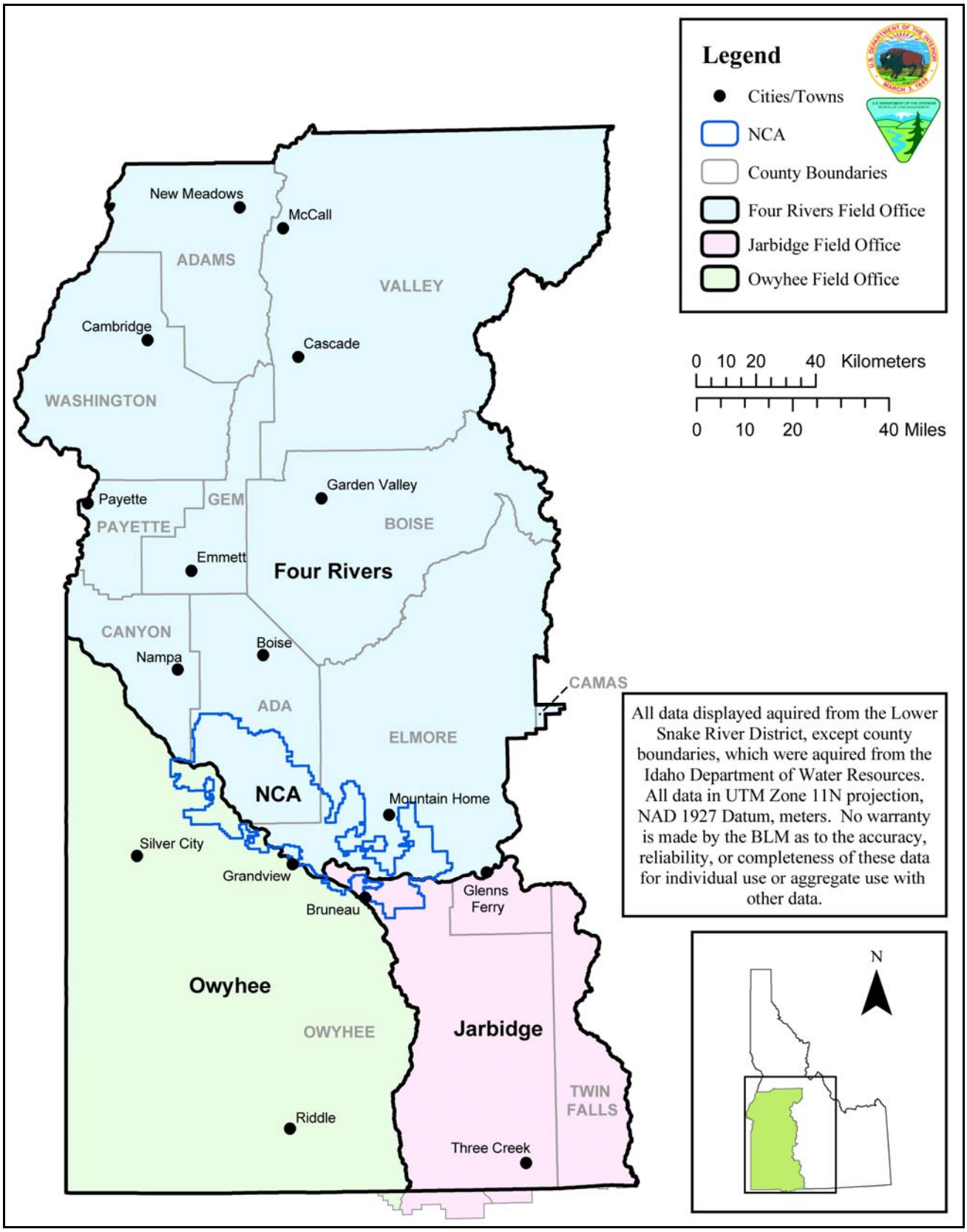
The District has a variety of natural landscapes that differ in elevation and precipitation. Elevation ranges from an average low of approximately 3,000 feet on the Snake River to more than 6,000 feet in the Owyhee Mountains. Average annual precipitation varies widely from 6 inches or less in the Snake River plain to 22 inches or more in higher elevations. The majority of precipitation falls during the winter and spring months. Mean temperatures vary from 15°F in January to 95°F in July. Temperature extremes of -20°F to greater than 100°F occur for short periods.

B. CONFORMANCE WITH LAND USE PLANS AND OTHER RELATED PLANS

All ESR practices discussed in this NFRP EA are applicable to the Boise District Office and Jarbidge Field Office (Figure 1) and are consistent with the following plan documents:

- Owyhee Resource Management Plan, 1999.
- Bruneau-Kuna Management Framework Plan, 1983.
- Cascade Resource Management Plan, 1988.
- Jarbidge Resource Management Plan, 1987 updated in 1993.
- Snake River Birds of Prey National Conservation Area (NCA) Management Plan, 1995.
- Lower Snake River District Noxious Weed Control Program EA, Decision Record, and Finding of No Significant Impact, 1998.
- United States Department of Interior (USDI) Bureau of Land Management (BLM), Final Environmental Impact Statement, Vegetation Treatment on BLM Lands in Thirteen Western States, 1991.
- Candidate Conservation Agreement between the BLM, the State of Idaho, and Non-governmental Cooperators for *Lepidium Papilliferum* (Slickspot Peppergrass), 2003

Figure 1: District, Counties, and Field Office Boundaries



II. PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action (including project design features and monitoring plan), the No Action Alternative (continue using existing1987/1988 NFRPs), and alternatives considered but eliminated from detailed analysis.

A. ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

An alternative action that would not implement ESR treatments was considered but eliminated from detailed analysis because it is not consistent with BLM policy. Additionally, this alternative would not meet the purpose and need of the Proposed Action, which is to provide timely response and implementation of treatments consistent with the urgent nature of post-fire ESR treatments necessary to promote recovery.

B. NO ACTION ALTERNATIVE

Under the No Action Alternative, the existing District NFRPs, completed in 1987 and 1988, would continue to be used and not be updated. If a fire occurs outside the scope of the existing NFRPs a separate incident-specific EA would need to be prepared in order to analyze the proposed ESR treatments. All of the same ESR treatments in the Proposed Action could be implemented in this alternative. However, the process of plan preparation may increase the likelihood of missing critical timelines that are necessary for effective implementation of ESR treatments. Resource objectives may not be met where a delay occurs.

C. PROPOSED ACTION

The Proposed Action is a NFRP for all public lands in the Boise District Office and Jarbidge Field Office BLM. The Proposed Action describes typical post-fire treatments and provides guidance that would be used to develop site-specific treatment plans immediately following a wildfire. Under the Proposed Action, the BLM would use the NFRP to prepare site-specific treatment plans to respond to typical post-fire conditions that occur in the vegetation types within the District. An atypical fire that results in conditions beyond the scope described in the Proposed Action, and requires non-routine treatments would involve the preparation of an additional NEPA analysis, and may require subsequent Endangered Species Act (ESA) Section 7 consultation. Having a NFRP that anticipates the typical post-fire condition in place will assist the BLM in providing timely and cost-effective implementation of post-wildfire treatments.

Because of the emergency nature of a wildland fire, the ES Plan must be developed expediently. The normal planning approach is to use an interdisciplinary team to complete field checks to evaluate wildland fire damages on resources and prepare an incident specific plan with specific treatments and prescriptions. The plan would include: 1) a discussion of the fire, 2) the resources damaged by the fire, 3) the proposed Emergency Stabilization, and/or Rehabilitation treatments to be implemented, 4) applicable project stipulations, and 5) financial requirements.

ES Plans must be submitted, approved, and funded soon after control of the fire due to the urgent need to take stabilization actions. RPs are submitted to the National Burned Area Emergency Rehabilitation (BAER) Coordinators. The Burned Area Emergency Rehabilitation Coordinators

include the USDI and the U.S. Department of Agriculture (USDA) Forest Service. Review and funding of Rehabilitation Plans on the previous year's fires occurs after the start of the fiscal year (October 1).

Inventories for ESR activities would be conducted for Special Status Species (SSS) (i.e. federally listed and BLM sensitive species) prior to ground disturbing activities. Where federally threatened, endangered, proposed, or candidate species and their designated or proposed critical habitat occur, treatments would be conducted in areas where a "No Effect" or "May Affect, Not Likely to Adversely Affect" determination has been made. Any treatment that "May Adversely Affect" a listed or proposed species would require site-specific ESA Section 7 consultation. See Section II, Specific Design Features for Sensitive Resources for a list of measures to minimize effects through avoidance or minimization.

Inventories for ESR activities would be conducted for cultural resources prior to ground disturbing activities. Where significant sites occur in the area of potential effect the Idaho State Historic Preservation Officer (SHPO) would be consulted per the Idaho Protocol of the BLM National Programmatic Agreement. Any proposal that would adversely affect a historic property would go through the Section 106 process of the National Historic Preservation Act (NHPA) of 1966 and a Memorandum of Agreement would be drafted to mitigate adverse effects to the resource. Generally speaking, where significant cultural values are present, the area would be flagged and avoided. Alternative methods of seeding would be considered and implemented on areas to mirror the appearance of the surrounding landscape and eliminate unintentional marking of the site. See Section II, Specific Design Features for Sensitive Resources for a list of measures to minimize effects to cultural resources.

The Proposed Action includes ESR treatments that are normally implemented on the Boise District Office and Jarbidge Field Office and includes criteria based on when and why the treatment would be used, and design features that would apply to the treatment. Also included in the Proposed Action are the specific design features for sensitive resources that would be implemented when applicable, as well as monitoring. Treatments are discussed separately but could be implemented in conjunction with other types of treatments depending on site-specific recovery needs.

1. EMERGENCY STABILIZATION AND REHABILITATION

Emergency Stabilization actions are taken immediately following a wildland fire and are completed within one year. They are intended to: 1) stabilize and prevent unacceptable degradation to natural and cultural resources, 2) minimize the threats to life or property resulting from the effects of a fire, and 3) repair/replace/construct physical improvements necessary to prevent degradation of land or resources. Emergency Stabilization funds are used for three years from control of the fire for monitoring and fence removal.

The primary difference between Emergency Stabilization and Rehabilitation is the urgency of stabilization treatments and the timeline for implementation. Rehabilitation actions can occur up to three years after control of a fire to repair or improve land damaged by wildland fire that is unlikely to recover to a pre-fire condition, and repair or replace minor facilities damaged or destroyed by fire. In addition, Rehabilitation funds would be used to implement noxious weed control beyond one year from fire control. Weed control funding would be allowed for the second and third year following the fire.

Emergency Stabilization and Rehabilitation Criteria
ESR would be initiated in areas that meet one or more of the following criteria:

1. Areas where the soil is susceptible to accelerated erosion either because of soil characteristics, steep topography, or recurrent high winds.
2. Areas where perennial grasses, shrubs, and forbs have been depleted and cannot reasonably be expected to provide soil and watershed protection within two years after a wildland fire.
3. Areas where noxious weeds or exotic annual grasses may readily invade and become established following a wildland fire.
4. Areas that contain crucial habitat for wildlife and/or SSS.
5. Areas that contain significant and fragile cultural resources.
6. Areas where ESR is necessary to meet land use plan objectives.

During the review and field examination of a burn area the interdisciplinary team would consider various sources of data to determine ESR treatment needs. Field examination of unburned islands, vegetation inventory data, project files, allotment monitoring data, standards and guideline assessments, and professional knowledge would be used to provide guidance for needed treatments.

Proposed Treatments

a. NATURAL RECOVERY

In many cases there is a sufficient amount of perennial plants remaining on-site that, if protected from further disturbances would allow for natural site recovery.

b. SEEDING AND PLANTING

Revegetation would be implemented in areas that meet one or more of the following conditions: 1) sites highly susceptible to accelerated soil erosion, 2) where perennial plant species cannot reasonably be expected to provide soil and watershed protection, 3) areas with high densities of invasive annual species (e.g. cheatgrass (*Bromus tectorum*)), 4) areas where unacceptable vegetation such as invasive annual grasses and noxious weeds may readily invade and become established, 5) to protect SSS habitat, and 6) to stabilize or obscure from view cultural resources at risk for damage or collection. Seeding and planting would be implemented to promote re-establishment of vegetation. Based on site-specific conditions, seeding and planting treatments may include: 1) seedbed preparation, 2) seed application method, 3) seed covering, and 4) appropriate seed mix selection.

<u>Seedbed Preparation</u>

Seedbed preparation may be used to reduce competition from undesirable species and to increase the germination and survival rates of desirable species.

Herbicides

- Herbicide(s) may be used to target certain species of weeds or invasive species. Herbicide type and application rate would be dependent on: 1) the target species, 2) location of SSS and their crucial habitats, and 3) aquatic habitat. Herbicide use would conform to federally approved manufacturers' herbicide labels as well as the streamside, wetland, and riparian habitat herbicide restrictions (Table 1).

Mechanical

- Harrowing may be used when it is desirable to break up the soil crust or remove plants from the surface. A harrow contains numerous "teeth" which drag along the soil surface to disturb the upper 1 to 2 inches.
- Chaining may be used to turn soil, uproot competitive species, or breakup woody vegetation.

Seeding Methods

Mechanical

- Rangeland drill seeding can be used in a broad range of applications. The disturbance caused by drill seeding consists of 1 to 2 inch deep furrows spaced at approximately 12 inch intervals. Seeds are dropped into these furrows from a seed dispersal tube placed directly above each furrow. This seeding method is typically used in open, relatively flat topography that has very few larger rocks (8 to 10 inch diameter). This method works well in most soil types. Rangeland drills can be equipped with depth bands to control depth of furrow openings. Farm type grain drills are sometimes substituted for rangeland drills with similar impacts.
- The no-till drill is used to: 1) minimize the mechanical impacts and soil disturbance, 2) place the seed at proper planting depth, and 3) optimize seed to soil contact. The disturbance caused by a no-till drill consists of 1 inch furrows spaced at approximately 12 inch intervals. Seeds are dropped into the furrows from three separate seed feeder tubes. Seed can be separated into grass, forb, and shrub seed types. Press wheels follow the furrow maximizing seed-to-soil contact.
- A land imprint seeder consists of a large drum with numerous V-shaped protrusions arranged around the circumference and is rolled over the ground to imprint small (approximately 4 by 18 inches) impressions in the soil surface. Seed is dispersed in front of the imprinter and pressed into the soil by the drum. The impressions trap additional moisture. This seeding method is best used in arid to semi-arid environments.
- Brillion type seeders use two cultipacker rollers. The leading roller crushes clods and forms a smooth seedbed in front of the seed drop. The trailing roller firms the seed into the soil. The rollers are notched to create little pockets to trap moisture. Seed is dispersed uniformly eliminating the row effect. The Brillion type of seeder is used in open ground with flat topography that is devoid of rocks.
- Chaining provides soil scarification, removes vegetation, breaks up sod, compacted or hydrophobic soils, and increases seed-to-soil contact. Typically seed is broadcast before a chaining treatment. This treatment utilizes a chain pulled behind two crawler-type tractors in a "**U** or **J**" pattern. The chain may be of various sizes (generally 100 to 350-feet long). The width of each swath would vary from 50 to 120 feet.
- Shrub seed may be planted with a seed dribbler. This technique involves dribbling (dropping) seed from a container attached to the crawler tractor above the tracks. The seed is pressed into the soil as the tractor treads roll over it.
- Other drill/seeder configurations are sometimes used with a combination of implements similar to discs, cultipackers, and chains mentioned above.

Broadcast

- Ground broadcast seeding with a truck, All Terrain Vehicle, or hand powered drop or "whirly-bird" seeders would be utilized in very specific situations. In this method, seeds are dispersed by centrifugal force out of the seeder. Surface broadcasting of this nature would be used in areas that are too small (less than 10 acres) or are otherwise impractical for aerial seeding application. Dribble spreaders use an agitator and a metered opening to drop seed onto the ground. Surface broadcasting of this nature would be applied in open areas of relatively flat topography. This method should be used in combination with harrows, drag chains, cultipackers, or other equipment designed to optimize seed-to-soil contact, and to cover seed.
- Aerial broadcast seed spreaders distribute seeds on large areas where ground machines cannot operate efficiently, or are used to plant seed types that do not tolerate soil covering.

Hand

- Hand planting riparian and upland tree and shrub seedlings would be used when it is desirable to establish specific species quickly and stabilize soils. This method is usually limited to bareroot or containerized stock tree and shrubs. The disturbance associated with hand planting consists of the area within a 2 to 3 inch radius of the plant. Planting methods include bars, hodads, augers, or mechanical tree planters. Planting may be done where excessive soil erosion may precipitate mass soil wasting and/or there are potential source areas for debris flows due to the root rot of dead, burned trees. Plantings may also be utilized within crucial big game winter range or other habitats where shrubs or trees provide critical forage or habitat component and natural re-establishment within a reasonable time frame is not expected to occur.

Seed Cover

Seed cover is used to increase the seed-to-soil contact to promote germination and survival rates of desirable species.

Mechanical

- Chaining provides soil scarification, removes vegetation, and covers seed. This method is typically used in conjunction with broadcast seeding in areas where remnant large woody and/or rocky conditions prevent other cover treatments or in steep terrain not accessible to drills. This treatment utilizes a chain pulled behind two crawler-type tractors in a "**U** or **J**" pattern. The chain may be of various sizes (generally 100 to 350-feet long). The width of each swath would vary from 50 to 120 feet.
- Harrowing may be used as a cover treatment following broadcast seeding on relatively flat terrain with little remnant woody vegetation. The harrow pulls soil over the broadcasted seed to improve soil contact.
- A cultipacker may be used to improve seed-to-soil contact following seeding. A cultipacker consists of a heavy roller, or sets of wheels that roll across the ground to provide soil compaction.

Hand

- Hand methods such as raking may be used on a very site-specific basis to improve seed-to-soil contact on small seeding projects.

Design Features for Seedbed Preparation, Application Methods, and Seed Cover

- Seedbed preparation, application, and covering projects would run along the contours of the land, whenever possible and practical to reduce erosion.
- Islands of unburned vegetation would not be seeded. Irregular boundaries of the burned area would be maintained.
- For herbicide applications see Noxious Weed Treatments (below) for herbicide- specific design features.
- Minimum tillage or no tillage would be used on soils in the high to very high wind erodibility group, whenever possible or practical.
- Wet soils that are at field capacity would not be disturbed or only minimally disturbed.
- Soils with surface clay content greater than 35 percent would not be disturbed or only minimally disturbed. The no-till drill or other low impact drills would be used in areas of good microbiotic crust, whenever possible or practical.

Seed Selection

Plant materials would be selected and seed mixtures designed to best meet the objectives identified in the site-specific ESR, LUP, or activity plan. Native seed would be used when available to meet these objectives.

Species planted on burned areas must provide the protection required by ESR objectives and be in compliance with Executive Order 13112, *Invasive Species* (USDI 2/3/99). The use of native species is preferred to the use of non-natives for Emergency Stabilization treatments, however, a mixture of native and non-native species is preferable to using only non-natives if all the desired natives are not available. When competitive non-native grasses such as crested wheatgrass (*Agropyron cristatum*) are used in a mixture with natives, the total amount of non-natives in the mix should be limited to ≤2.0 lbs/acre pure, live seed to facilitate the establishment and persistence of the native species. The use of non-native seed is appropriate if:

1. Suitable native species are not available.
2. The natural biological diversity of the site is already diminished beyond ecological thresholds.
3. Exotic and naturalized species can be confined within the proposed treatment area.
4. Natives cannot be maintained in high disturbance use areas (e.g. livestock watering areas, material sites).

The use of local seed sources for native plants is recommended, especially for ecotypes of plants like big sagebrush (*Artemisia tridentata* spp.). Important elements that would be considered in selecting a seed mixture that includes native plants include the following:

1. Availability at a reasonable cost per acre. The BLM considers and understands that as the demand for native seed increases, production costs should decline.
2. Adaptation to the area proposed for treatment (e.g. stratify seed mix by elevation and different site potentials). The use of local, native ecotypes is encouraged.
3. Impacts of competition (e.g. invasive species, noxious weeds, other plants in the seed mixture, land uses) on native plant establishment and persistence.

Design Features for Seed Selection

- The revegetation species in Appendix A are intended as a guide and would be applied at rates applicable to: 1) pre- and post-fire site conditions, 2) other resource considerations, and 3) management objectives. Parameters such as soil properties, erosion potential, aspect, elevation, precipitation zones, invasive and noxious weed species competition, intended use, potential plant community, watershed stability, seed availability, and costs would be evaluated in developing seed mixtures. Other seed species may be considered as they become commercially available.
- Seed mixtures would be formulated to benefit wildlife and SSS habitats as appropriate. Where federally threatened, endangered, proposed, or candidate species and their designated or proposed critical habitat occur, seed mixtures would be chosen that would result in a "No Effect" or "May Affect, Not Likely to Adversely Affect" determination.
- All seed is tested to insure compliance with the state noxious-seed requirements recognized in the USDA Administration of the Federal Seed Act. All purchased seed must meet all requirements of: 1) the Federal Seed Act (7 USC 1551-1610), 2) the state seed laws where it will be delivered, and 3) federal specifications JJJ-S-181. All seed would be tested for purity and germination to meet contract specifications and should be tested for weed and noxious weed seed, and identified by certified varietal tags and source identified tags to insure the genetic origins of the parent plant material or the collection origin as per the USDI and USDA Interagency *Burned Area Emergency Stabilization and Rehabilitation Handbook* 6.3.2.3 Revegetation (April 9, 2002).
- Seed would be planted during the appropriate season to ensure seed stratification, germination, and establishment.
- Greenstrips that utilize fire resistant species along major travel corridors may be incorporated in order to slow the spread of future fires and protect seedlings, shrublands, and cultural resources.

c. NOXIOUS AND INVASIVE WEED TREATMENTS

Noxious weeds that are designated by state and/or federal agencies are aggressive, invasive species that can invade, spread, and dominate a site. Potential is amplified for noxious weeds to invade/increase after a wildland fire disturbance. Containment and control of noxious weeds would be a high priority for ESR projects. The objectives of noxious weed treatment are containing and preventing further spread of known and newly invading populations of weeds through the appropriate level of weed control measures (early detection, treatment, control). Preventing or controlling noxious weed establishment depends on early detection. ESR weed detection efforts would focus on areas around known weed infestations within and adjacent to the ESR boundary as well as roads, water sources, and drainages.

Chemical

- The herbicides that are approved in the *Vegetation Treatment on BLM Lands in Thirteen Western States EIS* (USDI BLM 1991) for use on BLM public lands may be used to control noxious and invasive weeds. The 1991 Vegetation Treatment EIS is currently being updated to reflect changes in chemicals and technologies over the last 13 years. The result of this update may be the addition of new herbicides for conducting seedbed preparation and noxious weed control. Selection of an herbicide and the application rate for site-specific application would depend on its chemical effectiveness on a particular weed species, success in previous similar applications, habitat types, soil types, and proximity of the weed infestation to water and/or private property.
- Ground based herbicide application would include broadcast "block" spraying or spot spraying with backpack pumps, spraying from a pump unit on the back of a pickup truck or an All Terrain Vehicle, or pack animals to transport and apply herbicides in more rugged terrain. Ground based application would occur in smaller, fragmented patches of weeds and along trails and roads where herbicide treatment may be the most effective means of controlling or eradicating noxious and invasive non-native weeds.
- Aerial herbicide application can be an effective means of controlling or eradicating very large infestations of weeds, or for areas that have steep slopes, rocky soils, or difficult access.
- Combinations of herbicides may be the most appropriate treatment where several species of noxious weeds occur together, or where the herbicides affect weeds differently. All chemical combinations would conform to herbicide labels.
- Herbicide application re-entry notices, as outlined in herbicide use labels would be posted in all spray areas as necessary.

Mechanical

- Mechanical treatment is used to physically destroy, disrupt growth, or interfere with the growth and reproduction of noxious weeds. This can be accomplished by hand, hand tool, or power tool and may include pulling, grubbing, digging, hoeing, tilling, cutting, mowing, mulching, and burning with a propane torch.
- Mechanical treatments would typically be used primarily to control individual plants or very small, isolated infestations of weeds because larger weed infestations are very difficult to control with mechanical treatment.

Design Features for Weed Treatment

- All herbicide applications would follow manufacturer herbicide label instructions, specifications, and precautions as well as applicable BLM policy. In instances where herbicide labels, federal, or state stipulations overlap, the more restrictive criteria would apply.
- Application of any herbicides to treat noxious weeds would be performed by or directly supervised by a state or federal licensed applicator.
- Vehicles and equipment would be cleaned and inspected prior to entering the Boise District or leaving the project site when operating in areas of weed infestations to prevent "hitch-hiking seed" transport.
- No spraying of any herbicide would occur when wind velocity exceeds 10 miles per hour, as per state of Idaho Department of Agriculture standards, or as indicated in the riparian design

features listed in the Specific Design Features for Sensitive Resources section (below) (Table 1).

- Dyes may be used to obtain uniform coverage. This would help prevent under or over treatment/application and help with detection of drift. It would also reduce the risk of treating non-target species.
- Use of 2,4-D ester formulations would not be allowed.
- Herbicide applications would be implemented in a manner to avoid off-site movement of herbicides either through the air and soil, or along the soil surface. Project site terrain, soil type, and vegetation would be taken into consideration when selecting herbicide type, application method, and application timing.
- All aerial herbicide applications would be conducted in a manner that avoids application overlap and drift.
- Transportation, storage, and emergency spill plans would be developed and safety plans would be implemented to reduce the potential of spills occurring during the transportation and storage of herbicides and fuel. Emergency response kits and trained personnel would be available and on-site whenever fuels and/or herbicides are transported or stored.
- Only the quantity of herbicides needed for each day's operation would be transported from storage/mixing areas to application sites.
- Manual control (e.g. hand pulling, grubbing, and cutting) may occur in all areas, and may be used in sensitive areas to avoid adverse effects to non-target species or water quality.
- The disposal of noxious weeds would be in accord with proper disposal methods. Noxious weeds that have developed seeds would be bagged and burned.

d. EROSION CONTROL

The objective of erosion control is stabilization of the hydrologic function of upland watersheds to: 1) trap sediment, 2) capture, store, and safely release rainfall and snowmelt, and 3) minimize the risk of degrading water quality.

Hillslope Treatments

- Contour tree felling or contour log terracing perpendicular to the slope may be installed to trap sediment and improve infiltration, prevent slope rilling, and replace woody material consumed by fire.
- Lop and scatter to spread the limbs and branches of trees and shrubs (slash) on a slope may be used to provide protection from raindrop impact. If the branches and limbs are crushed or worked into contact with the soil surface, the slash would also help break up concentrated surface runoff and reduce erosion.
- Hand contoured trenches may be installed to trap sediment and improve infiltration, and prevent slope rilling.
- Mulch may be used to retard overland flow and protect soil from raindrop impact and increase soil moisture holding capacity.
- Straw bales or wattles may be installed to trap sediment and improve infiltration and prevent slope rilling.
- Geotextiles such as biodegradable erosion cloth/soil netting may be used to stabilize slopes above high-risk areas (e.g. campgrounds).

In- and Near-Channel Treatments

- In- and near-channel treatments may be implemented to modify sediment and water movement in ephemeral and naturally intermittent (i.e. seasonally flowing) or small, headwater channels as needed to prevent flooding and debris torrents where downstream life, property, or resources need to be protected. Grade-control structures may also be used to capture and store sediment that would otherwise be transported downslope. In most situations, bioengineering techniques that become living revetments (e.g. cuttings, willow wattles) or straw bale check dams, gravel bags, straw wattles that pass water and decompose over time would be used to stabilize channels because these structures have the lowest potential to damage channels if the structures fail.
- Willow wattles and woody riparian cuttings (i.e. bioengineering techniques) may be used instream for channel stabilization and grade control.
- Gabions may be used to trap sediment and control downcutting of severely eroded drainages.
- Straw bale and straw wattle check dams may be used to temporarily trap sediment and slowly release stored sediments as the check dam materials deteriorate.
- Log dams and in-channel felling (preferably whole trees) may be used to slow flow and trap sediment.
- Sandbags and low profile log or rock grade channel stabilizers that pass sediment may be used to reduce undercutting.
- Silt fences generally have a longer lifespan than straw bale check dams and may be used to stabilize in-channel sediments, trap suspended sediments, and control downcutting.
- Culvert repair, removal, or replacement may be needed to restore proper drainage.

Design Features for Erosion Control Treatments

- Only certified weed-free straw would be used in straw bales and to construct straw wattles.
- Collection of any on-site materials for use in erosion control treatments would be limited so that riparian conditions would not be negatively impacted.

e. PROTECTIVE FENCES

The success of natural recovery or revegetation often depends on exclusion of livestock and/or wild horses. Livestock and/or wild horse grazing would be deferred for at least two growing seasons, or until resource objectives are met, through the closure of pastures, resting whole allotments, or construction or reconstruction of protective fences as needed.

Gates, cattle guards, fences, and other control features would be repaired and/or constructed as needed to protect treatments during the recovery period or the seeding establishment period.

Design Features for Protective Fencing

- Fence construction and reconstruction would conform to BLM Handbook specifications (H-1741).
- Fences constructed in wild horse herd management areas, antelope ranges, or critical mule deer winter ranges would be flagged along the wires between line posts to reduce the chance for collision and entanglement.
- Fences in California bighorn sheep *(Ovis canadensis)*, pronghorn antelope *(Antilocapra americana)*, mule deer *(Odocoileus hemionus),* and elk *(Cervus elaphus)* habitat would be

constructed according to BLM Handbook specifications (HB-1741) and *Facilitating Big Game Passage of Livestock Fences* (Boise District BLM 1985).

- Fences would be designed to avoid concentrations of livestock or wild horses within riparian habitats.
- Easements, if considered necessary would be acquired prior to construction.
- Where required, brush clearing for fence construction would be kept to the minimum required for fence construction.
- Removal of temporary fencing using ES funds would be accomplished within the 3 year funding cycle of ES. If the fencing is needed beyond 3 years, then maintenance and/or removal of the fencing must be accomplished using other BLM funding sources.
- The fencing of private land to keep privately owned livestock off adjacent burned public lands is the responsibility of the private landowner(s). Therefore, ES funds would not be used to fence the private/public land boundary.

f. CLOSURES

Area, road, and trail closures may be implemented to protect an area from disturbance or if there is danger to the public due to fire damage or ESR activities.

Area and/or Limited Closures

- Burned or seeded areas may be temporarily closed to the public by excluding vehicle, bicycle, horse, and foot use if unacceptable resource damage would occur, or if danger to the public is present due to fire damage or ESR activities.
- Access within the ESR project area may be temporarily limited during the recovery period (e.g. access limited to existing roads and trails).

Enforcement

- Patrols by BLM Law Enforcement Rangers and non-enforcement staff may be conducted to monitor and enforce closures. Law enforcement services could also be contracted to local law enforcement agencies.

Design Features for Closures.

- Federal register notices would be published to initiate all closures, and signing would be completed as needed.

g. REPAIR/REPLACE MINOR FACILITIES ESSENTIAL TO PUBLIC HEALTH AND SAFETY

Minor facility, structure, road, and trail repair to address health and safety would be implemented under Emergency Stabilization.

Design Features for Facilities Repair/Replacement (Stabilization)

- Road treatments such as properly spaced rolling dips, waterbars, and culverts may be used to move water past the road prism and to more effectively route water and sediment to prevent additional erosion, road damage, slope failures, and delivery to streams.
- Culverts would be inspected and maintained, repaired, or replaced following storms.
- Ripping or disking roads could be used to increase infiltration.

- Armoring crossings, culverts, and channels may be used to provide mechanical strength and to protect water quality. Typically, armor is installed in some form of riprap at locations where bridges or culverts require protection from flood flows.
- Public use facilities, structures, roads, and/or trails that pose a health or safety risk can be stabilized or closed to public use in order to protect human health and public safety.
- Public notices or signs necessary to close trails, warn of pending floods, promote public safety, or otherwise assist with Rehabilitation actions (e.g. directional, road, danger signs) may be posted or installed.
- Hazardous material may be removed.
- Downed trees that create obstructions and pose a threat to trail users may be moved or removed.

Repair/Replace Minor Facilities (Rehabilitation)

- Repair or replacement of minor facilities such as structural damage to recreational facilities, fences, gates, watering troughs, wildlife guzzlers, and livestock handling facilities that were damaged by fire may be done under Rehabilitation.

h. LIVESTOCK AND WILD HORSE MANAGEMENT

Exclusion of livestock and wildhorses are critical for the recovery of burned vegetation or establishment and protection of new seedings. Wildland fire areas would be closed to livestock grazing for a minimum period of two growing seasons to promote recovery of burned vegetation and/or facilitate the establishment of seeded species. Subsequent livestock and wildhorse management should maintain vegetation to meet LUP objectives and/or activity plan objectives. This may be accomplished through:

- Entire allotment or pasture closures, in whole or in part.
- Wild horse relocation and/or removal may be necessary.
- Protective fences, cattle guards, temporary watering sites, and salt or mineral blocks may be used to control livestock and/or wild horse use. When water, salt, or mineral blocks are used to control livestock they would not be placed within 0.5 mile from the unfenced burned areas during recovery periods.

Resumption of livestock grazing would ultimately depend on monitoring and meeting of ESR plan objectives. Recovery of the treated area would be monitored for availability to grazing on a yearly basis.

Supervision of the burn area would be done to insure the grazing closure remains in effect until plant recovery occurs. Any grazing of the closed areas would be considered unauthorized use, and any unauthorized use would be properly documented and action taken to insure it does not continue.

Design Features for Livestock and Wild Horse Management

- A grazing decision, in accordance with 43 CFR 4110.3-3(b) and 43 CFR 4160.1 would be issued with notification of the closures and modification of the grazing permit where closures would occur. Grazing decisions would specify: 1) the terms and conditions of closures, 2) potential loss of animal unit months, and 3) criteria for opening the burn area to livestock.
- Annual monitoring will be conducted to determine if site objectives have been met and to determine when grazing can resume.

i. CULTURAL SITE PROTECTION, STABILIZATION, AND REPAIR

Emergency Stabilization

The goal of cultural site Emergency Stabilization is to prevent further damage to known cultural resources resulting from the effects of the fire. Cultural resources refer to resources protected under the National Historic Preservation Act, as well as tribal interests.

- Known cultural resources and paleontological locations within the boundaries of a wildland fire would be assessed to determine their significance, appropriate immediate protection measures, and record fire damage to site elements.
- Hand seeding or low impact seeding would be implemented on sites to stabilize soils in the site area and decrease visibility as protection against illegal artifact collection.
- Where identified, cultural landscapes and traditional cultural properties would be afforded the same considerations and protection applied to all identified cultural resources.
- Increased law enforcement patrolling may be used to protect cultural resources.

Rehabilitation

The goal of cultural resource Rehabilitation is to stabilize known archeological sites, cultural landscapes, traditional cultural properties, cultural values, and historic structures. Significant cultural values would be restored to pre-fire condition, when feasible.

- Known cultural resources and paleontological locations within the boundaries of a wildland fire would be assessed to determine appropriate long-term Rehabilitation measures.

Design Features for Cultural Site Treatments

- The Idaho SHPO would be consulted in planning cultural site stabilization.
- Erosion control measures would be placed where they would not adversely affect associated artifacts.
- Where wildland fire impacts a designated Historic District, evaluation of the need for and method of protection and stabilization would follow guidelines and restrictions included in the Secretary of Interiors Standards and Guidelines for Archeology and Historic Preservation.

2. SPECIFIC DESIGN FEATURES FOR SENSITIVE RESOURCES

a. SSS PLANTS

- Requirements of individual SSS plants would be considered when designing ESR treatments.
- Native seed would be used when possible and practical in SSS plant habitat.
- Individual SSS plant requirements would be taken into consideration when selecting seed mixes, chemical herbicides, and application methods. Non-herbicide treatments would be considered as a preferred method.
- If the continued existence of a SSS plant would be undermined by noxious or invasive weed infestation, emphasis would be placed on hand, spot spraying and mechanical control in order to avoid or minimize risk to SSS plants. Chemicals would not be applied directly on SSS plants during spot applications.

Slickspot Peppergrass

In slickspot peppergrass (*Lepidium papilliforum*) habitat, ESR would follow all instruction as outlined in *Slickspot Peppergrass Candidate Conservation Agreement* (GOSC *et al*. 2003) such as:

- Include forbs in seed mixes to increase diversity and pollen sources for insect pollinators.
- Weed control within Priority Element Occurrences (an Element Occurrence is an area of land and/or water in which a species or natural community is or was present) would apply herbicides using hand sprayers only and no herbicide treatment would be used within a 10-foot wide zone around slickspots. Weeds would be treated by hand within the 10-foot wide, no spray zone.
- Use seeding techniques that minimize soil disturbances such as no-till drills and rangeland drills equipped with depth bands when ESR projects have the potential to impact occupied or suitable habitat.
- Use native plant materials and seed whenever practicable during ESR activities unless use of non-native, non-invasive species would contribute beneficially to maintenance and protection of occupied or suitable habitat.
- The use of stationary and mobile vehicle wash points for vehicles and equipment to reduce the transport of undesirable plant material would be utilized when working in slickspot peppergrass habitat.

b. SSS TERRESTRIAL WILDLIFE

Yellow-Billed Cuckoo and Other Riparian Obligates

- Implementation of ESR activities would be implemented such that impacts to on-site or adjacent intact, native vegetation or other riparian functions would be minimized and impacts to yellow-billed cuckoo (*Coccyzus americanus*) would be so small as to be not meaningfully measured, detected, or analyzed, or would be extremely unlikely to occur.
- ESR would be used to re-establish or enhance existing potential yellow-billed cuckoo nesting habitat, establish native riparian tree species, such as cottonwood (*Populus* spp.*)* and willow (*Salix* spp.), where feasible and appropriate.
- ESR activities would be restricted to an appropriate distance in order to minimize disturbance to breeding and/or nesting yellow billed-cuckoos.

Greater Sage-grouse, Columbian Sharp-tailed Grouse, Pygmy Rabbit, and Other Sagebrush Obligates

- Standing dead juniper that provides raptor perches would be felled as needed and appropriate to protect pygmy rabbit (*Brachylagus idahoensis*), greater sage-grouse (*Centrocercus urophasianus*), and Columbian sharp-tailed grouse (*Tympanuchus phasianellus columbianus*).
- Fences would not be constructed within 400 yards (approximately 0.25 mile) of currently used, unburned sage-grouse leks, and would be flagged to increase visibility.
- No ground disturbing treatment would occur within 0.6 mile of currently used, unburned Columbian sharp-tailed grouse or greater sage-grouse leks from March 1 through May 15. No ground disturbing activities would occur within 0.6 to 2.0 miles from a lek prior to 1,000 hours during this period unless authorized by a resource specialist.
- Treatments would not occur within 0.5 mile of currently used, unburned sage-grouse winter habitats from December 1 through February 15, with the exception of aerial seeding.

- Rehabilitation efforts would follow objectives and guidelines outlined in the Four Rivers Field Office *Hixon Columbian Sharp-tailed Grouse Habitat Management Plan* (USDI 1994).
- Berry-producing, riparian shrubs would be planted to rapidly rehabilitate Columbian sharp-tailed grouse winter habitat where feasible and appropriate.

Northern Idaho Ground Squirrels

- All ESR activities, including ground disturbing activities and the use of chemicals such as herbicides would require additional site-specific ESA Section 7 consultation within the probable historic distribution of northern Idaho ground squirrel (*Spermophilus brunneus brunneus*) as indicated by the *Recovery Plan for Northern Idaho Ground Squirrel* (USFWS 2003b).
- No treatments would occur within known or suspected northern Idaho ground squirrel habitat during the reproductive season (late March through the end of April), and potential impacts would be minimized during the entire active period (February 1 to July 30).
- The proposed seed mixtures would contain a minimum of two native forb species in the historic range of northern Idaho ground squirrel when feasible and available.
- Construction or reconstruction of structures such as fences within 0.5 mile of suitable northern ground squirrel habitat shall be designed and implemented to avoid increased opportunities for predation on ground squirrel (i.e. raptors use of fence posts as hunting perches).

Southern Idaho Ground Squirrels

- Ground disturbing activities and the use of chemicals such as herbicides within or adjacent to southern Idaho ground squirrel (*S. b. endemicus*) habitat would be designed and implemented to minimize impacts to this species.
- No treatments would occur within known or suspected southern Idaho ground squirrel habitat during the reproductive season (January 15 through February 28), and potential impacts would be minimized during the entire active period (January 15 to July 30).
- The proposed seed mixtures would contain a minimum of two native forb species in the historic range of southern Idaho ground squirrel when feasible and available.
- Construction or reconstruction of structures such as fences within 0.5 mile of suitable southern Idaho ground squirrel habitat shall be designed and implemented to avoid increased opportunities for predation on ground squirrel (i.e. raptors use of fence posts as hunting perches).

Raptors

- No treatments would occur within 0.5 mile of a currently used golden eagle (*Aquila chrysaetos*) nest from February 1 through June 30, or any other raptor nest from March 1 through June 30.
- Trees containing raptor nests would not be felled, and nesting platforms would be installed if known nest trees are destroyed.

Bald Eagle

- Ground based ESR activities within 0.5 mile of direct line of sight of winter bald eagle (*Haliaeetus leucocephalus*) concentrations sites or within 0.25 mile of bald eagle winter concentration sites within the winter roosting season (November 1 through March 1) would

be designed and implemented in a manner such that any impacts to the species from disturbance or habitat modification would be so small as to be not meaningfully measured, detected, or analyzed, or would be extremely unlikely to occur.

- Ground based ESR activities within 0.5 mile of an active bald eagle nest during nesting season (January 1 through August 15) would be designed and implemented in a manner such that any impacts to the species from disturbance or habitat modification would be so small as to be not meaningfully measured, detected, or analyzed, or would be extremely unlikely to occur.
- Aerial seeding and aerial application of herbicides within 0.5 mile of winter bald eagle concentration sites would be designed and implemented in a manner such that any impacts to the species from disturbance or habitat modification would be so small as to be not meaningfully measured, detected, or analyzed, or would be extremely unlikely to occur from November 1 through March 1.
- Aerial seeding and aerial application of herbicides within 0.5 mile of active bald eagle nest sites during nesting season would be designed and implemented in a manner such that any impacts to the species from disturbance or habitat modification would be so small as to be not meaningfully measured, detected, or analyzed, or would be extremely unlikely to occur from March 1 though June 1.
- ESR would be used to re-establish large native riparian tree species such as cottonwoods to enhance existing bald eagle roosting and nesting habitats when feasible and appropriate.

Gray Wolf

- ESR treatments would be designed and implemented to minimize noise disturbance within 1.0 mile of an active gray wolf (*Canis lupus*) den or rendezvous site from April 15 through June 30.

Canada Lynx

- All ESR activities that may potentially affect Canada lynx (*Lynx canadensis*) would follow the interim guidance of the *Lynx Conservation and Assessment Strategy 2000* (Ruediger *et al.* 2000) until the resource management plans (RMPs) are amended to include new lynx conservation measures and guidance.
- Implementation of any ESR activities within 1.0 mile of a known or suspected lynx denning site between May 1 and August 1 would be designed and implemented in a manner such that any impacts to the species from disturbance or habitat modification would be so small as to be not meaningfully measured, detected, or analyzed, or would be extremely unlikely to occur.

California Bighorn Sheep

- Treatments in California bighorn sheep (*Ovis canadensis californiana*) habitat would follow the *Mountain Sheep Ecosystem Management Strategy in the 11 Western States and Alaska* (USDI BLM 1995).
- No treatments would be implemented within identified California bighorn sheep lambing habitat from April 15 through June 30.

Pronghorn Antelope, Mule Deer, and Elk

- All new fences within big game habitats would be designed and constructed to comply with the Boise District Fence Policy for facilitating passage of big game, including pronghorn antelope, mule deer, and elk.

Long-billed Curlew

- Short-stature grass species would be used in long-billed curlew (*Numenius americanus*) habitat that is dominated by annual grasses.

c. SSS AQUATIC WILDLIFE

SSS aquatic wildlife includes the ESA listed and candidate species - bull trout (*Salvelinus confluentus*), Utah valvata snail (*Valvata utahensis*), Bliss Rapids snail (*Taylorconcha serpenticola*), Idaho springsnail (*Pyrgulopsis idahoensis*), Snake River physa snail (*Physa natricina*), Bruneau hot springsnail (*Pyrgulopsis bruneauensis*), Banbury Springs limpet (*Lanx* spp.), and Columbian spotted frog (*Rana luteiventris*) - and other species of concern such as redband trout (*Oncorhynchus mykiss gairdneri*) and northern leopard frog (*Rana pipiens*).

- Any treatment within riparian habitats adjacent to bull trout, Utah valvata snail, Bliss Rapids snail, Idaho springsnail, Bruneau hot springsnail, and Snake River physa snail that may likely adversely affect these species, including all instream work such as culvert or bridge repair or replacement would require additional site-specific ESA Section 7 consultation.
- Site-specific ESR project plans would use the January 2004 Version 2.1 interagency NFP consultation process and summary worksheets available on-line at www.or.blm.gov/fcp to verify that site-specific proposals would not adversely affect bull trout or proposed bull trout critical habitat. Any treatment that is likely to adversely affect bull trout or the proposed critical habitat would require site-specific ESA Section 7 conference following *A Framework to Assist in Making ESA Determinations of Effect for Individual or Grouped Action at the Bull Trout Subpopulation Watershed Scale* (USFWS 1998).
- ESR activities would be designed and implemented in a manner such that any impacts to aquatic SSS or bull trout proposed critical habitat due to disturbance or habitat modification, including decreased water quality, would be so small as to be not meaningfully measured, detected, or analyzed, or would be extremely unlikely to occur.
- Aerial seeding within or upstream of riparian habitats that contain SSS aquatic animals would be limited to seed mixtures with no added chemicals such as fertilizer.
- To re-establish or enhance existing riparian habitat for aquatic SSS species and proposed bull trout critical habitat, re-establish native riparian plant species such as sedges, rushes, cottonwood and willow by planting of cuttings or plugs.
- Fence construction would be designed and implemented in a manner such that impacts to water quality and riparian vegetation associated with livestock and/or wild horse use within or upstream of riparian habitats would be so small as to be not meaningfully measured, detected, or analyzed, or would be extremely unlikely to occur.
- Herbicide use would follow the riparian, wetland, and aquatic habitat guidelines in Table 1, below.

Table 1: Streamside, Wetland, and Riparian Habitat Herbicide Restrictions

Herbicide Application Method	Maximum Wind Speed	Riparian Area of Influence	Aquatic Level of Concern Category* for Authorized Herbicides
Aerial	5 mph	>0.5 mile from the Snake River and springs containing listed snail species[a]	Low and Moderate
Aerial	5 mph	>150 feet from outer edge of riparian areas associated with perennial water (includes both fishbearing or non-fishbearing streams) that contain or are upstream of reaches that contain aquatic SSS species[b]	Low and Moderate
Aerial	5 mph	>150 feet from outer edge of riparian areas for intermittent streams that are upstream of reaches containing SSS aquatic species[b]	Low and Moderate
All ground/broadcast spraying methods.	8 mph	>100 feet from livewater but within upland areas where ground based herbicide applications may influence riparian habitat	Low and Moderate
Wicking, dipping, painting, and injecting.	N/A	>100 feet from livewater but within upland areas where ground based herbicide applications may influence riparian habitat	Low and Moderate
No applications of Picloram would be authorized. No use of the surfactant R-900 would be authorized.	N/A	0 to 100 feet from livewater or shallow water tables	N/A
Ground/spot spraying, wicking, wiping, dipping, painting, injecting. No broadcast boom spraying. Selective spraying of target species only (e.g. spot treatment of individual plants).	8 mph	15 to 100 feet from livewater or shallow water tables or within riparian areas	Low

Table 1: Streamside, Wetland, and Riparian Habitat Herbicide Restrictions

Herbicide Application Method	Maximum Wind Speed	Riparian Area of Influence	Aquatic Level of Concern Category* for Authorized Herbicides
Backpack sprayer, hand sprayer, wicking, wiping, dipping, painting, and injecting. Selective spraying/treatment of target species only (e.g. spot treatment of individual plants).	5 mph	<15 feet from livewater or shallow water tables	Aquatic approved herbicides only. No use of surfactants would be authorized.

*Aquatic Level of Concern is a form of risk analysis used by the USFWS based on procedures developed by Environmental Protection Agency to identify a gradual "level of concern" scale, based on how close the Estimated Environmental Concentration value is to a level greater than 1/20 LC 50 risk criteria (i.e. pesticide concentration is 1/20 of the Lethal Concentration that causes mortality in 50% of the test organisms within a specific period of time).

[a]Criteria consistent with 2004 Animal and Plant Health Inspection Service Pest Control Letter of Concurrence from Snake River Fish and Wildlife Office.

[b]Criteria consistent with 2002 Biological Opinion for BLM Vale District Integrated Noxious Weed Management Program 2001-2010 from Oregon Fish and Wildlife Office.

d. RIPARIAN, WETLAND, AND AQUATIC HABITATS

Riparian and wetland habitats are those portions of a watershed required for maintaining hydrologic, geomorphic, and ecological processes that directly affect streams, stream processes, fish habitats, and where riparian, wetland, and aquatic dependent resources would receive primary emphasis.

- Limit the use of heavy equipment necessary to repair facilities (e.g. culverts and bridges) or where needed to implement rehabilitation treatments (e.g. gabion placement) in riparian, wetland, and aquatic habitats.
- Off road vehicle access would be limited to designated crossings or work areas during ESR treatments to minimize disturbance in riparian, wetland, and aquatic habitats.
- Non-target plant mortality related to ESR treatments would be monitored in riparian and wetland areas to determine what affect, if any the mortality has on riparian or wetland function.

e. SPECIAL MANAGEMENT AREAS

Areas of Critical Environmental Concern

- Areas of Critical Environmental Concern (ACEC) burned in wildland fire would be treated to protect the values for which the area was established and in conformance with specific management directions in the existing LUPs and Activity Plans.
- ESR treatments would: 1) maintain the suitability of proposed Wild and Scenic River segments for inclusion in the National Wild and Scenic River System, 2) protect and prevent irreparable damage to the important historic and cultural sites, and areas with high scenic values, and 3) protect fish and wildlife resources, or other natural systems or processes in

ACECs, Outstanding Natural Areas (ONAs), Research Natural Areas (RNAs), and the other Visual Resource Management (VRM) Class I viewsheds.

Wilderness Study Areas

- Emergency Stabilization in Wilderness Study Areas (WSAs) would be evaluated under the guidelines found in the Bureau's Interim Management Policy and Guidelines for Lands under Wilderness Review (IMP) H-8550-1, the Boise District Wilderness Interim Management Plan, and the Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook. Emergency stabilization treatments required to stabilize soils and rehabilitate vegetation in the long term would be conducted in a manner that would not impair wilderness suitability. Treatments would utilize the minimum tool and methods designed to enhance or restore wilderness resources. Impacts from the equipment used for seeding must be the least intrusive necessary to obtain a successful seeding.
- Due to the emergency nature of stabilization treatments and the short time frames for ES Plan approval, 30 day public notification of proposals within WSAs would not be feasible. Direct contact with interested wilderness groups would be implemented immediately during or after an occurrence of a wildland fire incident and as soon as it is apparent that ES treatments would be required.
- Seeding and planting proposals within WSAs would utilize native species.
- Protection fences within WSAs would be strictly temporary in nature, and removed after vegetation has reestablished. The least damaging fence construction installation methods would be used to prevent new route construction and preserve visual resources.
- New road and new route networks would not be established, or would be disguised and restored to prevent further use.
- Cross-country travel would be minimized.

f. CULTURAL RESOURCES

- The use of heavy, surface disturbing equipment would be restricted in the Silver City, DeLamar, and Guffey Butte/Black Butte historic districts.
- The Kelton Road and Goodale's Cut-off (a variant of the Oregon Trail) would be treated in accordance with the *Oregon Trail Management Plan for the Boise District* (USDI BLM 1984) where appropriate.
- A 0.25 mile wide corridor would be maintained around either side of the Union Pacific (Oregon Short Line) Railroad in the Four Rivers Field Office for protection of cultural resource values.
- Alternatives to ground disturbing seeding methods would be considered and implemented in Special Management Areas (SMAs) following guidelines for historic trails and districts and in consideration of the goal to improve land health.
- Site areas within the burn area would be flagged for avoidance by surface disturbing activities and would receive vegetative treatments, including weed controls that are the same as the surrounding burn area except for application methods.
- VRM guidelines and specifications of the Oregon National Historic Trail (NHT) and other scenic values would be protected by design specifications that would allow ESR treatments to occur seamlessly across the landscape while maintaining the historic vegetation structure, wherever feasible.

- If treatments are necessary to stabilize soils, prevent noxious and invasive weed colonization and/or rehabilitate burned areas, surface disturbance treatments within the designated viewshed of 0.25 to 0.5 mile on both sides of the Oregon NHT including the main, north, and south alternate routes would be designed by a cultural resource specialist and approved by management in consultation with the Idaho SHPO.

3. MONITORING

The treated areas would be considered recovered and available for livestock and/or wild horse grazing when the following conditions have been met. Additional individual ESR plan objectives may be developed on a site by site basis depending on individual site specific needs.

1. The majority of desired herbaceous perennial plants are producing seed.
2. The plants must have developed root systems that are extensive enough to provide soil stabilization and prevent uprooting when grazed, especially when soils are moist.
3. The Individual ESR Plan objectives have been met.

All ESR plans would include treatment monitoring in order to: 1) determine if plan objectives were met, 2) establish the need for additional treatments, 3) Determine if grazing can be resumed, and 4) document monitoring results (USGAO 2003). Monitoring and evaluation of ESR treatments would be implemented to ensure that treatments are properly implemented, effective, and maintained. Monitoring methods may be qualitative or quantitative, and would be commensurate with the level of treatment complexity and extent. Monitoring and evaluation information would provide adaptive management feedback to improve future ESR treatment performance.

The methods used to monitor the treated area may include field observations, photographic plots, and cover transects utilizing the line-point intercept and density plot methods.
Monitoring during the first post-fire growing season would consist of monitoring the success of annual vegetation control (herbicide) or establishment of first year seedlings (following a fall seeding). Chemical treatment monitoring would be primarily field observations and photographic plots of fall treatment areas to determine the level of success and/or the need for a second treatment the following spring. First year fall seedings would be monitored primarily by field observations and photographic plots to determine germination success and/or the need for a retreatment.

Monitoring during the second growing season would focus on the success of seeding treatments. A third year of seeding success monitoring may be needed if the burn area was chemically treated, or if drought or other environmental factors may have contributed to plan objectives not being met. Monitoring guidelines would follow the interagency ESR guidelines listed below.

- Monitoring and evaluation to determine the effectiveness of treatments would be funded for up to three years following control of a fire. Funding beyond the first year of monitoring requires submission of annual accomplishment report(s) on success/failure of treatments.
- Monitoring needs, designs, and protocols would be developed in the incident-specific ESR plans.
- Effectiveness monitoring would be done to determine if the treatment was effective in meeting ESR Plan objectives.
- Recovery of both seeded and unseeded areas would be monitored on a yearly basis to determine when the availability of forage is adequate to resume livestock and/or wild horse

grazing. The burned areas would be considered recovered and available for grazing when key perennial, herbaceous plants are producing seed, root systems are established to anchor seeded plant species, and objectives outlined in individual ESR plans have been met.

- A summary of acreages and locations of site-specific actions associated with ESA listed, proposed, and candidate species and/or proposed or designated critical habitat would be submitted to the USFWS by March 1 of each year.
- In the event of an Emergency Stabilization treatment failure, an amended ES Plan that identifies the treatment failures and justifies the funding extension and additional funding needs would be required.

III. AFFECTED ENVIRONMENT

The following discussions focus on those aspects of the physical, biological, and human environments most likely to be affected by the proposed NFRP. These discussions are not intended to be a comprehensive catalog of the District's resources. Resources that are unlikely to be affected by the proposed project are not described or are only briefly described in this section. Table 2 lists the critical elements that must be considered in accordance with specific executive orders.

Table 2: BLM Boise District Critical Element

Consideration of Critical Elements	N/A or Not Present	Applicable/ Present No Impact	Discussed In EA
Air Quality			X
Areas of Critical Environmental Concern			X
Cultural Resources			X
Environmental Justice (E.O. 12898)	X		
Farm Lands (prime or unique)	X		
Invasive, Non-native Species			X
Migratory Birds			X
Native American Religious Concerns			X
Threatened or Endangered Species			X
Wastes, Hazardous Substances or Solid Wastes			X
Water Quality			X
Floodplains			X
Wetland/Riparian Zones			X
Eligible Wild & Scenic Rivers			X
Wilderness			X

A. SOILS

Boise District soils are extremely diverse. This diversity is a result of parent material variability, slope, aspect, elevation, climate, and vegetative communities. The soils may be separated using three major physiographic regions: 1) Snake River Sediments, 2) Volcanic Plateaus, Hills, and Plains, and 3) Granitic Mountains and Foothills.

Snake River Sediments
Soils in these areas occur on nearly level to very steep, dissected sedimentary terraces. These soils formed in alluvium and residuum derived from sedimentary materials and mixed volcanics. They are moderately deep to very deep; well drained to excessively drained; have an aridic or aridic bordering xeric soil moisture regime; and a mesic soil temperature regime.

Volcanic Plateaus, Hills, and Plains
Soils in these areas occur on nearly level to hilly structural benches, tablelands, foothills, and mountains. The soils in the more hilly areas formed in residuum and slope alluvium derived from welded ryholitic tuffs. The soils on the structural benches and tablelands formed in alluvium and residuum derived from basalt and welded ryholitic tuff. These soils are shallow to moderately deep and well drained; have a xeric or xeric bordering aridic soil moisture regime; and a mesic or frigid soil temperature regime.

Granitic Mountains and Foothills
Soils in these areas occur on undulating to steep granitic foothills and mountains. These soils formed in residuum, colluvium, and alluvium derived mainly from intermediate intrusive rock. They are shallow to moderately deep; well drained to somewhat excessively drained; have a xeric soil moisture regime; and a mesic or frigid soil temperature regime. These soil types have low to very high erosion potential from wind and/or water depending on surface texture and slope. Soil erosion potential from wind is based on the Wind Erodibility Group. Soils rated from 1 to 4 have high wind erosion potential.

Soil erosion potential from water is based on the soil Erosion Susceptibility Factor (K) and slope. Soils with a K equal to or greater than 0.43 are classified as high water erosion potential. Soils that occur on slopes exceeding 30 percent are also classified with a high erosion potential. Other soils are rated on a combined factor of these two parameters. Erosion from water is the primary concern and occurs in the form of sheet, rill, and gully processes. These processes are most active on soils that occur in the Snake River Sediments and Granitic Mountains. Anthropomorphic accelerated erosion in these regions is predominantly related to historic and current livestock grazing, and off highway vehicle (OHV) use. The major impacts of livestock grazing have been from concentrated use, such as areas around water troughs, and trailing that is usually associated with water, salting areas, and fencelines. OHV use has resulted in trails and disturbance of hillslope soils. The most severe forms of erosion, rill, and gully formation have resulted from these actions.

B. WATER

Precipitation in the Boise District ranges from less than 8 inches along the Snake River Plain to greater than 20 inches in the Owyhee Mountain Range. The Boise District contains more than 1,200 miles of perennial streams. The major drainages include the Bruneau, Owyhee, South Fork Boise, and Payette rivers. All waters draining the Boise District eventually enter into the Snake River. Many streams begin as high gradient, high energy tributaries at elevations greater than 5,000 feet. Snowmelt runoff processes dominate stream flow hydrographs for waterways with the majority of their drainage areas higher than 5,000-foot elevation. Peak runoff generally occurs from March through May. High intensity, short duration rainstorms are common in summer and fall, coincident with the wildfire season, and often result in flash floods that are typified by high sediment loads.

The predominant water quality parameters related to the effects of fire are: 1) fine sediment deposition, 2) temperature increases due to solar heating when streamside canopy cover is removed, and 3) nutrient loading. Approximately 825 stream miles in the Boise District are listed on the State of Idaho's 303(d) list for sediment impairment; 185 stream miles are listed for temperature impairment; and 120 miles are listed for nutrient impairment (IDEQ 1998). These waters do not fully support their beneficial uses.

Idaho Department of Environmental Quality (IDEQ) has developed Total Maximum Daily Load (TMDL) allocations and TMDL Implementation Plans for most 303(d) listed waters in the District. The TMDL Implementation Plans prescribe Best Management Practices (BMPs) to address the water quality concerns (IDEQ 2003a; 2003b; 2000). Fire effects are not factored into the TMDL Implementation Plans as they are beyond the scope and intended application.

C. FLOODPLAINS/WETLANDS/RIPARIAN ZONES

The Boise District contains approximately 1,200 miles of stream associated riparian areas. Riparian assessments show that less than 60 percent of these areas are functioning properly. A riparian area is considered to be functioning properly when adequate vegetation, landform, or large woody debris are present to dissipate streamflow energy, filter sediment, capture bedload, build floodplains, detain floodwaters, recharge groundwater, and provide good quality fish and wildlife habitat. The District also contains approximately 1,500 individual seep or spring associated wetlands.

D. AIR

Under the Clean Air Act (as amended 1990) BLM-administered lands were given Class II air quality classification which allows for moderate deterioration associated with moderate, well-controlled industrial and population growth. Ada County and the area surrounding the Boise metropolitan area is a 10 micron particulate matter (PM10) and carbon monoxide (CO) maintenance area.

Strong winds may carry large amounts of dust and ash into the air after a fire occurs. On occasion, the dust and ash can cause reduced visibility, and drift into roads, ditches, and other low spots where it can hamper traffic and contribute to accidents. Water quality may also be affected. If the dust is blown into nearby communities, numerous complaints may occur.

E. VEGETATION

Appropriate monitoring of the potential effects of ESR treatments on native vegetation and species inventories would be conducted within an ESR project area. Where SSS plants are encountered, the area would be flagged and avoided, if at all practicable. Otherwise, potential impacts to SSS plants would be minimized by implementation of specific design features (Chapter 2) and BMPs.

1. GENERAL VEGETATION

The following common vegetation cover types in Table 3 are the habitats where wildland fire typically occurs, and ESR treatments are typically implemented on the Boise District.

Table 3: Boise District Vegetation Covertypes

Cover Type	Description
Low-Elevation Shrub-Steppe	Wyoming big sagebrush, basin big sagebrush, low sagebrush, bitterbrush, gray and green rabbitbrush with native grass and forb understory.
Perennial Grass	Seeded areas (native and exotic) and native grasslands (e.g. bluebunch wheatgrass, needlegrass, Idaho fescue). Perennial, native grassland is a seral stage of low and mid-elevation shrub-steppe.
Annual Grass	Primarily cheatgrass and medusahead wildrye. This is a dysfunctional, alternate stable state covertype that results from the disturbance of low and mid-elevation shrub steppe.
Mid-Elevation Shrub-Steppe	Mountain big sagebrush, low sagebrush, black sagebrush, and bitterbrush with native grass and forb understory.
Juniper	Western juniper and limber pine. Western juniper encroachment in sagebrush-steppe and riparian habitats.
Dry Conifer	Douglas-fir, limber pine, and ponderosa pine.
Aspen/Conifer	Includes healthy stands of aspen and stands of aspen as well as invading conifer.
Mountain Shrub	Serviceberry, ceanothus, snowberry, mountain mahogany, big-tooth maple, chokecherry, and antelope bitterbrush with a native grass and forb understory.
Wet/Cold Conifer	Lodgepole pine, sub-alpine fire, and Engelmann spruce.
Riparian Areas	Streamside and wetland areas of cottonwood and willow as well as graminoid (grass/sedge/rush) communities.
Salt Desert Shrub	*Atriplex* species (four-wing, shadscale), spiny hopsage, winterfat, and greasewood with a native grass, forb, and biological crust understory.

The 11 vegetation covertypes in Table 3 were aggregated from 51 vegetation covertypes originally classified by the GAP analysis program for southern Idaho (Scott *et al.* 1993; 2002). The GAP program is used to assess the conservation status of native vertebrate species, habitat loss, and natural land vegetation covertypes at a regional level in order to meet the needs of natural resources management agencies like the BLM. GAP uses Landsat Thematic Mapper satellite images to generate the digital maps from which land cover patterns are delineated. The minimum mapping unit is 30 square meters which is a landscape level resolution sufficient for regional-level planning. However, this resolution might not accurately represent actual Boise District acres on-the-ground.

Low-Elevation Shrub-Steppe

The Low-Elevation Shrub-Steppe covertype is dominated by Wyoming big sagebrush (*Artemisia tridentata wyomingensis*) and basin big sagebrush (*Artemisia tridentata tridentata*). This covertype is found in areas with about 8 to12 inches of average annual precipitation and warm soils. Low-Elevation Shrub-Steppe historically had long fire return intervals (60-100+ years). Much of the Low-Elevation Shrub-Steppe is comprised of degraded rangelands that have been invaded by annual, exotic vegetation. Basin big sagebrush occurs on deep and well-drained sandy soils. Wyoming big sagebrush occurs on finer-textured, shallow soils with limited water infiltration. Gray rabbitbrush (*Chrysothamnus nauseosus*) and green rabbitbrush (*Chrysothamnus viscidiflorus*) re-sprout

following disturbance, and may be a co-dominant in sagebrush communities that have been influenced by fire.

Understory vegetation associated with Low-Elevation Shrub-Steppe is dominated by perennial grasses and a variety of annual and perennial forbs. Dominant grasses include bluebunch wheatgrass *(Pseudoroegneria spicata)*, western wheatgrass (*Pascopyrum smithii*), thickspike wheatgrass (*Elymus macrourus*), Thurber's needlegrass (*Achnatherum thurberianum*), Sandberg bluegrass (*Poa secunda*), bottlebrush squirreltail (*Elymus elymoides*), needle-and-thread grass (*Hesperostipa comata*), Indian ricegrass (*Achnatherum hymenoides*). Common forbs include long-leaf phlox (*Phlox longifolia*), Hood's phlox (*Phlox hoodii*), Hooker's balsamroot (*Balsamorhiza hookeri*), taper-tip hawksbeard (*Crepis acuminata*), fern-leaved desert-parsley (*Lomatium dissectum*), and woolly-pod milkvetch (*Astragalus purshii*). Low-Elevation Shrub-Steppe communities in good condition may support biological soil crusts in the interspaces. The composition of biological crusts is dependent on soil texture and chemistry, but is usually dominated by lichens, mosses, and cyanobacteria.

Perennial Grass

Historically, native Perennial Grass covertype formed part of the seral mosaic of the sagebrush-steppe, although it is unclear how widespread they were across the landscape. Perennial Grass is considered an early to intermediate seral stage, and is comprised of native sites with Idaho fescue (*Festuca idahoensis)*, bluebunch wheatgrass, western wheatgrass, thickspike wheatgrass, Thurber's needlegrass, Sandberg bluegrass, needle-and-thread grass, Great Basin wildrye (*Leymus cinereus*), and Indian ricegrass, as well as seedings of exotic and native perennial grass cultivars such as crested wheatgrass, Siberian wheatgrass (*Agropyron fragile*), Snake River wheatgrass (*Elymus wawawaiensis*), bluebunch wheatgrass, thickspike wheatgrass, and Great Basin wildrye. Perennial grasslands would eventually develop into diverse sagebrush-steppe habitat if undisturbed for 20 to 70 years, without further disturbance from wildland fires. Biological soil crusts with compositions similar to those found in low and mid-elevation shrub-steppe can occur in good condition perennial grasslands, depending on time since fire and seeding disturbance (Hilty *et al*. 2004).

Perennial grasslands dominated by crested wheatgrass or other non-native cultivars are stable communities that do not trend toward recovery to sagebrush-steppe habitat as quickly as native perennial grasslands. Crested wheatgrass has a loose crown and burns quickly, so is less susceptible to fire damage from heat transfer to the roots than other bunchgrasses. It is moderately flammable, produces a moderate amount of litter, is competitive, has an extensive range, and is a good re-sprouter. A mature stand of crested wheatgrass can help control annual grassland fires by acting as a fuel break, particularly in sagebrush-steppe habitats (Monsen 1994). Sagebrush re-establishment in crested wheatgrass stands is apparent in portions of the Boise District. On more suitable sites and in higher precipitation zones, sagebrush will typically reclaim exotic seedings in 20 or 30 years.

Annual Grass

The Annual Grass covertype was not part of the District's historical vegetation. Cheatgrass and medusahead wildrye (*Taeniatherum caput-medusae*) form a dysfunctional, stable state covertype in highly disturbed sagebrush-steppe (Laycock 1991). Once annual grasslands and their associated fire regime have become established, it is extremely difficult to regain a perennial dominated community.

The presence of cheatgrass and medusahead wildrye extends the time during which the community is susceptible to wildland fire ignitions because these species ripen earlier in the growing season than most native perennials. Both species are winter annuals that can germinate between autumn and spring when temperature and soil moisture conditions are suitable. Native grasses are dormant through winter, and germinate and grow later in the spring. This difference in phenology gives the exotic annuals a competitive edge over the native perennials.

The criteria for establishing when exotic annual grasses become an invasive or fire concern are not readily assigned. The BLM estimates about five percent cover as an invasive concern, and 15 to 20 percent as a fire/fuels concern (both percentages are relative to associated species). As previously noted, degraded sites are most susceptible to annual grass invasion after disturbance, and an abundance of exotic annual grasses in the understory enhances the likelihood of fire spread and conversion of sagebrush-steppe to annual grassland.

Mid-Elevation Shrub-Steppe

The Mid-Elevation Shrub-Steppe covertype occurs from about 5000 to 7500-foot elevation in precipitation zones that range from 12 to 20 inches annually. Mid-Elevation Shrub-Steppe occurs on cooler soils, and often has more intact native communities than the low elevation shrub type. Dominant shrubs are mountain big sagebrush (*Artemisia tridentata vaseyana*), gray rabbitbrush, green rabbitbrush, low sagebrush (*Artemisia arbuscula*), black sagebrush (*Artemisia nova*), and antelope bitterbrush (*Purshia tridentata*). Early low sagebrush (*Artemisia longiloba*) and silver sagebrush (*Artemisia cana*) dominate minor communities.

Mid-Elevation Shrub-Steppe is less vulnerable to conversion to annual grasslands than Low-Elevation Shrub-Steppe, however, exotic annual grasses can invade and dominate these communities, particularly drier/warmer and/or degraded sites. Juniper has invaded some mid-elevation shrub communities in the Owyhee Field Office as a result of fire suppression.

Perennial grasses such as Idaho fescue, bluebunch wheatgrass, prairie junegrass (*Koelaria cristata*), and Sandberg bluegrass dominate the understory of Mid-Elevation Shrub-Steppe. Perennial forbs are also important understory components of this type and may include arrowleaf balsamroot (*Balsamorhiza sagittata*), Indian paintbrush (*Castilleja* spp.), owl-clover (*Orthocarpus* spp.), beardtongue (*Penstemon* spp.), and buckwheat (*Eriogonum* spp.).

Biological soil crusts may be present in Mid-Elevation Shrub-Steppe on drier sites with a lower density of understory vegetation. Low sagebrush, black sagebrush, and early low sagebrush communities often have well-developed biological crusts that occupy the soil between the rocks and tends to be abundant on sites supporting these shrubs. These crusts tend to be dominated by a diversity of lichens and mosses. Areas with juniper encroachment often have a mat of twisted moss (*Tortula ruralis*) where there is no competition from herbaceous understory vegetation. Unlike many biological crust components, this moss is tolerant of shading and moisture from the juniper overstory.

Juniper Woodlands
The Juniper Woodlands covertype includes stands of western juniper (*Juniperus occidentalis*), as well as areas where juniper has encroached into riparian, mid-elevation shrub-steppe, and mountain shrub vegetation types. Western juniper stands occur in fire-safe habitats such as shallow soil, rocky areas and lava flows. It provides important habitat for a diversity of non-game birds, bats, deer, elk, and other wildlife.

Junipers primarily occur between 4,500 to 7,000-foot elevation on a wide variety of soils and in 10 to 15 inch precipitation zones. Western juniper is common in the southwestern portion of the Owyhee Field Office, and is primarily responsible for encroachment into sagebrush-steppe, mountain shrub, riparian, and aspen communities.

Biological soil crusts may be present in juniper depending on soil characteristic, precipitation, and density of the herbaceous understory. These crusts are dominated by lichens, mosses, and cyanobacteria. Areas with juniper encroachment often have a mat of twisted moss (*Tortula ruralis*) where there is no competition from herbaceous understory vegetation. This moss is tolerant of shading and moisture from the juniper overstory, unlike many other biological crust components.

Dry Conifer
The Dry Conifer covertype includes Douglas-fir (*Pseudotsuga menziesii*), lodgepole pine (*Pinus contorta*), and ponderosa pine (*Pinus ponderosa* var. *scopulorum*). All three of these conifer types provide valuable habitat for deer and elk, as well as numerous small mammals and breeding birds. Douglas-fir occurs between 6,000 to 8,000-foot elevations on variable soils in 20 to 30 inch precipitation zones. Douglas-fir stands often occur between ponderosa pine and spruce-fir communities, and as isolated patches on cool, north slopes.

Ponderosa pine occurs between about 5,000 to 7,600-foot elevation on a variety of soils in 15 to 30 inch precipitation zones. It occurs on warmer, drier sites compared to Douglas-fir. Interior ponderosa pine evolved under a regime of frequent surface fires and infrequent mixed severity and stand replacement fires, however, ecological changes that have occurred over the last century (e.g. logging overstory pines, climate change, and fire suppression) have created dense understory, closed canopy stands which provide high levels of ladder fuels. In the past, severe, stand replacing fires were an infrequent occurrence in interior ponderosa pine forests, however, they have now become more common (Arno and Harrington 1995).

Lodgepole pine is a pioneer species that grows in a wide range of ecological conditions from low to high elevations. High-intensity fire generally exposes mineral soil, opens serotinous cones, and releases seed onto favorable seedbeds which results in abundant and rapid seedling establishment (USDA Forest Service 2004).

Aspen/Conifer
The Aspen/Conifer covertype occurs between 5,500 to 8,000-foot elevations on a variety of soils, but is best supported in deep, moist, loamy soils in a range of precipitation zones (16 to 40 inches average annually). Aspens occur in pure stands or in association with various conifers such as Engelmann spruce, lodgepole pine, ponderosa pine, and Douglas-fir. Aspen also occur as inclusions in the mid-elevation shrub-steppe and mountain shrub vegetation types. Aspen communities can be

a climax stage or a seral stage to climax conifer communities. Although conifer invasion is a natural pattern in many aspen stands, long-term fire suppression has resulted in an increased representation and dominance by conifers in aspen stands, reducing the extent of aspen-dominated stands and increasing fire hazard.

Mountain Shrub

The Mountain Shrub covertype occurs as a transition community between sagebrush-steppe and conifer types. Mountain Shrub is found at moderately high elevations, often in a mosaic with Douglas-fir and aspen communities, on sites that are more mesic than sagebrush-steppe (14 to 16 inch precipitation zones) but drier than aspen (18 to 24 inch precipitation zones). Mountain shrub is usually found on north and east slopes that tend to be cooler and moister than south and west aspects. Mountain Shrub is a highly diverse type containing chokecherry (*Prunus virginiana*), serviceberry (*Amelanchier alnifolia*), currant (*Ribes* spp.), mountain snowberry (*Symphoricarpos oreophilus*), and elderberry (*Sambucus racemosa*), often intermingled with mountain big sagebrush. Mountain mahogany (*Cercocarpus ledifolius*) occurs on rocky, often fire-resistant inclusions. The Mountain Shrub covertype, with its high productivity and diverse herbaceous understory, provides important ecosystem biodiversity, wildlife habitat, and protective ground cover.

Mountain Shrub communities generally recover rapidly following wildland fire and are considered to be fire tolerant. All mountain shrubs re-sprout after fire except for mountain big sagebrush and mountain mahogany.

Sites dominated by antelope bitterbrush occur in the Low-elevation Shrub-steppe zone from 3,500 to 5,500-foot elevation. Bitterbrush is often intermingled with big sagebrush covertypes, and occurs in open stands with an understory of bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass, and needle-and-thread grass (*Hesperostipa comata comata*). Antelope bitterbrush is very susceptible to fire kill. It is considered a weak sprouter and is often killed by summer or fall fires. High fuel consumption increases mortality and therefore favors seedling establishment.

Wet/Cold Conifer

The Wet/Cold Conifer covertype occurs at high elevations in the colder, more humid environment above the Douglas-fir community. Wet/Cold Conifer is mainly dominated by lodgepole pine. Other localized dominants include Engelmann spruce (*Picea engelmannii*) and sub-alpine fir (*Abies lasiocarpa*). At lower and mid-elevation sites, subalpine fir occupies areas that are too wet, too dry, or too low in nutrients for Engelmann spruce. At higher elevations it is not uncommon to find pure stands of Engelmann spruce. Spruce-fir communities occur above 7,000-foot elevation on shallow soils in 30 to 40 inch precipitation zones. Lodgepole pine communities occur above 6,000 feet on a variety of soils in 15 to 30 inch precipitation zones. Lodgepole pine is often regarded as an early seral stage for spruce-fir and Douglas-fir communities. The Wet/Cold Conifer type is uncommon in the Burley and Shoshone field offices, and is limited to small microsites.

Wetland and Riparian

The Riparian and Wetland covertypes are areas of land directly influenced by permanent water or seasonably high water tables. These areas have vegetation, soil, and hydrologic features which reflect moist or saturated conditions. The dominant vegetation covertypes in these communities are riparian deciduous trees, riverine riparian, riparian herbaceous, riparian shrubs, wet meadow, deep

marsh, and shallow marsh. Riparian areas and wetlands are of disproportional importance to wildlife, water quality, aquatic habitat, and watershed function, and have always been naturally limited in the arid and semi-arid West. Riparian areas generally can be identified by typical riparian vegetation such as cottonwoods (*Populus* spp.), willows (*Salix* spp.), sedges (*Carex* spp.), and rushes (*Juncus* spp.). Riparian areas and wetlands constitute only a fraction of the total land area, but they are the most productive in terms of plant and animal species. Riparian areas and wetlands can be found scattered throughout the District and occur at all elevations. Although riparian areas and wetlands can act as fuel breaks, they do not necessarily act as fire barriers. Studies suggest that historical fires regularly affected riparian areas (Olson 2000).

Salt Desert Shrub

The Salt Desert Shrub covertype is dominated by halophytes and succulent shrubs that are saline tolerant, including: four-wing saltbush (*Atriplex canescens*), shadscale (*A. confertifolia*), winterfat (*Krascheninnikovia lanata*), budsage (*Artemisia spinescens*), and greasewood (*Sarcobatus vermiculatus*). Common grasses include inland saltgrass (*Distichlis stricta*), alkali sacaton (*Sporobolus airoides*), Indian rice-grass (*Oryzopsis hymenoides*), and bottlebrush squirreltail (*Elymus elymoides*). Greasewood favors deeper soils with an accessible water table, as well as high pH and alkaline content. Biological soil crusts are common in good condition Salt Desert Shrub communities due to sparse vegetative cover, large interspaces, and fine-textured soils with high calcium carbonate or saline content at the surface. These crusts are primarily dominated by lichens and cyanobacteria.

Productivity in this type is relatively low, understory vegetation is naturally sparse, and fuels are generally light. The natural fire rotation in the Salt Desert Shrub type is very long, 100 years or more. At present, cheatgrass has invaded some Salt Desert Shrub but has not result in large scale changes in the fire ecology of this vegetation type.

Invasive Non-Native Plants

In addition to cheatgrass and medusahead wildrye invasions, vegetation resources are also threatened by a variety of noxious weeds listed by the State of Idaho. Species such as diffuse knapweed (*Centaurea diffusa*), Russian knapweed (*Acroptilon repens*), spotted knapweed (*Centaurea biebersteinii)*, Canada thistle (*Cirsium arvense*), leafy spurge (*Euphorbia esula*), and rush skeletonweed (*Chondrilla juncea*) have exhibited a tendency to increase and expand following wildland fires. This is especially true in disturbed or degraded areas such as roads, trails, livestock developments, and annual vegetation types.

Noxious weeds that were previously unknown from a site are often discovered following a wildfire. This may be due to the fact that established noxious weeds re-grow quickly and are more easily seen after a fire removes the vegetation around them. The removal of other vegetation effectively reduces competition and allows noxious weeds to become established in areas where they were not previously found.

2. SPECIAL STATUS PLANTS

The SSS plants are the ESA listed, proposed and candidate species, and BLM sensitive species. Listed and proposed species may also have ESA designated or proposed critical habitat. The policy of the BLM is to conserve ESA listed, proposed, and candidate species, including their habitats, and to mitigate adverse impacts to sensitive species.

Idaho BLM and the Idaho Department of Fish and Game (IDFG) have jointly identified and published a list of all Idaho Special Status Species (SSS). The term SSS includes all ESA listed, proposed, and candidate species as well as BLM sensitive species that were identified in coordination with IDFG. The SSS list and MOU are contained within Instruction Memorandum (IM) ID-2003-057 and available at the Boise District, Idaho State Office of the BLM (ISO) and BLM website.

There are no ESA listed, proposed, or candidate plants in the project area, however, slickspot peppergrass has a Candidate Conservation Agreement in place which outlines BLM management prescriptions (GOSC *et. al*. 2003). There are also 79 BLM sensitive vascular plant species and three non-vascular sensitive plant species that occur, or are expected to occur, in the project area.

a. SLICKSPOT PEPPERGRASS

Slickspot peppergrass, an annual or sometimes biennial forb is a BLM sensitive species managed by the Candidate Conservation Agreement. Flowering occurs May through June. This Idaho endemic occurs only in semi-arid sagebrush-steppe habitats between 2,200 and 5,400-foot elevation in southwestern Idaho, including the Snake River Plain, Owyhee Plateau, and adjacent foothills in southwestern Idaho (Ada, Canyon, Elmore, Gem, Owyhee and Payette counties) (USFWS 2003a; GOSC *et al.* 2003). Native species that co-occur with slickspot peppergrass include Wyoming big sagebrush, big sagebrush, bluebunch wheatgrass, Thurber's needlegrass, Sandberg bluegrass, and bottlebrush squirreltail. Non-native species that are frequently associated with slickspot peppergrass include cheatgrass, tumble mustard (*Sisymbrium altissimum*), bur buttercup (*Ranunculus* spp.), clasping pepperweed (*Lepidium perfoliatum*), and introduced, perennial grasses. Threats to this species include degradation of slickspot habitat and surrounding areas, trampling from livestock, and weed invasion.

Sixty-five percent of the known extant occurrences of slickspot peppergrass are on land managed by the BLM or the U.S. Air Force (USFWS 2003a). The plant typically grows in small, sparsely vegetated "slickspots" (i.e. mini-playas or nitric sites) within larger sagebrush habitat. The slickspots may be as small as a square foot, or as large as half a basketball court, and usually are surrounded by big sagebrush, native bunchgrasses, wildflowers, mosses, and lichens. These microsites are often lower than surrounding areas, have impermeable soil layers, and retain water longer than the surrounding soil. Population modeling indicates the importance of years with above average precipitation in restocking the slickspot peppergrass seedbank.

b. OTHER SENSITIVE PLANTS

Sensitive plants occur in a wide diversity of habitats and soils. The majority of BLM sensitive plant species in the project area occur in big sagebrush habitat. The Type 2 species that are rangewide/globally imperiled and commonly occur in the Boise District are discussed below.

Aase's Onion

Aase's onion (*Allium aasseae*) is a perennial forb that occurs on coarse, sandy soil; most commonly on steep southerly and westerly exposures. It is typically found on or near ridgetops in sagebrush-grass communities, often with pineland threeawn (*Aristida stricta*) and bitterbrush species, from approximately 2,600 to 4,900-foot elevations. Aase's onion is endemic to Idaho in the lower

foothills from Boise to Weiser in Ada, Boise, Gem, Payette, and Washington counties. Threats include urbanization, sand mining, off-road vehicles, invasion of annual weedy grasses, and other exotics. Flowering occurs in late February through April.

Packard's Milkvetch
Packard's milkvetch (*Astragalus cusickii* var. *packardiae*) is a perennial forb that occurs on sparsely vegetated, light colored soils, usually with Wyoming big sagebrush, at approximately 2,800-foot elevation. It is endemic to tributaries of Big and Little Willow creeks in Payette County, Idaho. Flowering occurs from May through July.

Mulford's Milkvetch
Mulford's milkvetch (*Astragalus mulfordiae*) is a perennial forb that occurs on typically south-facing, sandy slopes and ridges with needle-and-thread grass, Indian ricegrass, and bitterbrush species from approximately 2,100 to 2,800-foot elevations. It is found in the western part of the Snake River Plain in Ada, Owyhee, Payette, and Washington counties, Idaho. Threats include urbanization and grazing. It appears to be destroyed by grazing and is now found only in pristine sites. Flowering occurs in May through June.

Palmer Evening-Primrose
Palmer evening-primrose (*Camissonia palmeri*) is a low growing, tap-rooted annual or winter-annual. It occurs on dry, open, sandy places in the desert from the creosote bush (*Larrea tridentata*) zone up into the sagebrush-juniper zone. Typically it is found in Malheur County, Oregon. Flowering occurs in March through June.

Parry's Sedge
Parry's sedge (*Carex parryana* Dewey var. *brevisquama*) occurs on dry gumbo or gravelly soils in riparian/wetland areas. Also called "Indian Valley" sedge, it is endemic to the Indian Valley area of Adams County, Idaho and the Four Rivers Field Office. Flowering occurs from June through July.

Cusick's Pincushion
Cusick's pincushion (*Chaenactis cusickii*) is an annual forb that occurs in open places on volcanic ash soils, especially the Succor Creek Foundation, in the salt desert shrub and Wyoming big sagebrush/basin big sagebrush vegetation zones at elevations of 2,400 to 4,300 feet. It is endemic to Canyon and Owyhee counties, Idaho and Malheur County, Oregon. Threats include off-road vehicles and mining substrate to line irrigation ditches. Flowering occurs from April through June.

Idaho Hawksbeard
Idaho hawksbeard (*Crepis bakeri idahoensis*) is a perennial forb that occurs in dry, open places in the foothills and at moderate elevations in the mountains. It is known only from Nez Perce County, Idaho. Flowering takes place in May.

Packard's Buckwheat
Packard's buckwheat (*Eriogonum shockleyi* var. *packardiae*) is a perennial forb that occurs on oolitic limestone outcrops, sandy loess over basalt, and cobbled desert pavement over deep sandy-loam. Associated vegetation is sparse, but may include common horsebrush (*Tetradymia canescens*), winterfat, shadscale, Indian ricegrass, needle-and-thread, and langloisia (*Langloisia*

spp.). This species is endemic to southwest Idaho along the Snake River and a few tributaries in Ada and Owyhee counties. Flowering occurs from May through June.

Packard's Desert Parsley
Packard's desert parsley (*Lomatium packardiae*) is a perennial forb that occurs on volcanic ash, rhyolite, and rocky, clay soils in the sagebrush zone from approximately 3,000 to 4,300-foot elevations. It is found in Canyon and Owyhee counties, Idaho; Malheur and Lake counties, Oregon; and Washoe and Humboldt counties, Nevada. Flowering occurs from April through June.

Salmonflower Biscuitroot
Salmonflower biscuitroot *(Lomatium salmoniflorum)* is a perennial forb that occurs on steep, basalt cliff faces, ledges, and stabilized talus. It occurs on all aspects, but the community is always open with low cover of vascular plants, although north-facing populations usually have a high cover of mosses. Zonal vegetation of the surrounding canyons ranges from grassland, shrubland, and occasionally ponderosa pine woodlands in the lower canyon to grasslands, woodlands, and even coniferous forest dominated by western red cedar in the upper canyon. Populations are known from two isolated areas of the Clearwater River Subbasin, Idaho. Most of the habitat in Idaho occurs on private land, and the populations need to be better delineated. Only three populations occur on federally managed public lands in Idaho; two of them are managed by the BLM. Threats include road rights-of-way. Flowering occurs from March through April.

Smooth Stickleaf
Smooth stickleaf (*Mentzelia mollis*) is an annual forb that occurs on brown, green, or gray volcanic ash derived from the Succor Creek Formation. It is associated with Wyoming big sagebrush, yellow phacelia (*Phacelia lutea),* MacBride cleomella *(Cleomella macbrideana)*, and Cusick's pincushion at approximately 3,600 to 4,600-foot elevations. Smooth stickleaf is found in Owyhee County, Idaho and Malheur County, Oregon. Flowering occurs from May through June.

Stalk-Leaved Monkey-Flower
Stalk-leaved monkey-flower (*Mimulus patulus*) is an annual forb generally growing on damp rock walls. It is known from the Four Rivers Field Office of the Boise District. Flowering occurs in late June to early July.

Least Phacelia
Least phacelia (*Phacelia minutissima*) is a small annual forb that occurs on vernally saturated/summer drying, sparsely vegetated, partially shaded to fully exposed areas of bare soil. It is found in mud banks in meadows; at perimeters of California false hellebore (*Veratrum californicum)*, mule ears (*Wyethia amplexicaulis)*, and/or aspen stands; in sagebrush swales; along streambed seasonal highwater lines; or around springs in flat to gently sloping areas. Least phacelia is found at elevations of approximately 5,900 to 6,900 feet. Threats include mineral exploration and development, livestock trampling, water developments and diversions, and competition with invasive weeds. Flowering occurs in April through July.

Malheur Princesplume
Malheur princesplume (*Stanleya confertiflora*) is an annual or biennial forb that occurs on dry plains on somewhat sparsely vegetated, clay soils at elevations of approximately 2,400 to 5,000 feet.

Found in Gooding, Owyhee, and Washington counties, Idaho and Harney and Malheur counties, Oregon. Flowering occurs from April through June.

Woven-Spore Lichen
Woven-spore lichen (*Texosporium sacti-jacobi*) occurs on well decomposed humus and flat or north-facing slopes on especially old clumps of Sandberg bluegrass in Wyoming big sagebrush/Thurber's needlegrass-bluebunch wheatgrass, at elevations of approximately 2,900 to 3,300 feet. It is found in Ada and Elmore counties, Idaho; Los Angeles, Santa Barbara, San Diego, and San Benito counties, California; Benton and Klickitat counties, Washington; and Jefferson and Wasco counties, Oregon. Fertile year-round.

Douglas' Clover
Douglas' clover (*Trifolium Douglasii*) is a perennial forb typically found in open ponderosa pine and Douglas-fir forests, in moist meadows, and along streams where moisture is abundant in spring and early summer. These sites are often very xeric (dry) late in the season. The historic range for this taxon was from Spokane County, Washington to Baker County, Oregon, and east to adjacent Idaho where it is currently known from Craig Mountain, Joseph Plains, and the Palouse Ranger District of the Clearwater National Forest. Threats include conversion to agricultural uses, livestock grazing, and invasion of exotic grass species.

Owyhee Clover
Owyhee clover (*Trifolium owyheense*) is a dwarf, xerophytic perennial forb which occurs on barren slopes, diatomaceous or yellow-green ash, and tuff soils in Wyoming big sagebrush-grasslands at approximate elevations of 4,300 to 5,200 feet. In Idaho, Owyhee clover is known only from the Succor Creek area. Flowering occurs from May through June. Threats include removal of required substrate for road construction material and off-road vehicles.

Plumed Clover
Plumed clover (*Trifolium plumosum)* is a perennial forb that inhabits prairie grasslands and meadows with bluebunch wheatgrass, Idaho fescue, and ponderosa pine at elevations of approximately 3,300 to 5,900 feet. Plumed clover is a regional endemic that is found in northeast Oregon, southeast Washington, and west-central Idaho. Threats include late spring fires and livestock grazing. Flowering occurs in June through July.

F. TERRESTRIAL WILDLIFE

1. GENERAL TERRESTRIAL WILDLIFE

a. PRONGHORN ANTELOPE

The Bruneau Planning Area of the Owyhee Field Office has the largest area of pronghorn antelope habitat in southwestern Idaho. There are also resident and overwintering populations of pronghorn antelope in other parts of the Owyhee, Four Rivers, and Jarbidge field offices.

Pronghorn antelope preferentially select forbs in the spring, summer, and fall (USDA Forest Service 2003). Pronghorn select the most succulent, high-protein browse or grasses available when forbs are scarce. In summer, pronghorn supplement their forb diet with browse and green grasses. Spring is the only time of year when grasses are heavily grazed, but grasses are also utilized during other

periods of green-up. The high protein content of early spring grasses may be particularly beneficial at a time when other forage is of low quality.

Salt desert shrubs, sagebrush, and other shrubs provide valuable overwintering habitat for pronghorn antelope (USDA Forest Service 2003). In winter, shrubs are high in protein relative to other forage and make up the majority of the pronghorn diet. Important winter browse for pronghorn in the Great Basin includes winterfat, *Brickellia* spp., sagebrush, rabbitbrush, and bitterbrush species. Pronghorn seek windswept areas and graze lichens when vegetation is mostly covered with snow.

b. MULE DEER AND ELK

Mule deer and elk occur in a wide variety of habitats throughout the Boise District, including all the major upland covertypes (USDI BLM 2004). Spring, summer, and fall habitat occurs at mid-to-higher elevations where deer forage on a variety of grasses, forbs, and some shrubs throughout the spring and early summer. Mule deer and elk gradually shift to a diet that is progressively higher in shrubs beginning in mid-to-late summer as herbaceous vegetation cures and becomes less palatable. Elk tend to consume a diet higher in grasses year-long, but also begin to consume more woody vegetation in the late summer and fall.

There is crucial mule deer and elk overwintering habitat in all Boise District field offices. The overwintering habitat generally occurs along the lower foothills and river breaks. Antelope bitterbrush, curl-leaf mountain mahogany, Saskatoon serviceberry (*Amelanchier alnifolia*), sagebrush, and other shrub species provide important forage and cover. Annual grasses and other early maturing grasses also provide important late winter forage.

c. MIGRATORY BIRDS

A diverse number of neotropical birds occupy all habitat types on a seasonal basis. Many of these species are on the BLM and IDFG SSS list. The Type 5 Watch list includes species that are not considered Idaho BLM sensitive species but current populations or habitat information suggests that these species may warrant sensitive species status in the future.

There is some short-grass habitat occupied by long-billed curlew in the Four Rivers Field Office that is designated as an ACEC for this species. Curlew nesting habitat also occurs in parts of the Owyhee and Jarbidge field offices. At lower elevations, these habitats generally consist of Wyoming big sagebrush and salt desert shrub habitats that have burned and are now dominated by invasive annual grasses, or seeded to crested wheatgrass. Curlews are also occasionally observed nesting at mid-elevations in recent burns, low sagebrush, and meadow complexes. Habitat for this species has actually increased over the last several decades along with the increased size and frequency of fires that has resulted in conversion of large areas of shrub-steppe to grasslands.

d. SAGEBRUSH OBLIGATE BIRDS

In addition to pygmy rabbits, Columbian sharp-tailed grouse, and greater sage-grouse (addressed in Section III, Special Status Wildlife), other sagebrush obligate species include sage sparrows (*Amphispiza belli)* and Brewer's sparrows *(Spizella breweri)* both Type 3 regional/state imperiled species; a diversity of other neotropical migrants; and other species including ground-nesters. The Wyoming big and basin big sagebrush covertype provides important habitat for these species.

e. OTHER TERRESTRIAL WILDLIFE

A large number of other species including a variety of mammalian predators; small mammals including bats, shrews, rodents, rabbits, and hares; waterfowl; non-native game birds including California quail (*Callipepla californica*), chukar (*Alectoris chukar*), gray partridge (*Perdix perdix*), and ringneck pheasant (*Phasianus colchicus*); and a variety of reptiles and amphibians also occur throughout the Boise District. A number of these are on the BLM and IDFG SSS list. Every vegetation community type within the District provides important year-long or seasonal habitat for some combination of these animals.

2. SPECIAL STATUS TERRESTRIAL WILDLIFE

BLM SSS are the ESA listed, proposed and candidate species, and BLM sensitive species. Listed and proposed species may also have ESA designated or proposed critical habitat. The policy of the BLM is to conserve ESA listed, candidate, and proposed threatened and endangered species and their habitats, and to mitigate adverse impacts to SSS. The ESA listed and candidate species are listed by Boise District field office in Table 4. Status designations include: experimental/non-essential (XN), endangered (E), threatened (T), and candidate (C). There are no species proposed for federal listing on the District.

Table 4: ESA Listed and Candidate Species

ESA Listed and Candidate Species		ESA Status	Field Offices			
Scientific Name	**Common Name**		**FRFO**	**OFO**	**NCA**	**JFO**
Canis lupus	Gray Wolf	XN	X			
Spermophilus brunneus brunneus	Northern Idaho Ground Squirrel	T	X			
Spermophilus brunneus endemicus	Southern Idaho Ground Squirrel	C	X			
Lynx canadensis	Canada Lynx	T	X			
Haliaeetus leucocephalus	Bald Eagle	T	X	X	X	X
Coccyzus americanus	Yellow-Billed Cuckoo	C	X	X	X	X
Rana luteiventris (Great Basin population only)	Columbian Spotted Frog	C		X		X
Salvelinus confluentus	Bull Trout	T	X			X
Valvata utahensis	Utah Valvata Snail	E				X
Taylorconcha serpenticola	Bliss Rapids Snail	T	X			X
Pyrgulopsis idahoensis	Idaho Springsnail	E	X	X	X	X
Physa natricina	Snake River Physa Snail	E	X			X
Lanx spp.	Banbury Springs Limpet	E				X
Pyrgulopsis bruneauensis	Bruneau Hot Springsnail	E		X		X
Salvelinus confluentus	Proposed Critical Habitat for Bull Trout	PCH	X			X

a. TYPE 1 FEDERALLY THREATENED, ENDANGERED, AND CANDIDATE SPECIES

Gray Wolf (XN)

The gray wolf is known to occur only in the Four Rivers Field Office and is a re-introduced experimental/non-essential population (ESA Section 10j) currently managed by the USFWS. Historically, wolves utilized a broad spectrum of habitats including grasslands, sagebrush-steppes, coniferous and mixed forests, and alpine areas. Habitats used by wolves typically have an abundance of natural prey.

Northern Idaho Ground Squirrel (T)
Northern Idaho ground squirrel is an ESA threatened species known to exist only in Adams and Valley counties of western Idaho that are included in the Four Rivers Field Office (USFWS 2003b). No occupied sites are known to occur on BLM lands; the historic range of the species contains lands administered by BLM. The entire range of the subspecies is about 20 by 61 miles, and as of 2002, 34 of 40 known population sites were occupied. The population was estimated to be 450 to 500 individuals. The northern Idaho ground squirrel emerges in late March or early April, and remains active above ground until July or early August (USFWS 2003b).

The northern Idaho ground squirrel occurs in shallow, dry, rocky meadows that are usually associated with deeper, well-drained soils and surrounded by ponderosa pine and Douglas-fir forests at elevations of about 3,000 to 5,400 feet. Potentially suitable habitat is ponderosa pine/shrub-steppe in association with south-facing slopes of less than 30 percent, at elevations below 6,000 feet. Diet consists of forbs, grasses, and seeds, as well as green vegetation. Populations of the northern Idaho ground squirrel are primarily threatened by habitat loss due to forest encroachment into former suitable meadows which results in habitat fragmentation, eliminates dispersal corridors, and confines populations into small, isolated habitat islands.

Southern Idaho Ground Squirrel (C)
Southern Idaho ground squirrel is an ESA candidate species. The southern Idaho subspecies occurs in an area about 48 by 113 miles that extends from Emmett, Idaho northwest to Weiser, Idaho and the surrounding areas of Squaw Butte, Midvale Hill, and Henley Basin in Gem, Payette, and Washington counties, including the Four Rivers Field Office. Their range is bounded on the south by the Payette River, on the west by the Snake River, and on the northeast by lava flows with little soil development. Their habitat is typified by rolling hills, basins, and flats composed of lake and fluvial sediments at elevations between 2,200 to 3,200 feet. The range of the southern Idaho subspecies formally extended as far north as Goodrich, Idaho in Adams County, however, recent studies have shown a severe decline in the number of occupied population sites in the northern part of their range.

The southern Idaho ground squirrel spends much of its time underground, and a high quality diet of green vegetation and seeds is required to store enough fat to survive long months of torpor (a form of hibernation). Adults emerge from seasonal torpor in late January or early February, depending on elevation and microhabitat conditions.

Canada Lynx (T)
The Canada lynx is an ESA threatened species and the only potential habitat is in the northern Four Rivers Field Office. Approximately 420 acres of suitable lynx habitat have been identified on lands administered by the Four Rivers Field Office, all of which are located within a WSA. There is an additional estimated 580 acres of suitable lynx habitat within the boundaries of the Four Rivers Field Office that is administered by the Cottonwood Field Office of the BLM Upper Columbia-Salmon Clearwater District. All ESR activities would follow the interim guidance of the Lynx Conservation Assessment and Strategy (Ruediger *et al.* 2000) until such time that RMPs are amended to include new conservation measures to guide activities that may potentially affect Canada lynx.

Bald Eagle (T)
The bald eagle is an ESA threatened species that winters primarily along the Snake River, the South Fork of the Boise River, and has occasionally been observed wintering along the Owyhee River, Jordan Creek, and other drainages within the Boise District. Some nesting occurs along the Payette and Boise rivers. One bald eagle nest site has been documented on BLM administered lands along the Payette River within the Four Rivers Field Office area. Nests are generally constructed in conifers or cottonwood trees within close proximity to rivers or other waterbodies that support adequate food supplies including fish, waterfowl, and a variety of other birds, small mammals, and big game carrion.

Yellow-Billed Cuckoo (C)
The yellow-billed cuckoo is a candidate for ESA listing. The yellow-billed cuckoo is a summer resident of California, Oregon, Washington, Arizona, Colorado, Montana, Idaho, Nevada, Wyoming, New Mexico, Texas, Utah, British Columbian and Mexico. The cuckoo winter range is northern South America, south to northern Argentina.

The species is considered a rare and local summer resident in Idaho, with 64 recorded observations for the State. Historical records and recent surveys indicate the species is most abundant in southeastern Idaho, particularly along the Snake River corridor. A total of eight historic observations of the species are known for the portion of Idaho that includes the Boise District. Most historic sites in southwestern Idaho do not currently contain suitable habitat for nesting yellow-billed cuckoo. Southwestern Idaho surveys conducted in 2003 in habitat that appeared suitable did not yield any yellow-billed cuckoo observations (TREC, Inc. 2003).

Dense understory foliage appears to be an important factor in nest site selection, and cottonwood trees are important foraging habitat. The principal threat in the summer range of the species is the loss of riparian habitat, which has always been naturally limited in the western United States (USFWS 2003c). Available breeding habitats for yellow-billed cuckoos have also been substantially reduced in area and quality by groundwater pumping and the replacement of native riparian habitats by invasive non-native plants, particularly tamarisk/saltcedar (*Tamarix ramosissima*) in the southwestern United States, and to a lesser degree in southern Idaho.

b. TYPE 2 RANGEWIDE/GLOBALLY IMPERILED SPECIES

Greater Sage-grouse
Greater sage-grouse is a Type 2 BLM sensitive species that is rangewide/globally imperiled and currently undergoing a full status review by the USFWS. The status review will determine whether the greater sage-grouse warrants ESA listing as a threatened or endangered species. Extant greater sage-grouse populations are distributed from north-central Oregon, southern Idaho, and southern Alberta and Saskatchewan, south to eastern California, and into extreme western North and South Dakota. Isolated populations also occur in eastern Washington.

Sage-grouse are obligate residents of the sagebrush ecosystem, and usually inhabit sagebrush-grassland or juniper-sagebrush-grassland communities (WSSGC 1982; WSSGC 1974). Sage-grouse occur throughout the range of big sagebrush, except on the periphery of big sagebrush distribution or in areas where it has been eliminated. Successful nesting and brood-rearing are dependent upon the presence of diverse perennial grasses and key forbs that provide cover and forage.

The breeding and nesting period of greater sage-grouse on the Boise District is from the last week in February through the first week in June. The breeding leks are usually small open areas of 0.1 to 10.0 acres, but may be as large as 100 acres (WSSGC 1982; 1974).

Pygmy Rabbit

The pygmy rabbit is a Type 2 BLM sensitive species that occurs throughout the Great Basin. The population status is poorly understood. The pygmy rabbit is a sagebrush obligate and preferred habitat is relatively taller, thicker big sagebrush stands with deep soils. Observations of pygmy rabbits and ongoing surveys being conducted by BLM biologists and others have revealed that this species is widely but sparsely distributed in Owyhee County. The only recently recorded occurrence of a pygmy rabbit on BLM land in the Jarbidge Field Office was at Grassy Hills. The pygmy rabbit is very likely extirpated from the Birds of Prey National Conservation Area (NCA) and all portions of the Snake River Plain except the northeastern fringe. There are no Conservation Data Center (CDC) pygmy rabbit occurrence records in Boise County. One recent record exists from Payette County, however, it is very likely that they also occur in portions of Elmore, Ada, Boise, Washington and Gem counties.

c. TYPE 3 REGIONAL/STATE IMPERILED SPECIES

Columbian Sharped-tailed Grouse

The Columbian sharp-tailed grouse is a Type 3 BLM sensitive species that is regionally/state imperiled. The Columbian sharp-tailed grouse is one of seven recognized subspecies of sharp-tailed grouse that have been described in North America. Historically, Columbian sharp-tailed grouse range extended westward from the continental divide in Montana, Idaho, Wyoming, and Colorado to northeastern California and eastern Oregon and Washington, southward to northern Nevada and central Utah, and northward through central and extreme southeastern British Columbia. In the Boise District, the majority of Columbian sharp-tailed grouse and their habitat occur in Indian Valley and on the Hixon Columbian Sharp-tailed Grouse Wildlife Habitat Area, both in the Four Rivers Field Office.

Columbian sharp-tailed grouse rely on a variety of good quality, native habitats within the sagebrush-bunchgrass, meadow-steppe, mountain shrub, and riparian zones of the northwestern United States. Various upland habitats, with a component of dense riparian or mountain shrub habitat that provides escape cover are important to the subspecies from spring to fall. Suitable wintering habitat consists largely of deciduous trees and shrubs, and is thought to be a key element to healthy Columbian sharp-tailed grouse populations.

Spring-to-fall home range sizes of Columbian sharp-tailed grouse are relatively small, generally less than 1.2 square miles, and the areas used are usually within a couple of miles of a lek. Females typically nest and rear their broods within 1 mile of an active lek, although nesting more than 1.9 miles from a lek has been recorded. Seasonal movements to wintering areas from breeding grounds are typically less than miles, although movements of up to 12.4 miles have been recorded.

California Bighorn Sheep

The California bighorn sheep is a Type 3 BLM sensitive species that was reintroduced to the Owyhee Field Office during the 1960s. California bighorn sheep inhabit the Owyhee River,

Bruneau River, Jarbidge River, and Jack's Creek canyon complexes as well as several other smaller canyon habitats in the northern Owyhee Field Office. In 1983, the Owyhee River Bighorn Sheep Habitat Area/ACEC (141,796 acres) was designated in the Owyhee Field Office to protect and enhance habitat for bighorn sheep; maintain or improve the habitat to at least a good range condition class; and protect and maintain the scenic and natural values in the area.

Raptors

A variety of SSS birds of prey (raptors) can be found throughout the Boise District, including the Type 3 regionally/state imperiled northern goshawk (*Accipiter gentilis*), peregrine falcon (*Falco peregrinus anatum*), prairie falcon (*Falco mexicanus*), flammulated owl (*Otus flammeolus*), and ferruginous hawk (*Buteo regalis*). Both prairie falcon and ferruginous hawk occur within the NCA which has the densest concentration of nesting raptors in North America. The towering cliffs, countless ledges, cracks, and crevices in the NCA provide ideal habitat for these and other nesting raptors. The greatest threat to raptors within the NCA and lower elevation sagebrush-steppe habitats throughout the District is the loss of native shrubs from wildfires and the subsequent invasion of noxious and invasive weeds that have adversely impacted prey populations. Primary raptor prey species, Piute ground squirrels (*Spermophilus townsendii*), black-tailed jackrabbits (*Lepus californicus*), kangaroo rats (*Microdipodops* spp.), and deer mice (*Peromyscus maniculatus*) are closely tied to shrub-dominated vegetation. For example, the preferred diet of Piute ground squirrels is Sandberg bluegrass, winterfat, and sagebrush. A variety of snakes also prey on these rodents, and the snakes are also an important raptor prey species. Plant communities altered by wildfire, soil erosion, and exotic plant invasions are not able to support the density of certain prey species needed to sustain raptor populations.

G. AQUATIC WILDLIFE

1. GENERAL AQUATIC WILDLIFE

a. COLDWATER FISHES

Indigenous, coldwater fishes include bull trout, redband trout (*Oncorhynchus mykiss gairdneri)*, mountain whitefish (*Prosopium williamsoni*), sculpins (*Cottus* spp.), white sturgeon (*Acipenser transmontanus*), and others. White sturgeon is an important game fish that is found in the Snake River upstream to Shoshone Falls. Introduced, hatchery rainbow trout (*O. m. irideus*) have been stocked by IDFG in some perennial streams throughout the planning area and can hybridize with native redband trout. Non-native Lahontan cutthroat trout (*O. clarki henshawi*) have been stocked in reservoirs in the upper Bruneau and upper Owyhee basins. Non-native brook trout (*Salvelinus fontinalis*) are found in a few streams on the District and will hybridize with native bull trout. These exotic species prey on and compete with native trout for habitat and other resources.

The Snake River Riparian Area is a 51 mile long corridor from Indian Cove on the west end to the confluence of Salmon Falls Creek on the east end. The northern boundary is the Union Pacific Railroad Line and the southern boundary is near the 3,000-foot elevation contour line on the bluff near Salmon Falls Creek, and near the 2,700-foot contour line at Indian Cove. This area is the best habitat above Hell's Canyon Dam for white sturgeon and other coldwater fishes.

b. WARMWATER FISHES

Many reservoirs as well as the Snake, Boise, Payette, and Owyhee Rivers, and the lower reaches of other drainages have populations of native and exotic, warmwater tolerant fishes. Native species include redside shiner (*Richardsonius balteatus*), largescale suckers (*Catostomus macrocheilus*), bridgelip suckers (*Catostomus columbianus*), and northern pikeminnow (*Ptychocheilus oregonensis*). Introduced species include smallmouth and largemouth bass (*Micropterus dolomieui* and *M. salmoides*), crappie (*Pomoxis nigromaculatus*), channel catfish (*Ictalurus punctatus*), and others.

2. SPECIAL STATUS AQUATIC WILDLIFE

a. TYPE 1 FEDERALLY THREATENED, ENDANGERED, AND CANDIDATE SPECIES

The bull trout is the only ESA listed fish in the Boise District. There are six ESA listed snails in the Boise District: 1) the Utah valvata snail (E), 2) the Bliss Rapids snail (T), 3) the Idaho Springsnail (E), 4) the Snake River physa snail (E), 5) the Bruneau hot springsnail (E), and 6) the Banbury Springs limpet (E) (57 FR 59244). Four of the six listed snails occur in the Snake River (USFWS 1995). The Great Basin population of the Columbian spotted frog that occurs on the Boise District is candidate for listing.

Bull Trout (T and PCH)

The bull trout was ESA listed as threatened in 1999 (64 FR 58910). There are populations of bull trout in streams managed by the Four Rivers and Jarbidge field offices. The USFWS is currently drafting recovery plans for the Salmon River and Southwest Idaho Bull Trout Recovery Units and proposed bull trout critical habitat in the Four Rivers Field Office.

Current bull trout distribution in the Jarbidge Field Office includes resident populations in the East Fork and West Fork Jarbidge rivers, and their major tributary streams including Jack, Deer, Pine, Dave, Slide, Fall, and Cougar creeks. Bull trout seasonally inhabit the Jarbidge River downstream of the confluence of the East and West Forks to the Bruneau River from October through late June.

The draft recovery plan for the Jarbidge River Bull Trout Recovery Unit was released for public review on July 1, 2004. In the June 2004, the USFWS proposed to designate critical habitat for the Jarbidge River population of bull trout [Federal Register, June 25, 2004 (69 FR 35768)]. USFWS is currently preparing a bull trout Biological Opinion for on-going BLM activities in the Jarbidge Recovery Unit that would be applicable to ESR activities.

Utah Valvata Snail (E)

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 the middle Snake River from C. J. Strike Reservoir on the Boise District, upstream to American Falls.

Bliss Rapids Snail (T)

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 mainstem Snake River, and in some spring habitats in the Hagerman Valley. Populations of Bliss Rapids snails are found in a few isolated colonies in the mainstem of the Snake River from King Hill (river mile 545) to Banbury Springs (river mile 589) in Idaho. It commonly grazes on a diet of diatoms and plant debris at night along mud and rocky surfaces.

Snake River Physa Snail (E)
The Snake River physa snail was listed as endangered in 1992. The Snake River physa occurs only in the free-flowing sections of the Snake River from Grandview to the confluence with the Malad River.

Idaho Springsnail (E)
The Idaho springsnail was listed as endangered in 1992. At present, this snail has discontinuous populations in permanent, flowing sections of the mainstem Snake River from the Weiser area upstream to the King Hill area.

Banbury Springs Limpet (Lanx) (E)
The Banbury Springs limpet was listed as endangered in 1992. The limpet has only been found in spring-run habitats with well-oxygenated, clear, cold water on boulder or cobble substratum, with relatively swift currents. At present, the limpet is known to occur in large, relatively undisturbed spring habitats on the north side of the Snake River, approximately five river miles upstream and five river miles downstream of the confluence of the Snake River and Salmon Falls Creek at Banbury Springs, Box Canyon Springs, and Thousand Springs.

Bruneau Hot Springsnail (E)
The Bruneau hot springsnail was ESA listed as endangered in 1998. The Bruneau hot springsnail has been found in flowing geothermal springs and seeps in a narrow elevation range of approximately 2,600 to 2,700 feet (USFWS 2002). The species currently survives in approximately 89 of 155 small, flowing geothermal springs and seeps along an approximately 5 mile reach of the Bruneau River and its tributary, Hot Creek in southwestern Idaho. The *Bruneau Hot Springsnail Recovery Plan* (USFWS 2002) identifies reduction and/or elimination of their geothermal spring habitat as a result of agricultural-related groundwater withdrawal and pumping as the principal threat to survival.

Columbian Spotted Frog (C)
The Great Basin population of the Columbian spotted frog is a candidate for ESA listing. Extensive surveys throughout southern Idaho since 1993 have led to increases in the number of known spotted frog sites, and Columbian spotted frogs appear to be widely but sparsely distributed throughout southwestern Idaho, mainly in Owyhee County (USFWS 2003d). They generally occur at mid- to higher elevations in low gradient streams that contain numerous oxbows and pools, and in lakes and ponds in close proximity to suitable stream habitats. Springs also provide important overwinter hibernacula.

b. TYPE 2 RANGEWIDE/GLOBALLY IMPERILED SPECIES

Redband Trout

Native, inland Columbian Basin redband trout is a Type 2 BLM sensitive species that is experiencing significant declines throughout its range. Inland redband trout are adapted to extremely harsh environments with extremes of temperature and flow, and hatchery rainbow may not be effective competitors and predators in these environments (Behnke 1992).

Redband trout inhabit most perennial streams in the Boise, Payette, Jarbidge, Bruneau, and Owyhee River subbasins, in addition to perennial tributary streams to the Snake River (BLM and IDFG unpub. data). IDFG and BLM have documented most redband trout populations on the District and some populations show low levels of hybridization with stocked, hatchery rainbow trout.

Northern Leopard Frog

The northern leopard frog (*Rana pipiens*) is a Type 2 BLM sensitive species that was once commercially collected in large numbers for biology classes. The leopard frog lives in marshes, wet meadows, riparian areas and wet, open woodlands. They breed in ponds or lake edges with fairly dense aquatic and emergent vegetation and attach their eggs to submerged vegetation. Juveniles and adults live in aquatic vegetation in ponds and in adjacent grass, sedges, and woody riparian vegetation. Within the Boise District northern leopard frogs are known to occur along the Snake and lower Bruneau River corridors.

H. RECREATION

The Boise District is close to several large population centers and is a high use recreation area. The District provides numerous and varied recreational opportunities including nature study, bird watching, natural and cultural resources sightseeing, horseback riding, hiking, hunting, biking, camping, fishing, water sports, and rock hounding, as well as motorized vehicle use.

From March through June, sightseeing, bird watching, and nature study associated with raptor nesting and foraging attracts local, national, and international visitors to the NCA. The western end of the Snake River Canyon within the NCA is managed as the *Snake River Birds of Prey Special Recreation Management Area* that provides a variety of recreational opportunities classified as roaded, natural, semi-primitive motorized, or non-motorized. Other special recreational areas are included in the section below on Special Management Areas (SMAs).

I. SPECIAL MANAGEMENT AREAS

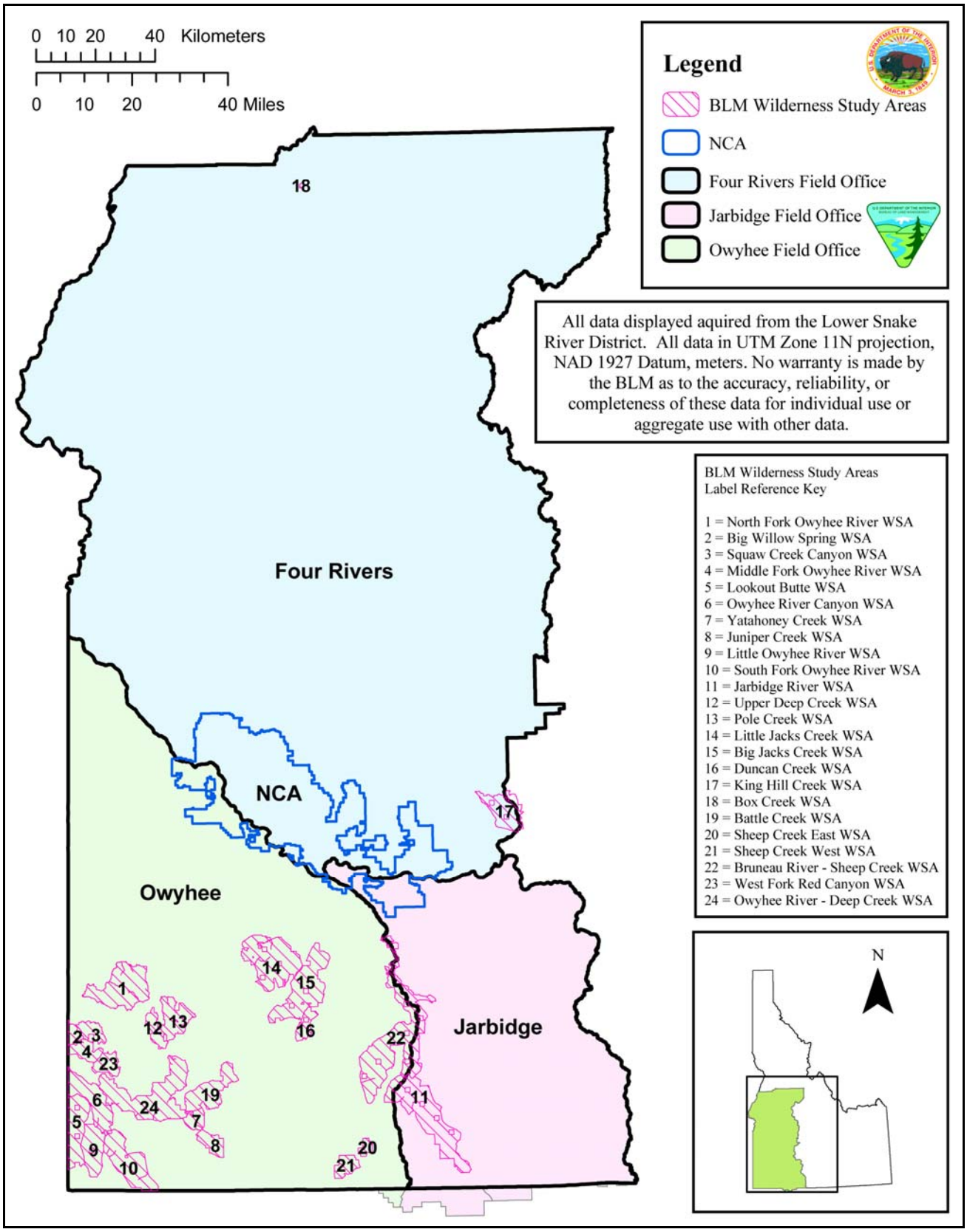
1. WILDERNESS STUDY AREAS

The Boise District WSAs are listed by field office in Table 5 and shown in Figure 2. WSAs must be managed in a manner so as not to impair their suitability for preservation and designation as Wilderness. ESR treatments in WSAs would be developed and evaluated under the guidelines found in the BLM *Interim Management Policy and Guidelines for Lands under Wilderness Review* (IMP) H-8550-1 and the *Interagency Burned Area ESR Handbook* Version 2.0 (2002).

Table 5: Wilderness Study Areas

Field Office	FRFO	OFO	NCA	JFO
Jarbidge	X			
King Hill Creek	X			
Box Creek	X			
North Fork Owyhee River		X		
Big Willow Spring		X		
Squaw Creek Canyon		X		
Middle Fork Owyhee River		X		
Lookout Butte		X		
Owyhee River Canyon		X		
Yatahoney Creek		X		
Juniper Creek		X		
Little Owyhee River		X		
South Fork Owyhee River		X		
Upper Deep Creek		X		
Battle Creek		X		
West Fork Red Canyon		X		
Owyhee River - Deep Creek		X		
Jarbidge River		X		X
Pole Creek		X		
Little Jacks Creek		X		
Big Jacks Creek		X		
Duncan Creek		X		
Sheep Creek East		X		
Sheep Creek West		X		
Bruneau River – Sheep Creek		X		X

Figure 2: Boise District Wilderness Study Areas



2. WILD AND SCENIC RIVERS

Federal land management agencies are responsible for evaluating certain rivers to determine suitability for inclusion in the National Wild and Scenic Rivers System. The agencies provide protection by preparing recommendations for suitable rivers to be designated and by taking immediate action to protect them. In the interim, the rivers are treated as though they were components of the National System until acted upon by Congress, and must be managed in a manner so as not to impair their suitability for inclusion in the National Wild and Scenic River System. Potential Boise District wild, scenic, and recreational river designations are listed in Table 6 by field office.

Table 6: Potential Wild, Scenic, or Recreational Rivers

Field Office	FRFO	OFO	NCA	JFO
Jarbidge River		**X**		X
Bruneau River	**X**	**X**		
West Fork of the Bruneau River		**X**		
Sheep Creek		**X**		
Owyhee River		**X**		
Upper North Fork Owyhee River		**X**		
Lower North Fork Owyhee River		**X**		
South Fork Owyhee River		**X**		
East Fork Owyhee River		**X**		
Nickel Creek		**X**		
Deep Creek		**X**		
Current Creek		**X**		

3. OTHER SPECIAL MANAGEMENT AREAS

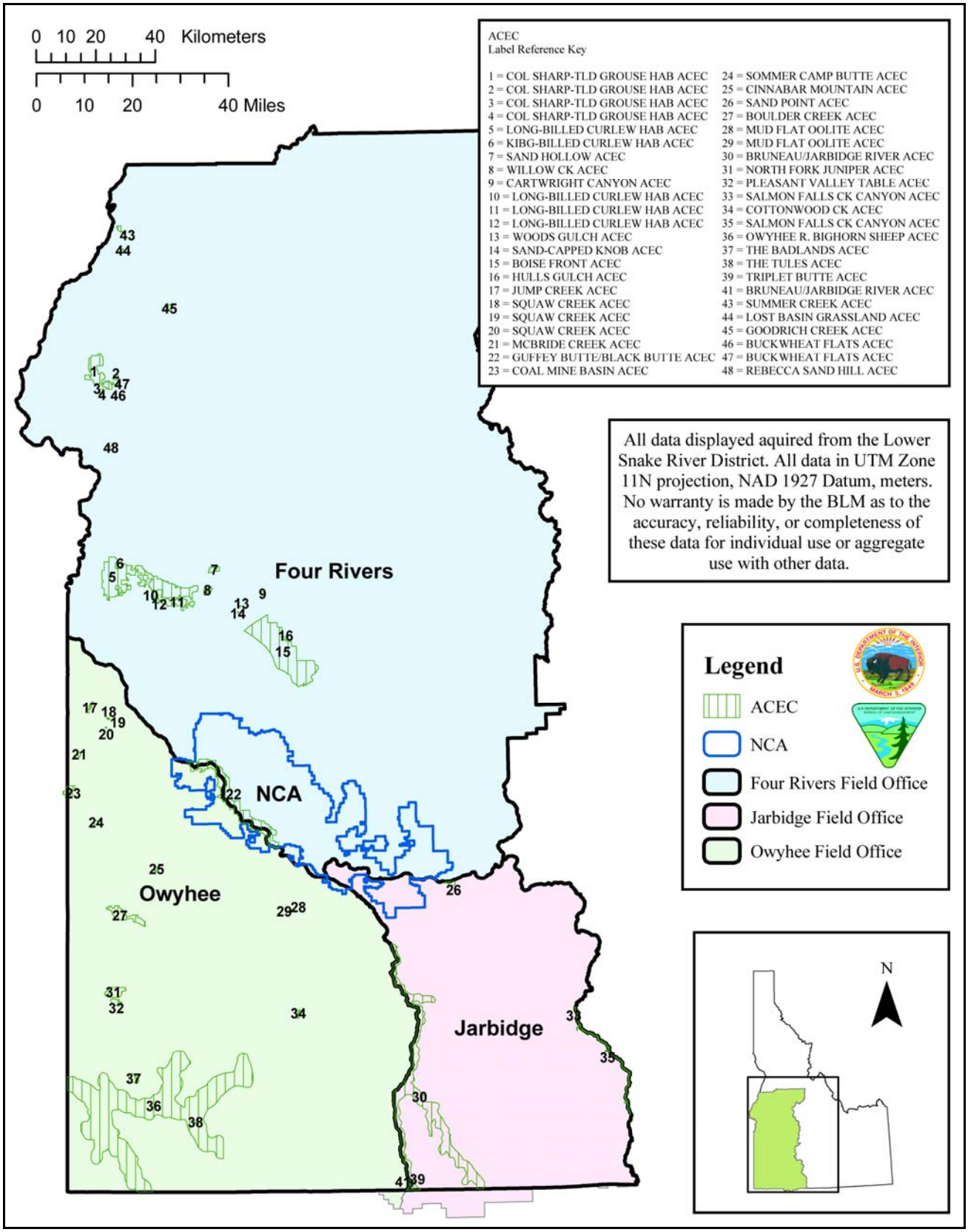
Areas of Critical Environmental Concern

ACECs are areas where special management attention is required to: 1) protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, 2) protect human life and safety from natural hazards, 3) preserve natural processes that dominate the landscape for the primary purpose of research and education. Some ACECs are also referred to as RNAs and ONAs. A complete list of Boise District ACECs is included in Table 7 and shown in Figure 3.

Table 7: Special Management Areas

Areas of Critical Environmental Concern	Field Office	Reason for Designation
Long-Billed Curlew Habitat	FRFO	Critical LB Curlew Nesting Habitat
Columbian Sharped-tailed Grouse	FRFO	Critical CST Grouse Habitat
Sand Hollow	FRFO	Aase's Onion
Willow Creek	FRFO	Aase's Onion
Cartwright Canyon	FRFO	Aase's Onion
Woods Gulch	FRFO	Aase's Onion
Sand-capped Knob	FRFO	Aase's Onion
Hulls Gulch	FRFO	Aase's Onion
Boise Front	FRFO	Watershed, Wildlife, Recreation
Guffey Butte/Black Butte	FRFO OFO NCA	Archeological, Cultural Resources
Jump Creek	OFO	Riparian Vegetation, Watershed
Bruneau/Jarbidge River	JFO	Bighorn Sheep, Cultural Resources
Triplet Butte	JFO	Plant Communities, Cultural Resources; Bighorn Sheep, Scenic Value
Owyhee River Bighorn Sheep	OFO	Bighorn Sheep Habitat
The Tules (within the Bighorn Sheep ACEC)	OFO	Plant Communities
Cottonwood Creek	OFO	Riparian Vegetation
Salmon Falls Creek Canyon	JFO	Pristine and Scenic Natural Features
Sand Point	JFO	Paleontologic, Geologic, and Cultural Resources
McBride Creek	OFO	Special Status Plants
Squaw Creek	OFO	Plant Communities
Coal Mine Basin	OFO	Special Status Plants, Paleontological
Sommer Camp Butte	OFO	Plant Communities
Cinnabar Mountain	OFO	Plant Communities
Mud Flat Oolite	OFO	Rare Plants, Fossils
Pleasant Valley Table	OFO	Plant Communities
The Badlands	OFO	Special Status Plants
Summer Creek	FRFO	Plant Communities
Lost Basin Grassland	FRFO	Plant Communities
Goodrich Creek	FRFO	Plant Communities
Buckwheat Flats	FRFO	Plant Communities
Rebecca Sand Hill	FRFO	Special Status Plants
Boulder Creek	OFO	Scenic and Wildlife Values
North Fork Juniper	OFO	Watershed and Riparian Values
Other Special Management Areas		
C. J. Strike Reservoir	FRFO	Waterfowl, ESA Listed Snails
Grand View Duck Pond	FRFO	Waterfowl, Riparian, Wetland
Stork Island	FRFO	Heron Rookery
U.S. Highway 68 & Swan Falls Road	FRFO	Scenic Quality Travel Influence Zone

Figure 3: Boise District Areas of Critical Environmental Concern



J. VISUAL RESOURCES

Public lands have a variety of visual values. Visual values are identified through the VRM Inventory (Manual Section 8410) and are considered with other resource values in the resource management planning process. Visual management objectives are established in conformance with the land use allocations. These area specific objectives provide the standards for planning, designing, and evaluating future management projects.

VRM Class I is the most restrictive category and applies to BLM special administration designations where public interest and BLM management call for the preservation of pristine landscapes such as designated Wilderness and WSAs, Wild and Scenic Rivers, or Visual/Scenic ACECs, and visible sections of the Oregon NHT. Most of the Class I areas in the District are in or adjacent to the deeply incised canyons of the Snake, Owyhee, and Bruneau-Jarbidge river systems or along the North and South Alternates of the Oregon NHT.

VRM Classes II to IV would allow increasingly higher levels of landscape alteration. Management activities in Class II areas may be seen but should not attract the attention of the casual observer, and would repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.

Management activities may attract attention in Class III areas but would not dominate the view of the casual observer. Management activities in Class IV may be major modification of the existing landscape character that dominates the view and is the major focus of viewer attention, however, every attempt would be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements. A substantial majority of the lands in the District fall into either VRM Classes III or IV.

K. CULTURAL RESOURCES

Cultural resources are those fragile and non-renewable remains of human activity, occupation, or endeavor, reflected in districts, sites, structures, objects, artifacts, ruins, and works of art as well as natural features that were of importance in human events. There are numerous recorded cultural resource sites on the Boise District and probably many more that have not been recorded. The evidence of previous human activity ranges from the weathering metal apparatus of a mining operation to the textiles created from desert plants and used by the indigenous people. Although some site elements like machinery survive destructive forces the context in which all site elements lie is the vital component of the scientific study of cultural resources.

The NHPA established that the historical and cultural foundations of the Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people. The need for an official list of the Nation's cultural resources that are worthy of preservation was established by the NHPA. The register lists archaeological, historic, and architectural properties such as districts, sites, buildings, structures, and objects nominated for their local, state, or national significance. The Boise District has several large prehistoric and/or historic district sites on the register including the Oregon NHT (Table 8).

Paleontological sites are subsumed under the cultural resources field. Paleontological sites are common in the Boise District and are found associated with the Idaho Group which is composed of intercalated stream and lake deposits, basalt flows, and water-lain and air fall ash deposit of Lower Quaternary and Upper Tertiary Age. The Ten Mile gravels (i.e. glacial outwash two million years of age) and other Pleistocene sediments north and south of the Snake River and along the Boise Front Range have been the most productive for the preservation of fossils. Idaho contains some of the most significant fossil evidence for the evolution of species and continental drift. It is likely that many sites remain undiscovered or have not exhausted their research potential.

Table 8: National Register of Historic Places and Cultural Complexes

Resource Area	FRFO	OFO	NCA	JFO
Guffey Butte/Black Butte Archaeological District	X	X	X	
Oregon National Historic Trail	X	X	X	X
Kelton Road	X			X
Goodale's Cut-off	X			
Silver City Historic Mining District		X		
DeLamar Historic Mining District		X		
Camas Creek-Pole Creek Archaeological District		X		
Lava Tube Caves (including Tank/Cathedral, Higby, and Kuna Caves)	X			
Shoofly Creek Rock Alignments		X		
Bruneau River		X		X
Five Finger Buffalo Jump		X		
Y Buffalo Jump	X			
Union Pacific (Oregon Short Line) Railroad	X			
Crater Rings National Natural Landmark	X			
Dry Lakes/Bruneau River Complex				X
Devil Creek Complex				X
Sand Point Cultural/Paleontological Complex				X
Dove Springs				X
Pothole				X
Juniper Ranch				X
Clover Creek				X
Cougar Creek				X
Post Office				X
Pilgrim Stage Station				X

L. GRAZING MANAGEMENT

Livestock grazing began on the Lower Snake River Plains as early as 1700, when the Shoshone Native Americans brought horses into the northern Great Basin. With the opening of the Oregon Trail and subsequent settlement, uncontrolled grazing with large numbers of cattle, sheep, and horses occurred. This uncontrolled grazing led to significant resource damage in many areas in the northern Great Basin. In 1934, the passage of the Taylor Grazing Act occurred. The passage of this act resolved much of the uncontrolled grazing issues occurring on the public lands by the creation of grazing districts. Today, livestock grazing occurs through grazing permits which contain not only mandatory terms and conditions, but also allotment specific terms and conditions. Grazing permits

are tied to the permittees' base property, which can be land or water. Grazing allotments are managed to insure that standards for rangeland health and guidelines for livestock grazing management are being progressively met.

Issues that can affect many operators include forage accessibility, annual fluctuations of forage production, lack of permanent water, and loss of perennial plant communities due to disturbances such as wildland fire.

IV. ENVIRONMENTAL CONSEQUENCES

This chapter describes the predicted environmental consequences that would result from implementing the No Action Alternative and the Proposed Action described in Chapter II. Alternatives. All relevant issues identified during public scoping for the proposed project were considered in the impact analysis, and a brief summary of the scoping comments are included in Section V. Public Involvement.

The impact analysis follows the same general outline for resources discussed in Chapter III. Affected Environment. It addresses direct, indirect, and cumulative effects on those aspects of the physical, biological, and human environments most likely to be affected. Resources that are unlikely to be affected or only minimally affected are discussed only briefly, and resources that would have similar affects were combined.

A. NO ACTION ALTERNATIVE (CONTINUE USING THE 1987/88 NFRPS)

The No Action Alternative would include all of the actions in the Proposed Action. The same environmental effects would occur under the No Action Alternative, as those described under the Proposed Action, except that individual EAs would have to be prepared for ESR treatments outside the scope of the 1987/88 NFRPs. Potential delays may increase the likelihood of missing critical implementation timelines. As a result, site objectives may not be met in a timely manner, and indirect post-wildfire effects such as increased erosion and proliferation of noxious and invasive weeds may increase.

B. PROPOSED ACTION

1. SOILS

After a fire, much of the burned area soil would be exposed and prone to wind and water erosion. If surface runoff occurs before ground cover becomes re-established, erosion would occur. ESR treatments would be prescribed on a site-specific basis. All seeding methods have a low probability of reducing erosion the first year because most of the benefits of the seeding occur after germination and root development. Therefore, the benefits of seeding are considered to be long-term. Once the area is rehabilitated and ground cover becomes re-established, soil erosion would be similar to that of the pre-burn landscape.

Mechanical seedbed preparation, seeding, seed covering, weed control, fencing, and off-road vehicle traffic associated with ESR treatments could create some short-term impacts to the remaining vegetation and to the soil surface, such as increasing the rate of wind erosion in sandy soils or sealing the soil surface in clay soils. The no-till drill or a modified rangeland drill with depth bands

and hand seeding would have less short-term soil impacts than other mechanical methods used to prepare soil for seeding. Chaining, standard rangeland drilling, and harrowing would have the highest short-term soil impacts because they would expose the soil surface to wind erosion, and they would do the most damage to remaining vegetation.

The imprinter may be beneficial when it is used on sandy soils to create impressions that trap water but can cause the surface of clay soils to "seal" due to compaction. The sealed surface traps water but does not allow it to infiltrate, so the moisture is lost to evaporation. Therefore this method would not be used on clay soils.

The no-till drill or modified rangeland drill with depth bands would be preferred for areas with good microbiotic crust cover to protect the remaining crust. In areas with poor crust cover the other mechanical methods (e.g. rangeland drill, harrowing, and chaining) may be used because improving the crust (by preventing cheatgrass invasion and encouraging stable bunchgrass or bunchgrass/shrub communities) in the long-term would be an important objective. Good microbiotic crust cover would improve hydrology, minimize erosion, increase plant community structure and biological diversity, decrease the likelihood for cheatgrass invasion, and would help to re-establish more normal fire cycles.

Despite a variety of potential soil impacts from the mechanical treatments, the long-term benefits from re-establishing perennial vegetation would quickly out-weigh the short-term disturbances because revegetation would provide long-term soil and water quality protection. For example, drilled treatments exhibit higher infiltration rates, and less surface runoff and soil erosion during precipitation than untreated sites. In addition, controlling annual grasses and establishing native or desirable non-native vegetation would result in more natural fire cycles that are less damaging to soil and produce less erosion in the long-term.

Installation of hillslope treatments (low stage check dams, straw bales and wattles, contour felled logs) causes ground disturbance in the immediate area around the structure. The benefits of reducing overland flow energy and trapping sediment outweigh the potential for structures to fail.

In-channel sediment storage structures such as check dams would be used sparingly in small, ephemeral and naturally intermittent channels only, because hillslope erosion control treatments that prevent sediment delivery to waterways are generally more effective, and there is always a risk that sediment storage structures would fail and cause more damage to channels, aquatic habitat, and special status aquatic species when stored sediments are released (Robichaud *et al.* 2000; Rosgen 1996). Straw bale check dams, gravel bags, straw wattles, and other structures that capture large material, allow fine sediment to pass and decompose over time, would have the lowest potential for channel damaging failures.

2. WATER

The effects to water resources are related to upland, hillslope, and channel treatment effects discussed in the previous Soils Section. Soils exposed after a fire are prone to erosion. Impairment to water quality could happen if a large runoff event occurs before ground cover becomes re-established, whether or not an area has had ESR treatment. Seedbed preparation and mechanical seeding generally result in increased infiltration and less runoff. Sediment detention structures, such

as straw wattles interrupt overland flow, reduce runoff energy, minimize rill and fully formation, and trap sediment that may otherwise be transported downslope.

Short-term indirect effects would occur if soil particles from mechanized treatment areas are transported downslope to a stream. Long-term indirect effects from upland treatments include improved hydrologic function of the watershed as the site becomes revegetated with desirable species. The ESR treatments for soil stabilization, road and trail drainage improvements, and channel stability would protect beneficial uses by minimizing erosion and post-fire sediment delivery to stream channels.

The design features and BMPs for working in riparian areas and aquatic environments would minimize the direct affects to water quality. Direct, short-term impacts to water quality could occur during facilities maintenance, such as culvert removal and replacement, if sediment enters into a flowing stream.

Riparian tree and shrub seedlings or herbaceous plugs would be planted as needed to provide long-term canopy cover to shade streams from direct solar radiation or provide streambank stability to maintain water quality and protect beneficial uses.

Proper selection, timing, and application of herbicides for prescribed weed treatments would minimize the risk that these substances inadvertently enter aquatic ecosystems. Direct effects to water quality could occur if chemicals were accidentally spilled into the water. Over time, noxious/invasive weed control would result in healthier watersheds by reducing competition with desirable species that provide greater soil stability.

3. FLOODPLAINS/WETLANDS/RIPARIAN ZONES

Overall impacts to riparian areas from treatment methods would be minimal due to the specific design features. Riparian and aquatic environments would realize long-term benefits from upland, near-channel, and in-channel treatments that are designed to stabilize soil, minimize rill and gully erosion, and protect streambanks.

Short-term soil impacts associated with riparian or in-channel bioengineering techniques (e.g. seeding, planting woody or herbaceous riparian species, willow wattles, whole tree felling) or silt fencing include a localized, increased risk of erosion until the site becomes revegetated. Bioengineering would improve riparian and channel process in the long-term, channel stability would be maintained, and aquatic habitat would be improved or protected.

Fences would be used to protect riparian areas from livestock, wild horses, or wildlife as needed. There would be some short-term vegetative impacts associated with fence construction or reconstruction (primarily brush clearing) and planting, but riparian areas would be quickly revegetated due to available soil moisture.

4. AIR

Soil disturbing ESR activities such as mechanical seedbed preparation, seeding, seed cover, and weed treatments may affect air quality for a short duration. Re-establishing vegetative cover would benefit air quality in the long-term because soil that is at risk of erosion due to fire and ash would be stabilized and would not become airborne as dust storms. The proposed desirable native and non-

native species used for revegetation would restore more natural fire regimes and reduce the long-term air quality impacts associated with large-scale, high intensity fires fueled by annual grasses.

The herbicide label restrictions and the proposed design criteria based on distance from open water, wind speed and direction, and public notification would protect human health during aerial herbicide applications to the extent practicable.

5. VEGETATION

a. GENERAL VEGETATION

Natural recovery would contribute to the recovery of the remaining vegetation and would benefit the future native plant community structure. Mechanical seedbed preparation, seeding, seed covering, weed control, fencing, and off-road vehicle traffic associated with ESR treatments could create some short-term impacts to the soil and remaining vegetation. The no-till drill or rangeland drill with depth bands, and hand seeding would be less damaging to existing vegetation than other mechanical methods used to prepare soil for seeding. Chaining, standard rangeland drilling, and harrowing would have the highest short-term soil impacts because they would expose the soil surface to wind erosion, and would do the most damage to existing vegetation.

The short-term detrimental effects of mechanical seedbed preparation, planting, and covering seed would be minimized by the design features and would be vastly out-weighed by the long-term benefits such as enhanced site stability and vigor of the vascular plant community. Other beneficial effects expected to occur with implementation of the Proposed Action would be: 1) improving and restoring the biodiversity of native vegetation, 2) restoring quality habitat for wildlife, 3) protecting sensitive plant and animal habitat, and 4) contributing toward the return of a more natural fire cycle.

Aerial seeding would have no short-term impact to vegetation. The long-term effects would be similar to mechanical seeding in promoting vegetative recovery.

Protective fences and/or deferred livestock grazing would protect recovering sites for at least two growing seasons after the fire, or until vegetation is established adequately to withstand grazing. Some short-term vegetative impacts would be associated with fence construction or reconstruction primarily from off-road vehicle traffic and brush clearing, but these impacts would be site-specific and minimal compared to the long-term revegetation benefit. Protective fencing would also promote recovery of slickspot peppergrass habitat and microbiotic crusts.

There are areas currently so heavily infested with cheatgrass that the benefits of seedbed preparation from aerial spraying and weed management would greatly enhance the potential for site rehabilitation on a large-scale. Aerial herbicide application would be the most effective and aggressive treatment method for quickly treating large noxious and invasive weed-infested areas. By implementing design features, any impacts to remaining vegetation would be minimized. Over time, all vegetation would benefit from reductions in weed competition and contribute toward a more natural fire cycle.

Some of the herbicides proposed are selective and target only broadleaf species, trees, or shrubs. Some of the proposed herbicides are non-selective and target both broadleaf plants as well as grasses. Therefore herbicide selection and application rates would be site-specific. If non-selective

herbicides are applied when the targeted weeds are actively growing and native vegetation is inactive, there would be less potential for negative impact to native vegetation. Spraying in early spring, late summer, and fall would mimic these conditions. Grasses may suffer slight damage with selective herbicide treatments but would recover and should increase due to reduced competition.

b. SPECIAL STATUS PLANTS

Slickspot Peppergrass

The ESR recommendations in the Candidate Conservation Agreement for slickspot peppergrass (GOSC *et al.* 2003) are incorporated in the general and species-specific design criteria. The use of a no-till drill or a modified rangeland drill with depth bands would minimize the short-term impacts to slickspot habitat and the resulting plant establishment would have long-term benefits to the species by re-establishing a natural habitat, reducing invasive annual grasses, and contributing to the return of a more normal fire cycle. Emphasizing the use of native seed and including native forbs in the seed mix would benefit slickspot peppergrass by increasing the diversity and pollen sources for insect pollinators. Deferred grazing and protective fencing would benefit slickspot peppergrass by eliminating the effects of trampling and protecting the hydrology of slickspot microsites during the rehabilitation process. The long-term benefits of revegetation would be site stability and decreased likelihood of cheatgrass invasion.

Other Sensitive Plants

Inventories for SSS and their habitats would be conducted prior to implementation of all ground disturbing activities. SSS locations would be avoided or impacts would be minimized. Utilizing design features and recognizing individual SSS plant needs would contribute towards the recovery of the SSS species and their habitats over time. Proposed actions would contribute to the return of a more natural fire cycle over time and enhance SSS plant habitats.

6. TERRESTRIAL WILDLIFE

a. GENERAL TERRESTRIAL WILDLIFE

California Bighorn Sheep, Pronghorn Antelope, Mule Deer, and Elk

ESR treatments would not be expected to adversely affect pronghorn antelope, mule deer, and elk. If any direct adverse impacts were to occur, they would be expected to be localized, temporary, and minor. Beneficial effects would increase incrementally over a long period of time, as long as weed-infested areas recover to more natural conditions and the fire cycle returns to more natural conditions as a result of ESR. Wildlife species that rely on shrub-grassland-forb communities (e.g. pronghorn) would benefit most since these areas have been the most impacted by recent weed invasions, and large and more frequent large scale, high intensity fires.

There would be a time period when habitat values would be low during revegetation because of low vegetation density, however, these areas already had low habitat values prior to treatment due to burn conditions and/or noxious and invasive weeds. Once the burned areas are revegetated, wildlife habitat values would improve because new seasonal growth would provide palatable forage and a better diversity of native perennial grass, forb, and shrub species. Over time, mosaics of mature shrubs and trees would provide thermal and hiding cover, and winter forage.

Protective fences that allow for wildlife passage would be used as needed to protect recovering sites from livestock for two growing seasons or until site objectives have been met. The design features would ensure that the fences are visible to wildlife and would only minimally inhibit wildlife movements.

Ground based herbicide applications would be unlikely to come in direct contact with these highly mobile species. There is a possibility that aerial applications may come in direct contact with big game animals, however, these species are likely to vacate an area with aircraft activity. Herbicides do not bioaccumulate or biomagnify, and are rapidly excreted if ingested on plant material, so there would be little or no effects from ingestion.

Migratory Birds

Revegetation with a variety of native species, and noxious and invasive weed treatments that maintain or improve migratory bird nesting habitat would benefit this group in the long-term. Ground-disturbing mechanical treatments such as rangeland drill, no-till drill, press wheel, land imprinter, cultipacker, chaining, and harrowing implemented during the spring-early summer could affect the reproductive success of ground-nesting birds in the short-term.

Long-billed curlew habitat has actually increased over the last several decades due to the increased size and frequency of fires, and conversion of large areas of shrub-steppe to grasslands. Return to a more normal fire cycle and protection/rehibilitation of shrub-steppe ecosystems would decrease available long-billed curlew habitat in the long-term. Including short grass species in the seed mix would benefit long-bill curlew habitat as appropriate and feasible.

Other Wildlife

The potentially adverse impacts of ESR treatments on non-game mammals, waterfowl, non-native game birds, amphibians, and reptiles are expected to be relatively minor and short-lived, and would be more than offset by long-term benefits of ESR treatments. Adverse impacts during treatment implementation would include temporary disturbance or displacements of mobile wildlife. Beneficial affects would include a more rapid establishment of suitable habitat, along with an overall increase in quality and quantity of food and cover over the long-term.

Recovery of weed-infested areas would have benefits similar to those described for big game, but would provide an even greater benefit to smaller, ground dwelling species such as reptiles, amphibians, and small mammals whose movements can be restricted by dense stands of cheatgrass or other invasive species. Many of these species also have very small home ranges and would be eliminated from large areas of infestation.

Wildlife species that rely on low elevation shrub communities (i.e. Wyoming big sagebrush and salt desert shrub) and riparian areas would benefit most since these areas have been the most impacted by recent weed invasions and large scale, high intensity fires.

Herbicide applications would have a higher likelihood of coming in direct contact with smaller, less mobile species, but when applied properly and according to design features should have no noteworthy adverse impacts to any wildlife species.

b. SPECIAL STATUS TERRESTRIAL WILDLIFE

Gray Wolf and Canada Lynx

The proposed ESR treatments would not directly affect the highly mobile gray wolf or Canada lynx that are found primarily in forested habitat. The design criteria for avoidance of activities near an active wolf den or rendezvous site would eliminate or minimize any potentially adverse impacts.

Treatments that benefit prey species (e.g. ground squirrels, rabbits, and ground-nesting birds) such as noxious and invasive weed control, revegetation, and return to more normal fire cycles would indirectly benefit the gray wolf and Canada lynx. The Proposed Action would not result in a "likely to jeopardize the continued existence of" the gray wolf.

Using the specific design features specified for lynx would either have "No Effect" or be discountable, insignificant, or completely beneficial. If ESR treatments are needed outside the scope of these design features, additional site-specific ESA Section 7 consultation would be required.

Idaho Ground Squirrels and Pygmy Rabbit

Natural recovery of vegetation would not adversely affect ground squirrels or the pygmy rabbit.

Inventories for SSS and their habitats, including northern Idaho ground squirrel, southern Idaho ground squirrel, and pygmy rabbit would be conducted prior to implementation of all ground disturbing and/or noise generating activities and herbicide treatments.

All site-specific ESR treatments proposed within the historic range of the northern Idaho ground squirrel would require additional ESA Section 7 consultation with the FWS during site-specific planning, however, short- and long-term effects from ESR treatments to northern Idaho ground squirrel, southern Idaho ground squirrel, and pygmy rabbit would be minimized by implementation of the species-specific design features. Hillslope and in-channel erosion control structures would avoid direct impact to ground squirrel habitat, and would have no adverse impact on the species.

Activities that incorporate design features to avoid or minimize ground disturbance within ground squirrel habitat are expected to be beneficial by re-establishment of suitable habitat along with an overall increase in quality and quantity of food and cover over the long-term. The use of multiple forb species in ground squirrel and pygmy rabbit habitats would increase available forage and habitat quality for these species.

Reconstruction or construction of fence lines would create open spaces and provide raptor perches that can increase ground squirrel and pygmy rabbit predation. Maintaining minimal clearings along fence lines to avoid increased opportunities for predation would reduce these effects. The selective removal of standing dead juniper in burn areas would also benefit pygmy rabbits by reducing the number of post-fire raptor perches.

Incorporating design features into herbicide treatments would minimize the impacts to the ground squirrel and pygmy rabbits, and aid in establishment of native and seeded vegetation which would benefit the species in the long-term.

Using the specified design features for treatments other than ground disturbing or herbicide treatments, effects to northern Idaho ground squirrels would be minimized, however, all site-specific ESR treatments proposed within the historic range of the northern Idaho ground squirrel, including ground disturbing or herbicide treatments, would require additional ESA Section 7 consultation with FWS during site-specific planning to ensure treatments would have "No Effect" or be discountable, insignificant, or completely beneficial.

Any proposed ground disturbing or herbicide ESR treatments within southern Idaho ground squirrel sites would be designed to minimize potential impacts to the species. The effects of other treatments to southern Idaho ground squirrels would either have "No Effect" or be discountable, insignificant, or completely beneficial using the activity-specific design features.

Bald Eagle and Other Raptors

Natural recovery of vegetation would have no adverse affects on the bald eagle or other raptors.

Inventories for SSS and their habitats, including the bald eagle would be conducted prior to implementation of all ground disturbing and/or noise generating activities and herbicide treatments. Those treatments incorporating design features would minimize any potential affects to bald eagles. Limited motorized vehicle use and aerial applications around currently used bald eagle nests and roost sites would assist in eliminating negative impacts to the species.

The repair and replacement of minor facilities for public health and safety, and cultural site protection and stabilization would have no adverse impact on the bald eagle.

Over both the short-term and the long-term, proposed treatments implemented with design features would accelerate soil stabilization and recovery of native vegetation, especially riparian trees such as cottonwoods, relative to natural recovery. Herbicide treatments implemented with the design features would have no adverse impact on bald eagle prey availability and would promote native plant recovery. The recovery of native, riparian vegetation would expedite the re-establishment of roosting and nesting habitat for raptors, and reduce the risk of post-wildland fire flooding and landsliding that could impact availability of prey species and cover.

The Proposed Action is also expected to contribute to the return of a more natural fire cycle over time, which would assist in the conservation of raptors by reducing future habitat loss and fragmentation due to large scale, high intensity wildland fire. The ESR treatments such as noxious and invasive weed control, revegetation, and return to more normal fire cycles that benefit prey species would indirectly benefit raptors.

Using the specified design features for ESR treatments, affects to bald eagle would either have "No Effect" or be discountable, insignificant, or completely beneficial. If ESR treatments are needed outside the scope of these design features, additional site-specific ESA Section 7 consultation would be required.

Yellow-Billed Cuckoo
Natural recovery of vegetation would have no adverse affect on the yellow-billed cuckoo.

Inventories for SSS and their habitats, including yellow-billed cuckoo would be conducted prior to implementation of all ground disturbing and/or noise generating activities and herbicide treatments. Mechanical seedbed preparation and seed covering; broadcast seeding with motorized vehicles; greenstrip construction; fence construction or reconstruction; off-road vehicle traffic; and aerial seeding and/or herbicide applications would have minimal effects on yellow-billed cuckoo because activities would be restricted near any occupied habitat during the nesting season.

Treatments incorporating design features for minimal disturbance near any occupied yellow billed-cuckoo habitat would be a "May Affect, Not Likely to Adversely Affect" on the yellow-billed cuckoo. For example, avoidance of herbicide treatments near occupied yellow-billed cuckoo habitat during the nesting season would reduce potential impacts to food resources and cover. Repair and replacement of minor facilities for public health and safety, and cultural site protection and stabilization would have no adverse effect on the yellow-billed cuckoo.

The treatments would benefit cuckoo by accelerating soil stabilization and recovery of native vegetation, especially riparian trees such as cottonwoods and willows, relative to natural recovery. The recovery of native riparian vegetation would promote re-establishment of insect food sources and potential nesting habitat for yellow-billed cuckoo, and reduce the risk of post-fire invasion by noxious weeds and erosion events that could degrade riparian habitat. The Proposed Action is also expected to contribute to the return of a more natural fire cycle over time, which would assist in the conservation of the yellow-billed cuckoo by reducing future habitat loss and fragmentation due to large scale, high intensity wildland fires.

Greater Sage-grouse and Other Sagebrush Obligate Birds
Sagebrush covertypes provide important habitat for sage-grouse, sage sparrows, Brewer's sparrows, a diversity of neotropical migrants, and other species including ground-nesters, and tend to re-establish slowly following fire (USDA Forest Service 2003a). Therefore, these habitat types would be a high priority for ESR treatments such as seedbed preparation, seeding with native vegetation, seed covering, and weed control.

Sage-grouse and other birds that occur in big sagebrush habitat could be impacted by ground-disturbing ESR treatments such as harrowing, disking, cultipacker, imprinter, chaining, vehicle traffic, and fencing. These impacts would be mostly in the form of temporary displacement of animals from adjacent unburned habitats or disruption of movements between habitats. The impacts would be reduced by design features that preclude these ground disturbing activities during the critical breeding and nesting seasons.

Treatments which incorporate design features for the use of herbicides in sage-grouse habitats would have no adverse affect on the species. Treatments would not occur during breeding and nesting season, and therefore their impacts are minimized.

Vegetation ESR treatments in greater sage-grouse habitat would consider the guidance found in *Idaho Sage-grouse Management Plan* (Hemker 1997), *Guidelines to Manage Sage-grouse*

Populations and Their Habitats (Connelly *et al*. 2000), and *Management Considerations for Sagebrush* (*Artemisia*) *in the Western United States* (USDI BLM 2002) to minimize the short-term impacts and maximize the long-term benefits of ESR treatments.

Weed treatments, revegetation, and deferred livestock grazing would benefit sage-grouse habitat in the long-term by a rapid establishment of a suitable habitat along with an overall increase in quality and quantity of food and cover.

Columbian Sharp-tailed Grouse

Big sagebrush cover types provide important habitat for Columbian sharp-tailed grouse and establishes slowly following fire. Therefore, these habitat types would be a high priority for ESR treatments.

Mountain shrub and riparian shrub habitats respond favorably to fire, but can be damaged by a hot fire. These habitat types would be a high priority for ESR treatments to rapidly re-establish shrubs and to improve species diversity.

Sharp-tailed grouse and other species that occur in these habitats could be impacted by ground-disturbing ESR treatments such as harrowing, disking, cultipacker, imprinter, chaining, vehicle traffic, and fencing. These impacts would be mostly in the form of temporary displacement of animals from adjacent unburned habitats or disruption of movements between habitats, but would be reduced by design features that preclude these ground disturbing activities during the critical breeding and nesting seasons.

Although Columbian sharp-tailed grouse use slightly more mesic habitats than greater sage-grouse, their requirements are close enough to adopt greater sage-grouse guidelines for sharp-tailed habitat, and the vegetation ESR treatments in Columbian sharp-tailed grouse would consider guidance found in *Idaho Sage-grouse Management Plan* (Hemker 1997), *Guidelines to Manage Sage-grouse Populations and Their Habitats* (Connelly *et al.* 2000), and *Management Considerations for Sagebrush* (*Artemisia*) *in the Western United States* (USDI BLM 2002) to minimize the short-term impacts and maximize the long-term benefits of ESR treatments. More site-specific guidelines are located in the Four Rivers Field Office *Hixon Columbian Sharp-tailed Grouse Habitat Management Plan* (USDI BLM 1994). Weed treatments, revegetation, and deferred livestock grazing would also benefit sharp-tailed habitat in the long-term by rapid establishment of suitable habitat and an overall increase in the quality and quantity of food and cover.

7. AQUATIC WILDLIFE

a. GENERAL AQUATIC WILDLIFE

Natural recovery of vegetation would have no adverse impact on general aquatic wildlife.

The potentially adverse impacts of ESR treatments would be minimized by incorporating design features, and are expected to be relatively minor and short-lived. Adverse impacts during treatment implementation would include temporary disturbance of wetland, riparian, or aquatic habitats. Beneficial affects would include a more rapid re-establishment of suitable riparian and aquatic habitat than natural recovery; improved water quality by maintaining bank stability, reducing sediment loads, maintaining low water temperatures; and diminishing the risk of post-fire flooding

and landsliding that could degrade riparian habitat, water quality, and aquatic habitat over the long-term. The short-term impacts would be more than offset by long-term benefits of ESR treatments.

The ESR herbicide application design features would minimize impacts to riparian vegetation and water quality. Post-fire weeds could spread from the initial area of disturbances and eventually dominate a riparian area if left untreated. Recovery of weed-infested areas and re-establishment of desirable riparian species would provide better soil and water protection, insect production, stream canopy cover, bank protection, and large woody debris recruitment potential to benefit aquatic wildlife.

b. SPECIAL STATUS AQUATIC WILDLIFE

Natural recovery of vegetation would have no adverse impact on bull trout.

Inventories for SSS and their habitats, including bull trout, would be conducted prior to implementation of all ground disturbing activities and herbicide treatments.

ESR treatments that incorporate design features to minimize impacts of ground disturbance and herbicide applications upstream and adjacent to bull trout habitat are expected to have minimal short-term and wholly beneficial long-term impacts. For example, the most restrictive herbicide design features would be in the zones closest to live water to protect water quality, and wetland, riparian, and aquatic habitats.

In the long-term, native riparian vegetation recovery would assist in the maintenance of and/or improvement in water quality for bull trout by maintaining bank stability; reducing sediment loads; increasing insect production; maintaining canopy cover and low water temperatures; providing large woody debris; and diminishing the risk of post-fire flooding and land sliding that could degrade water quality and aquatic habitat. ESR treatments would benefit bull trout by accelerating soil stabilization and recovery of native vegetation, especially riparian trees such as cottonwoods and willows, relative to natural recovery.

Using the specific design features, most of the proposed ESR treatments would either have “No Effect” or “May Affect, Not Likely to Adversely Affect” on bull trout and would not adversely affect primary constituent elements of proposed critical habitat for bull trout. The installation of in- or near-channel erosion control structures, or repair or replacement of facilities, have the potential to contribute to instream sediment levels, or may directly impact individual bull trout. Site-specific instream or sediment generating treatments upstream or adjacent to bull trout populations and/or within proposed bull trout critical habitat would be designed to minimize potential impacts. These treatments would also be evaluated on a site-specific basis to determine if additional ESA Section 7 consultation and/or conferencing would be required.

If ESR treatments are needed outside the scope of the resource specific design features, or if any treatment, including instream activities such as culvert or bridge replacement or repair is determined to be “Likely to Adversely Affect” to bull trout or proposed critical habitat based on site-specific parameters, additional site-specific ESA Section 7 consultation and/or conferencing would be required.

Redband Trout
Natural recovery of vegetation would have no adverse impact on redband trout.

Inventories for SSS and their habitats, including redband trout, would be conducted prior to implementation of all ground disturbing activities and herbicide treatments.

ESR treatments that incorporate design features to minimize impacts of ground disturbance and herbicide applications upstream and adjacent to redband trout habitat are expected to have minimal short-term and wholly beneficial long-term impacts. For example, the most restrictive herbicide design features would be in the zones closest to livewater to protect water quality, and wetland, riparian, and aquatic habitats.

In the long-term, native riparian vegetation recovery would assist in the maintenance of and/or improvement in water quality for redband trout by maintaining bank stability; maintaining canopy cover and low water temperatures; providing large woody debris; and diminishing the risk of post-fire flooding and landsliding that could degrade water quality and aquatic habitat. ESR treatments would benefit bull trout by accelerating soil stabilization and recovery of native vegetation, especially riparian trees such as cottonwoods and willows, relative to natural recovery.

The installation of in- or near-channel erosion control structures, or repair or replacement of facilities, have the potential to contribute to instream sediment levels, or may directly impact redband trout. Site-specific instream or sediment generating treatments would be designed to minimize potential impacts to redband trout.

Aquatic Snails
Natural recovery of vegetation would have no adverse impact on the six ESA listed snails.

Inventories for SSS and their habitats, including the listed snails would be conducted prior to implementation of all ground disturbing activities and herbicide treatments.

ESR treatments that incorporate design features to minimize impacts of ground disturbance and herbicide applications upstream and adjacent to listed snail habitat are expected to have minimal short-term and wholly beneficial long-term impacts. For example, the most restrictive herbicide design features would be in the zones closest to livewater to protect water quality, and wetland, riparian, and aquatic habitats.

In the long-term, native riparian vegetation recovery would assist in the maintenance of and/or improvement in water quality for listed snails by maintaining bank stability; reducing sediment loads; increasing insect production; maintaining canopy cover and low water temperatures; maintaining spring flow; providing large woody debris; and diminishing the risk of post-fire flooding and landsliding that could degrade water quality and aquatic habitat. ESR treatments would benefit the snails by accelerating soil stabilization and recovery of native vegetation relative to natural recovery.

Using the specific design features, most of the proposed ESR treatments would either have "No Effect" or "May Affect, Not Likely to Adversely Affect" on the snails. The installation of in- or near-channel erosion control structures, or repair or replacement of facilities, have the potential to contribute to instream sediment levels, or may directly impact individual snails. Site-specific instream or sediment generating treatments upstream or adjacent to listed snail populations would be designed to minimize potential impacts. These treatments would also be evaluated on a site-specific basis to determine if additional ESA Section 7 consultation and/or conferencing would be required.

If ESR treatments are needed outside the scope of the resource specific design features, or if any treatment, including instream activities such as culvert or bridge replacement or repair is determined to be "Likely to Adversely Affect" to a listed snail based on site-specific parameters, additional site-specific ESA Section 7 consultation and/or conferencing would be required.

Frogs

Natural recovery of vegetation would have no adverse impact on Columbian spotted frog and northern leopard frog.

Inventories for SSS and their habitats, including Columbian spotted frog and northern leopard frog, would be conducted prior to implementation of all ground disturbing activities and herbicide treatments.

Most ESR treatments that incorporate design features to minimize impacts of ground disturbance and herbicide applications upstream and adjacent to SSS frog habitat are expected to have minimal short-term and wholly beneficial long-term impacts. For example, the most restrictive herbicide design features would be in the zones closest to livewater to protect water quality, and wetland, riparian, and aquatic habitats. In the long-term, native riparian vegetation recovery would assist in the maintenance of and/or improvement in water quality for SSS frogs by maintaining bank stability; reducing sediment loads; increasing insect production; maintaining canopy cover and low water temperatures; providing large woody debris; and diminishing the risk of post-fire flooding and landsliding that could degrade water quality and aquatic habitat. ESR treatments would benefit the frogs by accelerating soil stabilization, recovery of native vegetation relative, and re-establishment of insect food sources relative to natural recovery. Therefore, most ESR treatments would be "No Effect" or "May Affect, Not Likely to Adversely Affect" on Columbia spotted frog.

The installation of in- or near-channel erosion control structures, or repair or replacement of facilities, have the potential to contribute to instream sediment levels, or may directly impact frogs. Site-specific instream or sediment generating treatments would be designed to minimize potential impacts to frogs. These treatments would be evaluated on a site-specific basis to determine if additional ESA Section 7 consultation and/or conferencing for Columbia spotted frog would be required.

8. RECREATION

Short-term impacts to recreation would occur if burned areas require temporary closure to the public to prevent resource damage such as scarring, accelerated erosion, and damage to remnant vegetation, or to allow ESR treatments such as seedings to become established. In developed or high use undeveloped areas, this would result in reduced recreational opportunities and could result in increased use in other areas. ESR treatments that stabilize soil and promote vegetative recovery,

including temporary closures would benefit recreational, natural, and cultural resources in the long-term.

Aesthetic properties of the landscape would be changed as a result of ESR treatments in both the short- and long-term, and could change recreational use patterns. In the long-term, treatment of previously degraded areas (e.g. annual grassland) would result in enhanced visual quality (see below) and decrease the risk of fire associated with recreational use. In the long-term, the potential impacts to recreational resources would be reduced and future recreational experiences would be improved as a result of ESR treatments.

Repair and/or reconstruction of damaged recreation facilities would benefit the public by re-establishing minor structures damaged by wildland fire.

Herbicide application re-entry notices, as outlined on herbicide use labels, would be posted in all spray areas as necessary. All herbicide applications would follow strict design features to protect potable water sources.

9. SPECIAL MANAGEMENT AREAS

ACECs and Wild and Scenic Rivers

Natural recovery would have no adverse impact on SMAs, including ACECs and Wild and Scenic river segments.

Impacts to ACECs and Wild and Scenic Rivers would be minimized by utilizing design features to protect and maintain the water quality, viewsheds, airsheds, plant and animal habitat, and recreational opportunities by preventing soil erosion, water quality degradation, spread of noxious and invasive weeds; and maintaining vegetative cover, native ecosystems, and pristine landscapes.

Mechanical soil treatments such as rangeland drills, no-till drills, press wheels, and imprinters may leave visual rows or uniform planting patterns on the landscape and would only be used in these SMAs if the rows can be created in an irregular pattern and knocked down to minimize unnatural patterns to: 1) maintain the suitability of proposed Wild and Scenic river segments for inclusion in the National Wild and Scenic River System, 2) protect and prevent irreparable damage to the important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes in ACECs, and 3) maintain and protect the high scenic values in ONAs, RNAs, Wild and Scenic River corridors, and the other VRM Class I viewsheds.

Wilderness Study Areas

Natural recovery would have no adverse impact on WSAs. However, short-term visual impacts would result from the presence of temporary protective fencing. The recovery of native vegetation and removal of protective fencing would enhance wilderness values in the long-term.

Impacts of ESR treatments in WSAs would be mitigated by utilizing the NFRP design features, and adherence to guidance outlined in the *Interim Management Policy and Guidelines for Lands Under Wilderness Review* (IMP) H-8550-1 (USDI LM 1967) and the *Boise District Wilderness Interim Management Plan* (USDI BLM 1987).

The use of hand or broadcast seeding without seed covering treatments due to WSA status can reduce the effectiveness of the seeding and may result in increased soil erosion and the spread of noxious and invasive species. The use of the least intrusive/lowest impact methods of seedbed preparation, seeding, and seed covering treatments to stabilize soils, control noxious and invasive weeds could result in short-term loss of vegetative cover and soil surface disturbance.

Application of both herbicide and seeding treatments would result in some temporary loss of wilderness values through short-term equipment use and loss of vegetation cover. Short-term visual impacts would also result from the presence of temporary protective fencing. ESR treatments in the long-term would enhance wilderness values by stabilizing soils and replacing annual grassland with plant communities that would be functionally and structurally similar to native sagebrush-steppe.

Seed cover methods have varying degrees of impact to the wilderness resource. The primary impact would be visual based on the selected seed cover method. The use of a rangeland drill or no till-drill to directly apply seed would give the seed the highest probability for germination because of optimum seed coverage. Even with the design feature of irregular planting margins the use of a drill would have a visual impact. The no-till drill would be less visually impacting because the drill row would be less discernible.

Erosion control structures would have a short-term visual impact to wilderness values. The use of erosion control to stabilize watersheds and to minimize the risk of degrading water quality would benefit WSAs in the long-term by preventing soil erosion and water quality degradation to protect, maintain, or improve water quality, wildlife habitat, and SSS habitats.

10. VISUAL RESOURCES

Impacts to visual resources as a result of the Proposed Action could be relatively high immediately following mechanical treatments such as drilling, chaining, or harrowing. There are some high visual sensitivity areas in the Class III and IV VRM areas (e.g. areas adjacent to highways or other heavily-traveled roads) where mechanical disturbances could create high levels of contrast to the surrounding landscapes, and temporarily degrade scenic quality. Over the long-term, as seeded vegetation becomes successfully established, the levels of contrast would be reduced or improved as a result of ESR treatments.

ESR treatments would be applied to preserve the visual qualities of the landscape in SMAs (e.g. WSAs, Wild and Scenic Rivers, ACECs, VRM Class I Areas). BMPs are normally applied to minimize the visual impacts of management activities through careful location, minimal disturbance, and consideration of visual contrasts with the surrounding landscape. In addition, potential ESR impacts would be mitigated by utilizing NFRP design features, and adherence to guidance outlined in the *Interim Management Policy and Guidelines for Lands under Wilderness Review* (IMP) H-8550-1 and the *Boise District Wilderness Interim Management Plan* (USDI BLM 1987) in WSAs. There would be short-term impacts to visual qualities due to soils disturbance associated with some seeding treatments and the visibility of slope stabilization treatments. In the long-term, ESR treatments would maintain visual quality by preventing erosion and maintaining native vegetation.

11. CULTURAL RESOURCES

The proposed combination of “survey and avoid” and consultation with SHPO would protect irretrievable paleontological, cultural, and historic resources during ground disturbing treatments

such as seedbed preparation, seeding, seed covering, contour trenching, and fencing to the extent practicable under the NHPA.

The use of no-till or rangeland drills with depth bands would benefit cultural resources by promoting revegetation and preventing additional degradation or loss of cultural resources due to exposure and/or access. Soil stabilization treatments would also benefit cultural resources by minimizing soil movement around and onto cultural resources following wildland fire.

Utilizing cultural specialist direction and supervision during cultural ESR treatments would prevent direct, adverse affects to cultural resources.

The use of ESR closures and patrols to prevent post-fire damage from livestock, vehicles, and people until sites are stabilized would protect cultural resources that are exposed due to loss of vegetative cover.

Structural ESR of historical properties would also be done under direction and supervision of cultural resource specialists. These treatments would protect and preserve historical properties damaged by fire in the long-term.

The Boise District is part of Shoshone-Bannock and Shoshone-Paiute Tribes (the Tribes) aboriginal lands and the Tribes are sovereign, self-governing entities. The Tribes have a government to government relationship with the United States, and the federal government has a trust obligation to protect the Tribes' interests including protection of paleontological, cultural, and heritage resources. The proposed ESR treatments and design features, including coordination with the Tribes would meet these obligations.

12. GRAZING MANAGEMENT

There could be some short-term economic loss to livestock permittees as a result of post-fire ESR treatments due to public land grazing closures and/or restrictions. Re-vegetated and burned but not re-vegetated areas may be closed to livestock grazing for a minimum of two growing seasons following the season in which the wildland fire occurred to promote recovery of burned perennial plants and/or facilitate the establishment of seeded species. Closures and/or restrictions may be in effect for two growing seasons, or until site objectives for soil stabilization and vegetation have been met as per Interagency Burned Area Emergency Response Handbook V 4.0 Section 8.3.2.2 Livestock, Wild Horse, and Burro Use and in the BLM Supplemental ESR Guidance page 10. During these time frames, permittees must locate other feed sources such as feeding their livestock hay on their private grounds, leasing other pastures, and/or the possibility of having to liquidate some of their livestock herd until ESR vegetative recovery and/or resource objectives have been met.

ESR treatments would prevent noxious weed invasion and/or replace poor quality rangelands, such as those dominated by cheatgrass with high quality perennial community types; improve the ecological health of the rangeland; and contribute toward reducing large-scale, high intensity fires. These improvements would result in increased rangeland health and stability in the long-term.

C. CUMULATIVE IMPACTS

The ESR program would contribute toward reversing the trend of higher frequency and higher intensity fires by converting annual grasslands back to fire-adapted, native plant species and/or desirable non-native species.

Special status and non-status plants and animals would be protected by the general and species-specific design features, and would benefit from a return to more natural fire cycles and improved ecosystem function including better habitat/population connectivity, migratory corridors, habitat structure, forage, and stability. Prey species would directly benefit from ESR treatments, and predator species would benefit indirectly when prey species populations rebound.

There would be a short-term loss of forage for livestock and/or wild horses as a result of the fire and during periods of deferred grazing. In the long-term, soil would be protected and more diverse, palatable and fire-resistant vegetation would be established which would benefit livestock, wild horses, and wildlife.

The cumulative improvements that result from ESR treatments would also help protect non-living resources and communities from future fire impacts.

V. COORDINATION, CONSULTATION, AND PUBLIC INVOLVEMENT

Coordination

The Boise District is part of the Tribes aboriginal lands, and the Tribes are sovereign, self-governing entities. The Tribes were consulted during two Wings and Roots Native American Campfire meetings on June 17 and July 15, 2004. The Tribes have a government to government relationship with the United States, and the federal government has a trust obligation to protect the Tribes' interests including protection of paleontological, cultural, and heritage resources. The proposed ESR treatments and design features includes coordination with the Tribes.

Consultation

A list of ESA listed, proposed, and candidate species and critical habitat was requested from USFWS on November 17, 2003, and a response was received on January 5, 2004. ESA Section 7 consultation continued with USFWS during the development of the EA. The Boise District Level 1 ESA Streamlining (Level 1) Team will review, discuss, and come to an agreement on the Biological Assessment. A final decision based on the EA will not be made until consultation is concluded which is estimated to be the end of August 2004.

Since this consultation is based on a programmatic analysis, continued coordination between USFWS and the BLM would assist in monitoring individual ESR projects and furthering the knowledge based on species post-fire recovery. When ESR treatments may affect listed, proposed, or candidate species, USFWS would be given the opportunity to participate as a member in site-specific ESR planning interdisciplinary teams. In addition, the Boise District Level 1 Team would be given the opportunity to review site-specific ESR planning documents if Proposed Actions "May Affect" listed, proposed, or candidate species and to corroborate the interdisciplinary team's effects determinations. If site-specific ESR treatments exceed the parameters described under the Proposed

Action and/or "May Adversely Affect" proposed or listed species or their habitats, additional site-specific ESA Section 7 consultation may be required prior to individual project implementation.

As part of monitoring, the acreages and locations of site-specific actions associated with listed, proposed, and candidate species and/or critical habitat would be submitted to USFWS annually. The BLM would also report the acreages and locations of site-specific actions implementing in slickspot peppergrass habitat annually.

Public Involvement

A scoping letter informing the public of the purpose and need for action was sent to 1,077 interested publics including organizations, and federal and state agencies in October 2003. By the end of the 30-day scoping period, a total of twenty letters (both mail and e-mail) and six phone calls were received. The comments received are summarized below.

The majority of the comments focused on: 1) seeding practices, 2) livestock grazing, 3) effectiveness monitoring, 4) noxious and invasive weeds, and 5) economic concerns. Some comments were outside the scope of this analysis including comments related to the Boise District Fire Management Plan (USDI BLM draft 2004).

Responses to a single broad comment often incorporated several topics of concern. In these cases, the issues were broken out and addressed as separate comments. Comments were grouped under a total of 18 subject topics, as shown in the comment summary table (below).

Summary of Initial Public Scoping Issues

	Comment Issues	Number of Comments
1.	Seeding Native / Non-Native	17
2.	Livestock Grazing	17
3.	Effectiveness Monitoring	10
4.	Miscellaneous	10
5.	Noxious and Invasive Weeds	7
6.	Economic Concerns	7
7.	Timeliness of Implementation	6
8.	BLM Policy	6
9.	NEPA Request for More Documentation	6
10.	Fire Management Plan (Related but Outside the Scope)	5
11.	Cumulative Impacts	4
12.	Enforcement/Trespass (Livestock & Recreation)	3
13.	NEPA Analysis Level Should Be an EIS	3
14.	Recreation	3
15.	Wildlife	3
16.	Outside the Scope of this Analysis	2
17.	Herbicide Containment	2
18.	EPA 303(d) Water Quality Limited Stream Segments	1

Many comments (17) were received about native and non-native seed use. Primarily, those who commented supported either native seeding or non-native seeding. As explained in the EA, areas of

high intensity wildland fires would generally be reseeded or revegetated when the native vegetation and seed source have been burned, or when invasive and/or noxious weeds and annuals (e.g. cheatgrass or medusahead wildrye) are present or have a seed source nearby. The use of native seeds including shrub species would be emphasized depending on cost and availability in compliance with BLM Manual 1745. In most circumstances, a mixture of site-specific native, perennial grasses, shrubs, and forbs, including nitrogen-fixing forbs would be used for revegetation. Introduced species would be used for revegetation only if: 1) suitable native species are not available, 2) the natural biological diversity is not diminished, 3) exotic and naturalized species can be confined within the proposed treatment area, 4) analysis of appropriate information including ecological site inventory indicates that a site may not support re-establishment of a species that was historically part of the natural environment, or 5) resource management objectives cannot be met with native species.

The issue of livestock grazing also received many comments (17). The comments were either pro or con post-fire grazing deferment. Primarily, people either supported post-burn livestock grazing or deferred livestock grazing. As explained in the EA, livestock grazing would be deferred for a minimum of two full growing seasons after the burn or until site objects have been met to allow natural recovery areas and seeded areas to recover and set seed, and to meet resource objectives. Effectiveness monitoring would be used to determine when livestock grazing could be resumed. This is as per BLM ESR Handbook H-1742-1 1999. "Re-vegetated and burned but not re-vegetated areas will be closed to livestock grazing for a minimum of two growing seasons following the season in which the wildland fire occurred to promote recovery of burned perennial plants and/or facilitate the establishment of seeded species. Livestock permittees must be informed of the closure early during the plan preparation process, and livestock closures will be made a condition or term on the grazing license or permit. Livestock closures for less than two growing seasons may be justified on a case-by-case basis, based on sound resource data and experience."

The issue of effectiveness monitoring also received many comments (10). Goals for monitoring are a part of the Proposed Action in the EA and specific monitoring plans would be required for the ESR plans after a fire. Effectiveness monitoring is a part of every plan, and the USDI is developing standard protocols and a reporting system to improve information dissemination. Past ESR experience on the District has been used to develop the normal treatments in this NFRP EA. Effectiveness monitoring would be used to continually improve local ESR effectiveness.

The issues of weed management and economic concerns also received many comments (7). Weed management is a primary objective of this NFRP EA because of existing conditions on the District, and noxious and invasive weed control would be an integral part of all ESR plans.

Economic concerns (7) were primarily focused on loss of forage during deferred grazing periods, protective fencing, and the cost of unsuccessful ESR treatments. There would be some short-term economic loss during deferred grazing periods, however, forage production and rangeland health would benefit in the long-term. Deferment could be accomplished with protective fences, pastures closures, or whole allotment closures, whichever is more economically feasible.

Precipitation in the years following an ESR treatment is often the most important factor in determining treatment success. Treatments can occur up to three years after control of a fire to: 1)

repair or improve land damaged by wildland fire that is unlikely to recover to a pre-fire condition, 2) repair or replace minor facilities damaged or destroyed by fire, or 3) retreatments that were implemented under an approved ESR Plan but failed due to natural factors such as drought or flooding.

VI. LIST OF PREPARERS

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VIII. LIST OF ACRONYMS

ACEC	Area of Critical Environmental Concern
BLM	Bureau of Land Management
EA	Environmental Assessment
ESA	Endangered Species Act
ESP	Emergency Stabilization Plan
ESR	Emergency Stabilization and Rehabilitation
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
LSRD	Lower Snake River District
NCA	Snake River Birds of Prey National Conservation Area
NEPA	National Environmental Policy Act
NFRP	Normal Fire Rehabilitation Plan
NHPA	National Historic Preservation Act
ONA	Outstanding Natural Area
RNA	Research Natural Area
RP	Rehabilitation Plan
SHPO	State Historic Preservation Officer
SMA	Special Management Area
SSS	Special Status Species
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management
WSA	Wilderness Study Area

Appendix A: List of Species Commonly Used in Revegetation

GRASSES

Barley (*Hordeum vulgare*)

Bluegrass, (*Poa* spp.)

Brome, mountain (*Bromus marginatus)*

Brome, smooth (*Bromus intermis*)

Dropseed, sand (*Sporobulus cryptandrus*)

Fescue, creeping red (*Festuca rubra*)

Fescue, Idaho (*Festuca idahoensis*)

Foxtail, meadow (*Alopecurus pratensis*)

Needle-and-thread (*Hesperostipa comata comata*)

Needlegrass, Thurber's (*Achnatherum thurberiana)*

Orchardgrass (*Dactylis glomerata*)

Ricegrass, Indian (*Achnatherum hymenoides*)

Ryegrass, perennial (*Lolium perenne*)

Sacaton, alkali (*Sporobolus airoides*)

Squirreltail, bottlebrush (*Elymus elymoides*)

Wheatgrass, bluebunch (*Pseudoroegneria spicata*)

Wheatgrass, crested (*Agropyron cristatum*)

Wheatgrass, standard crested (*Agropyron desertorum*)

Wheatgrass, intermediate (*Thinopyrum intermedia intermedia*)

Wheatgrass, RS (*Elymus hoffmannii*)

Wheatgrass, pubescent *(Thinopyrum intermedia trichophorum)*

Wheatgrass, Siberian (*Agropyron fragile sibericum*)

Wheatgrass, slender (*Elymus trachycaulus trachycaulus*)

Wheatgrass, Snake River (*Elymus wawawaiensis*)

Wheatgrass, streambank (*Elymus lanceolatus psammophilus*)

Wheatgrass, tall (*Elytrigia elongata*)

Wheatgrass, thickspike (*Elymus lanceolatus lanceolatus*)

Wheatgrass, western (*Pascopyrum smithii)*

Wildrye, basin (*Leymus cinereus*)

Wildrye, beardless (*Leymus triticoides*)

Wildrye, Russian (*Psathyrostachys juncea*)

FORBS

Alfalfa (*Medicago sativa*)

Aster (*Aster* spp.)

Balsamroot, arrowleaf (*Balsamorhiza sagittata*)

Biscuitroot, Gray's *(Lomatium grayi)*

Burnet, small (*Sanquisorba minor*)

Buckwheat species *(Eriogonum* spp.*)*

Flax, blue (*Linum perenne*)

Flax, Lewis (*Linum perenne lewisii*)

Globemallow, gooseberryleaf (*Sphaeralcea grossulariifolia*)

Globemallow, scarlet (*Sphaeralcea coccinea*)

Hawksbeard species *(Crepis* spp.*)*

Lupine species *(Lupinus* spp.*)*

Milkvetch, cicer (*Astragalus cicer*)

Penstemon, palmer (*Penstemon palmeri*)

Penstemon, Rocky Mountain (*Penstemon strictus*)

Sainfoin (*Onobrychis viciifolia*)

Sweetclover, yellow (*Melilotus officinalis*)

Sweetvetch (*Hedysarum* spp.)

Yarrow, western (*Achillea millefolium*)

SHRUBS

Bitterbrush, antelope (*Purshia tridentata*)

Bitterbrush, desert (*Purshia glandulosa*)

Budsage *(Artemisia spinescens)*

Buffaloberry, silver (*Shepherdia argentea*)

Ceanothus, Martin's (*Ceanothus martinii*)

Chokecherry (*Prunus virginiana*)

Cliffrose (*Purshia stansburiana*)

Currant, golden (*Ribes aureum*)

Ephedra, green (*Ephedra viridis*)

Greasewood *(Sarcobatus vermiculatus)*

Horsebrush, spineless *(Tetradymia canescens)*

Hopsage, spiny (*Grayia spinosa*)

Kochia, prostrate (*Kochia prostrata*)

Mahogany, curl-leaf mountain (*Cercocarpus ledifolius*)

Rabbitbrush, rubber *(Chrysothamnus nauseosus)*

Rabbitbrush, green *(Chrysothamnus viscidiflourus)*

Rose, Wood's (*Rosa woodsii*)

Sagebrush, basin big (*Artemisia tridentata tridentata*)

Sagebrush, black (*Artemisia nova*)

Sagebrush, low *(Artemisia arbuscula)*

Sagebrush, silver *(Artemisia cana)*

Sagebrush, mountain big (*Artemisia tridentata vaseyana*)

Sagebrush, Wyoming big (*Artemisia tridentata wyomingensis*)

Saltbush, fourwing (*Atriplex canescens*)

Saltbush, Gardner's (*Atriplex gardneri*)

Serviceberry, Saskatoon (*Amelanchier alnifolia*)

Shadscale (*Atriplex confertifolia*)

Snowberry, mountain (*Symphoricarpus albus*)

Sumac, skunkbush (*Rhus trilobata*)

Willow (*Salix* spp.)

Winterfat *(Krascheninnikovia lanata)*

FINDING OF NO SIGNIFICANT IMPACT
FOR THE
NORMAL FIRE REHABILITATION PLAN
BOISE DISTRICT OFFICE AND JARBIDGE FIELD OFFICE
EA# ID-090-2004-050

FINDING OF NO SIGNIFICANT IMPACT

Based on the findings documented in Environmental Assessment ID-090-2004-050, implementation of the Proposed Action will not significantly affect the quality of the human environment. Therefore, no Environmental Impact Statement is required.

I base the above findings on the following:

Context: The context of the analyzed treatments occur within an area already damaged by a wildfire event. These areas are in need of treatments to minimize the potential effects of the wildfire.

Intensity: The impacts of the treatments in relation to the existing condition of the fire damaged area are minimal compared to the impact of the fire disturbance.

1. Impacts that may be both beneficial and adverse.

The environmental assessment has considered both beneficial and adverse impacts of the proposed action within the context of a fire disturbed area. Approximately 50% of wildfire disturbed areas are capable of natural recovery following a wildfire disturbance. Areas that require treatments may have short term adverse effects caused by the treatment but these effects would be immeasurable compared to affects caused by the wildfire and would be beneficial in the long term. Since the proposed action is to stabilize and rehabilitate areas disturbed by a wildfire, the proposed action will result in improved vegetative condition and fire resiliency in burn areas.

Secondary effects of the proposed action will include wildlife habitat improvement, increased biodiversity of native plants and animals, improved soil stability and water quality and a return to a more ecologically functional sagebrush steppe habitat. Improving ecological conditions will enhance the quality of the human environment through reactive fuels management, and is not considered an adverse effect both in the short or long term. The adverse effects caused by the treatments are immeasurable and will be beneficial in the long term.

2. The degree to which the proposed action affects public health or safety.

The purpose of ESR is to address public health and safety after a wildfire. The ESR actions and treatments are designed to protect the public from hazardous situations caused by the wildfire. Actions such as closing an area to protect the public and users from a potential dangerous situation or erosion structures to prevent future hazardous erosion events are designed to reduce adverse impacts to public health and safety. The impacts of the treatments in context of the

burned area are immeasurable and will benefit that public in the long term. Implementation of the proposed action will not result in potentially substantial or adverse impacts to public health and safety. The purpose of actions or treatments is to address public health and safety i.e. closures, structures. (EA, Page 18)

3. Unique characteristics of the geographic area such as, proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

Within the analysis area there exist many different unique areas such as ACECs, WSAs, Cultural, etc. Within the context of this analysis these unique areas are fire disturbed areas in need of treatment to minimize the potential effects of the wildfire.

Further effects to cultural resources are avoided by conducting surveys prior to ground-disturbing treatments and if found will be avoided. Cultural sites damaged by the wildfire will be protected and stabilized and significant resources may be repaired to a pre-fire condition when feasible.

Wildfire disturbed wetlands often recover naturally, but if treatments are necessary they are limited in scope and entail things like willow and grass plantings. The effects of these treatments are immeasurable in context to the wildfire damage. (EA, page 62)

When Wild and Scenic Rivers, Wilderness Study Areas and Areas of Critical Environmental Concern are burned by wildfire, treatments are designed to minimize effects to these unique areas. All treatments will adhere to policy and management criteria designed to protect special area values. (EA, page 73)

Public lands within the Boise District Office and Jarbidge Field Office areas do not contain any prime farm lands or Park Lands. Prime farmlands in the vicinity of treatments on public lands would not be adversely impacted.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.

All ESR actions and treatments outlined in the EA are actions that are taken on a normal and reoccurring basis. These treatments have been shown to be beneficial to fire damaged areas in the long term and have not proven to be controversial in the past and are not expected to controversial in the future. Treatments that have the potential to be controversial are outside the scope of this analysis.

ESR activities, by policy, are intended to mitigate the effects of wildfire and to stabilize the soil and vegetation resource, thus protecting the human environment. ESR activities in socially or politically sensitive areas will be designed to protect the human environment by reducing post-fire degradation of soils and vegetation, and thus enhancing long-term resilience to potential future wildfire

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The Boise District Office and the Jarbidge Field Office have a long history of (40+ years) of conducting ESR activities. Through this time, treatment techniques have evolved and have been applied over a broad landscape under a variety of conditions. Based on this experience, the effects of ESR are not uncertain and the risks associated the treatment types are neither unique nor unknown.

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The actions and treatments analyzed in the EA are normal practices that have a long history of implementation. This programmatic document does not set a president for future actions that have significant effects. Any future projects that may have significant impacts are outside the scope of this document and would require a separate analysis.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

This EA considered potential cumulative impacts of treatments in the context of the burned environment on all potentially affected resources. The documents cited and analysis disclosed in the EA support the finding that treatments will not cause significant cumulative effects on biological or physical resources, even when considered in relation to other actions. The effects of ESR treatments in relation to other past present and future actions are immeasurable. (EA, pg75)

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

Within the context of this analysis these areas are fire disturbed areas in need of treatment to minimize the potential effects of the wildfire.

Effects to cultural resources from ESR actions and treatments are avoided by conducting surveys prior to ground-disturbing treatments and if found will be avoided. If cultural resources cannot be avoided, further work will be undertaken to mitigate adverse affects to the site(s). Cultural sites damaged by the wildfire will be protected and stabilized and significant resources may be repaired to a pre-fire condition when feasible. (EA, page 74)

Based on the analysis documented in the EA, the proposed action will not cause loss or destruction of significant scientific, cultural, or historical resources.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The Boise District Office and the Jarbidge Field Office completed informal consultation with the US Fish and Wildlife Service (USFWS). Project design features have been included in the proposed action to avoid adverse impacts to threatened or endangered (T&E) species resulting

from ESR treatments. The USFWS has concurred with the finding that the proposed action "may affect" but is not likely to adversely affect any T&E animal species occurring in the project area. (EA, pages 64, 66, 70, 76)

10. Whether the action threatens a violation of Federal, State, or local law for requirements imposed for the protection of the environment.

The proposed action was developed in accordance with Federal, State and Local Laws for the protection of the environment. (EA, page 6) The EA disclosed the effects of the proposed action on all critical and non-critical elements and it was determined the proposed action will not adversely affect any of the elements. (EA, page 29)

DECISION RECORD
FOR THE
NORMAL FIRE REHABILITATION PLAN
BOISE DISTRICT OFFICE AND JARBIDGE FIELD OFFICE
EA# ID-090-2004-050

DECISION

It is my decision to implement the proposed action of the Boise District Office and the Jarbidge Field Office Normal Fire Rehabilitation Plan (NFRP) which was adequately analyzed in the attached Environmental Assessment EA# ID-090-2004-050. The Proposed Action, coupled with the mitigation measures outlined in the EA, will ensure that all practicable means to avoid or minimize environmental harm are adopted.

RATIONAL FOR THE DECISION

The proposed action facilitates the orderly and timely rehabilitation of burned areas by clearly delineating the procedures to be followed and treatments to be implemented after wildfires occur. Emergency Stabilization and Rehabilitation (ESR) treatments will be implemented in areas that meet one or more of the following criteria:

1. Areas where the soil is susceptible to accelerated erosion, either because of soil characteristics, steep topography, or recurrent high winds.
2. Areas where perennial grasses, shrubs, and forbs have been depleted and cannot reasonably be expected to provide soil and watershed protection within two years after a wildfire.
3. Areas where noxious weeds or exotic annual grasses, may readily invade and become established following a wildfire.
4. Areas that contain crucial habitat for wildlife, and/or Special Status species.
5. Areas where stabilization and rehabilitation is necessary to meet land use plan objectives.

The ESR treatments proposed, in the long term, will stabilize soils, establish perennial vegetation, reduce hazardous fuels by controlling annual exotic vegetation, and reduce the potential for noxious weed invasion. Proposed ESR treatments will contribute toward reversing the trend of large scale, high frequency wildfires by converting annual grasslands back to a more natural fire-adapted and resilient plant community.

I did not choose the no action alternative described analyzed in the EA because ESR policy and guidance has changed and the existing plans no longer meets the needs of the Boise District Office and the Jarbidge Field Office. This is due to the fact that new equipment and treatment methods were not analyzed in the existing NFRPs, and that the existing plans incorporate only 50% of BLM administered lands within the District. This would cause the Boise District Office and the Jarbidge Field Office to initiate new site specific EAs which may cause the delay of project thereby allowing soil erosion, noxious and invasive species to colonize a fire disturbed

site and disrupt normal ecological function. This makes subsequent attempts of restoring these sites much more difficult.

PLAN CONFORMANCE

I have considered the environmental affects described in the EA, and have determined the proposed action is in conformance and consistent with the Boise District Office and the Jarbidge Field Office land use plans listed below.

Owyhee Resource Management Plan, 1999.

Bruneau-Kuna Management Framework Plan, 1983.

Cascade Resource Management Plan, 1988.

Jarbidge Resource Management Plan, 1987 updated in 1993.

The following EIS and EA apply to treatment activities that have or may occur on ESR project areas. The attached NFRP tiers to the EIS and incorporates by reference the EAs below.

Lower Snake River District Noxious Weed Control Program EA, Decision Record, and Finding of No Significant Impact, 1998.

United States Department of Interior (USDI) Bureau of Land Management (BLM), Final Environmental Impact Statement, Vegetation Treatment on BLM Lands in Thirteen Western States, 1991.

APPEALS

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4. If an appeal is made, your notice of appeal must be filed in writing as a hard copy via United States Postal Service or other recognized letter carrier. The appeal must be addressed to the Idaho State Office, within 30 days of the date of service of this decision. The appellant has the burden of showing that the decision is adverse to you and is in error.

If you wish to file a petition pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993) or 43 CFR 2804.1 or 43 CFR 2884.1 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) the relative harm to the parties if the stay is granted or denied;

(2) the likelihood of the appellant's success on the merits;
(3) the likelihood of immediate and irreparable harm if the stay is not granted; and
(4) whether the public interest favors granting the stay.

NORMAL FIRE REHABILITATION PLAN TEAM MEMBER PREPARERS

Position	Team Member	Initial and Date
Team Leader	Cindy Fritz	/s/ CLF 7/31/04
NEPA Specialist	Sharon Paris	SP 8/04/04
NEPA Compliance & Planning	Jean Fend	JF 8/6/04
Hydrologist	Zig Napkora	/s/ ZMN 08.04.04
Botanist	Sheri Hagwood	SRH 8/5/04
Cultural Resources/Archeologist	Juanita Allen	JLA 8/3/04
Rangeland Mgt. Specialist	Mary Clark	MKC 08/09/04
Wildlife Biologist	Mike Mathis	MJM 08/17/04
GIS Specialist	Alex Webb	AW 08/09/04

SIGNATURES

Review and Concurrence by: _____
Andy Delmas, Fire Management Officer (Acting)

Date: _____
*****