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.

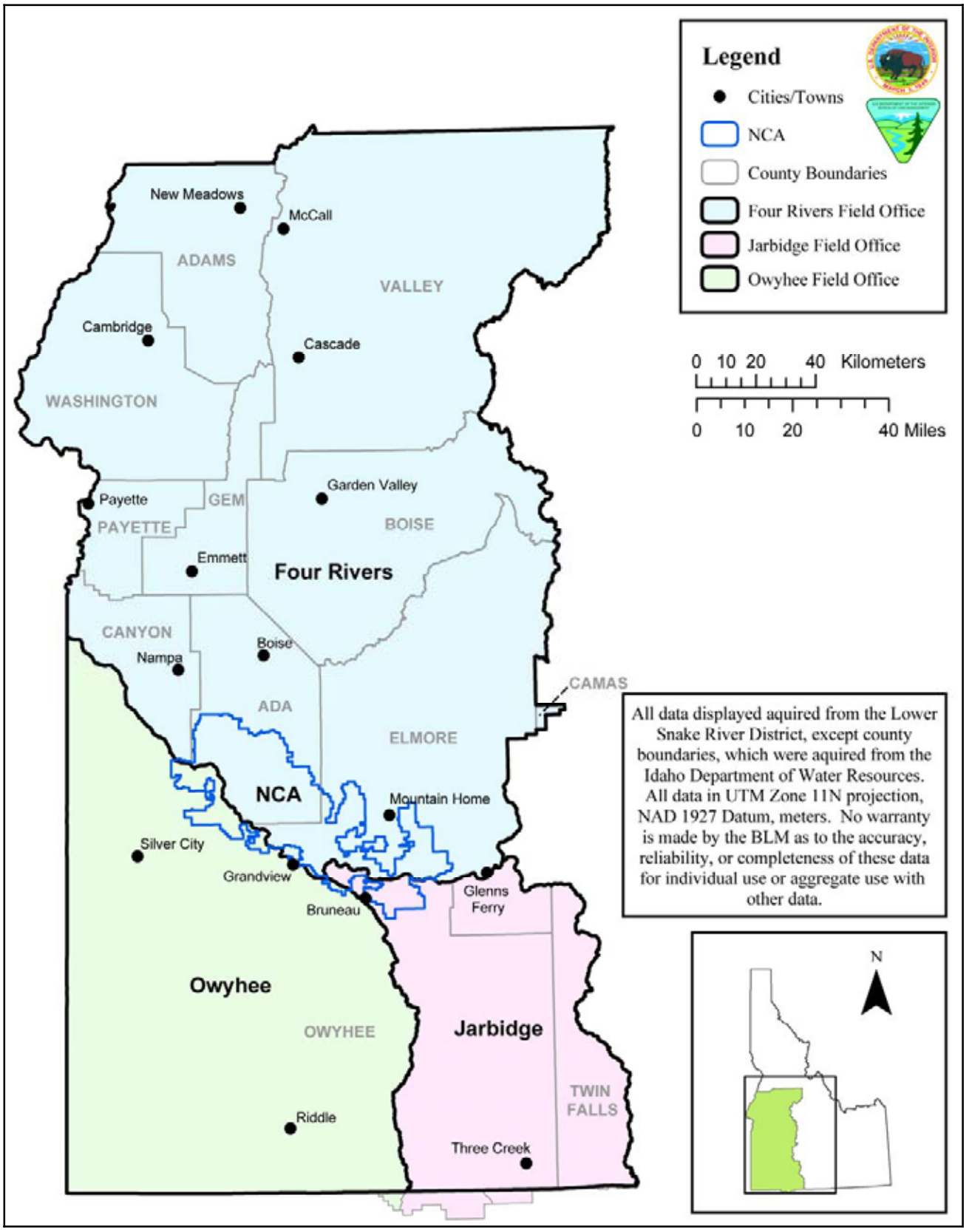
The District has a variety of natural landscapes that differ in elevation and precipitation. Elevation ranges from an average low of approximately 3,000 feet on the Snake River to more than 6,000 feet in the Owyhee Mountains. Average annual precipitation varies widely from 6 inches or less in the Snake 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.

Seedbed Preparation

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.