

UTAH BUREAU OF LAND MANAGEMENT

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Normal Fire Year Rehabilitation Plan and Emergency Fire
Rehabilitation**

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TABLE OF CONTENTS

CHAPTER 1 PURPOSE AND NEED FOR PROPOSED ACTION	Page No
Introduction.....	1
Purpose and Need	1
Conformance with Land Use Plans.....	2
Relationship to Statutes, Regulations, Policies, Plans, or other Environmental Analysis.....	2
Advance Procurement.....	2
Scoping of Issues	2
 CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES CONSIDERED	
Alternative 1- Proposed Action/Resource Management Plan	4
Seeding Methods (Table 1).....	5
Seed Bed Preparation (Table 2)	6
Cover Treatments (Table 3).....	7
Seeding Criteria 1-18	7
Alternative 2- No Action/No Rehabilitation.....	9
Alternative Considered but Eliminated- Minimum Plant Cover	9
Alternative Considered but Eliminated- Maximum Plant Cover.....	9
 CHAPTER 3 AFFECTED ENVIRONMENT	
General Location.....	10
Landscape and Climate	10
Critical Elements (Table 4).....	11
Non-Critical Elements (Table 5).....	14
Livestock Grazing by County (Table 6)	18
 CHAPTER 4 ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION AND ALTERNATIVES CONSIDERED	
Critical Elements/Consequences	
Cultural & Historic Resources	20
Alternative 1- Proposed Action/Resource Management Plan	
Alternative 2- No Action/No Rehabilitation	
Invasive Nonnative Species	21
Alternative 1- Proposed Action/Resource Management Plan	
Alternative 2- No Action/No Rehabilitation	
WSA/Other Wilderness	22
Alternative 1- Proposed Action/Resource Management Plan	
Alternative 2- No Action/No Rehabilitation	
Non-Critical Elements/Consequences	
Neotropical/Migratory Bird Species	24
Alternative 1- Proposed Action/Resource Management Plan	
Alternative 2- No Action/No Rehabilitation	
Recreation 25	
Alternative 1- Proposed Action/Resource Management Plan	

Alternative 2- No Action/No Rehabilitation	
Soil	26
Alternative 1- Proposed Action/Resource Management Plan	
Alternative 2- No Action/No Rehabilitation	
Vegetation	27
Alternative 1- Proposed Action/Resource Management Plan	
Alternative 2- No Action/No Rehabilitation	
Visual Resource	29
Alternative 1- Proposed Action/Resource Management Plan	
Alternative 2- No Action/No Rehabilitation	
Wildlife	30
Alternative 1- Proposed Action/Resource Management Plan	
Alternative 2- No Action/No Rehabilitation	
Cumulative Impacts	32
Mitigation	
Monitoring Plan	32
Support Facilities and Standard Operating Procedures	33
Construction of Erosion and Sediment Control Structures	33
Criteria for Erosion and Sediment Control Structures	33
Fencing Criteria 1-7	34
 CHAPTER 5 COORDINATION AND CONSULTATION	
List of Preparers	35
Coordination	35
 APPENDICES:	
A. SLFO General Location Map.....	36
B. References	37
C. Seed Species	39
D. Comments from Southern Utah Wilderness Alliance (SUWA)	42
E. Visual Resource Management (VRM) Class Objectives	49

ENVIRONMENTAL ASSESSMENT

EA-UT-020-2001-0045

CHAPTER 1

PURPOSE AND NEED FOR PROPOSED ACTION

Introduction

In the past 10 years, more than 800 wildfires have burned more than 531,000 acres within the Salt Lake Field Office (SLFO), Bureau of Land Management (BLM). Fire rehabilitation actions are intended to balance biotic communities and minimize unacceptable change to ecosystem structure and function of public lands. A comprehensive rehabilitation plan is essential to help restore health to this dynamic ecosystem.

Purpose and Need

The purpose and need for a Normal Year Fire Rehabilitation Plan (NFRP), and Emergency Fire Rehabilitation (EFR), is to streamline EFR procedures and enable on-the-ground treatments to be completed within time frames that are consistent with the urgent nature of fire rehabilitation within the SLFO. This approved plan and Environmental Assessment (EA) would allow the SLFO to proceed with Normal Fire Rehabilitation and EFR projects, as soon as EFR actions are determined to be required by the SLFO Manager.

The purpose of Normal Fire Rehabilitation and EFR is to initiate a combination of planned actions, in the shortest time frame possible, and to reduce the adverse effects of wildfire by reducing:

- loss of additional watershed cover (vegetation),
- loss of soil and on-site productivity,
- loss of water control and deterioration of water quality,
- damage to property on and off-site,
- invasions in burned areas by highly flammable plants (annuals),
- invasions of noxious weeds, and
- destruction of sensitive wildlife habitats.

The EFR EA would be a tiered process and function as a programmatic document. An Environmental Stabilization and Rehabilitation (ESR) Plan, Decision Record, and Finding of No Significant Impact (FONSI) would be written for each EFR project. A Documentation of Land Use Plan Conformance and NEPA Adequacy (DNA) would be composed for projects that render them. A DNA would include a discussion of the fire, the resources damaged as a result of the fire, the proposed rehabilitation practices being implemented, impacts not discussed in this EA, and applicable project stipulations. In addition, a cultural clearance, Threatened and Endangered (T&E) species survey, Labor Cost Plan Worksheet, NFRP Supplemental Worksheet, and an Operations Plan Worksheet would be prepared

for the BLM State Office to review for approval.

This plan covers public land within the SLFO. Other Federal, State, and private lands would not be considered in this plan. Priority areas are those that continue to deteriorate at an accelerated rate following a wildland fire, due to extremely sensitive soils, topography, and/or human influence. These areas may also be important for production of forage, habitat for wildlife species, and livestock production.

Conformance with Land Use Plans

All EFR practices discussed in this plan are consistent with: the Pony Express Resource Management Plan (RMP) (1990), Box Elder RMP (1986), Isolated Tract Planning Analysis (1985), Park City Management Framework Plan (MFP), and the Randolph MFP (1980), as amended by the SLFO Fire Management Plan (1998) and subsequent amendments. These documents call for reduced erosion, improved watersheds, and stabilization of disturbed areas through vegetative manipulation.

Relationship to Statutes, Regulations, Policies, Plans, or other Environmental Analysis

There are numerous activity plans and documents associated with the goals of the NFRP: Wildlife HMPs', Noxious Weed EA, Grazing EIS, EFR Handbook H-1742-1, Utah Standards for Rangeland Health, Riparian Area Strategic Plan, ACEC Activity Plans, Allotment Management Plans, Conservation Agreements, Executive Orders, Interim Management Policy for Lands Under Wilderness Review H-8550-1, and Wild Horse Herd Management Plans.

Advance Procurement

Advance procurement for supplies and services would be initiated before wildfire control efforts are completed. These actions would include seed procurement and rehabilitation treatments that need to be completed before the formal EFR plan could be implemented, as well as a cultural clearance. These actions would be taken in such a way to ensure that EFR activities proceed readily.

Scoping of Issues

The scoping of issues gives consideration to many concerns with a focus on the more important issues. Chapter 2 describes the proposed alternatives that were formulated to address the issues analyzed in this EA, the issues are listed below.

Issue 1:

Rehabilitation Funding

Refer to BLM Fire Management Plan Amendment, UT-020-1998-0008, Table 4.7 on page 57 and the EFR Handbook.

Issue 2:**Public Participation**

Public involvement was initiated on this proposed action on February 27, 2001, by posting on the Environmental Notification Bulletin Board.

The SLFO received comments from the Southern Utah Wilderness Alliance (SUWA) on the proposed action March 16, 2001 (Appendix D). The critical elements and other constituents of the human environment incorporate most of the public's concerns. The remaining concerns would be addressed under the appropriate sections of this EA. The SLFO received no other comments relative to the proposed action.

Issue 3:**Resource Management**

Consideration for Rangeland Health involves a wide variety of sub-issues, including seeding methods, seed bed preparation, cover treatments, seeding criteria, air quality, Areas of Environmental Concern (ACEC), cultural, environmental justice, farmlands, floodplains, invasive nonnative species, Native American, T&E Species, hazardous waste, water quality, wetlands/riparian, wild & scenic rivers, wilderness, historical resources, Lands and Access, mining and geology, water resources, rangeland seeding, recreation, socioeconomic concern, soil, vegetation, Visual Resource Management (VRM), water rights, wilderness, Wilderness Study Areas (WSA), wildlife, Special-Status-Species, wild horses, and livestock grazing.

CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES CONSIDERED

Alternative 1- Proposed Action/Resource Management Plan

The proposed action is to implement needed EFR activities following wildfires in a timely and cost-effective manner. EFR activities would occur through the months of September to April. All EFR activities would be addressed with an approved EA or DNA, specific to a particular fire. Fire Rehabilitation and EFR would be initiated in areas that meet one or more of the following criteria:

- areas that are highly susceptible to accelerated soil erosion,
- areas where perennial grasses and forbs (fire tolerant plants) cannot reasonably be expected to provide soil and watershed protection within two years after the fire. These areas are usually dominated by annual vegetation,
- areas where there is a need to establish a vegetative fuel-break system of a less flammable species (green-strips), and to protect all resources and private property adjacent to burned areas from deterioration as a result of conditions created by wildfire,
- areas where unacceptable vegetation, such as noxious weeds, may readily invade and become established following a fire,
- areas where shrubs and forbs are a crucial habitat component for wintering mule deer, antelope, sage grouse, and other Special-Status-Species,
- areas where rehabilitation is necessary to meet land use plan objectives and is consistent with Utah's Standards for Rangeland Health, and
- areas where rehabilitation would be consistent with wilderness and WSA management guidelines.

Management efforts would focus on utilization of beneficial seed mixtures to provide and protect resources. Previously successful mixtures that contain native and fire resistant species, would be used when available to defend disturbed sites from an invasion of undesirable plants and soil erosion.

Funding for EFR activities could be supplemented from benefitting programs or contributions from outside the BLM. Granting that fire rehabilitation is needed, the Assistant SLFO Manager would assign an emergency fire rehabilitation team to evaluate the areas burned by wildfire, and develop the EFR Plan and supporting documents. The documents would be at the SLFO for review within twenty days after the burn. If any non-BLM lands are within the burn, the Assistant SLFO Manager for Support would contact the landowner or managing agency for possible coordination in the rehabilitation.

Due to the broad spectrum of situations encountered during rehabilitation, all possible treatment options may be considered. The following seeding methods, seed bed preparations and cover treatments could be used by the SLFO, and are outlined in the following tables 1, 2, and 3.

Seeding Methods
Table 1

Seeding Method	No Adverse Effect	May Affect	Rationale/Description
Ground Broadcast		Y	Ground Broadcast seeding, using a truck, ATV, or hand mounted “whirly-bird” seeder 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. Small paths of 10-20’ in width could be seeded with seed mixes adapted for these specific areas. These seeded areas may or may not be protected from livestock grazing for two growing seasons, depending on the total fire size and proximity to larger fires.
Aerial Broadcast		Y	These special seed spreaders distribute seeds on large areas where ground machines cannot operate efficiently. These areas that are rugged and have a slope greater than 60%.
Rangeland Drill		Y	Rangeland Drill seeding can be used in a broad range of applications. The disturbance caused by drill seeding consists of small, 1-2" deep furrows dug at approximately 6-8" intervals. Seeds are dropped into these furrows from a seed dispersal tube placed directly above each furrow. The seeds are then buried with soil by a small chain which is dragged behind the furrows. This seeding method is typically used in open, relatively flat topography, which is fairly absent of larger rocks (8-10" in diameter). This method works well in most soil types. All seeded areas would be protected from livestock grazing and wood removal for a minimum of two growing seasons.
Press Wheel Drill		Y	Press Wheel Drills cut a small furrow 1-2" deep, and drop seed into this furrow. The press wheel then compacts the seed in the furrow and improves the soil to seed contact. The press wheel partially supports the weight of the drill. The seed delivery mechanism is designed to provide an opportunity for a more accurate seeding rate to be applied. The press wheel drill is primarily used on areas where the seed bed has been prepared by disking or on cultivated seed beds.
Hand Planting	Y		Hand Planting is used in very specialized situations and in limited quantity. Bare root stock or contained stock is typically used when it is desirable to establish specific species quickly within defined landscape positions. This method is usually limited to trees and shrub species. The disturbance associated with hand planting consists of the area within a 6-8" radius of the plant. There would be no mechanical equipment used with this application.
Land Imprinter Seeder		Y	A Land Imprint Seeder consists of a large drum with numerous V-shaped protrusions arranged around the circumference. The drum is filled with water to provide weight, and is then rolled on an axle over the ground to “imprint” small (approximately 4"x18") impressions in the soil surface. Seed is dispersed in front of the imprinter, or in this impression, which improves seed to soil contact. This seeding method is best used in clay soils which would maintain the depression, and in arid to semi-arid environments. The purpose of imprinting is to create small depressions which trap additional water for establishment and maintenance of seeded species in arid environments.
No-till Drill		Y	The No-till Drill has been developed during the past ten years, and is essentially a modern version of the Rangeland Drill. The impacts to the site are the same as the Rangeland Drill.

Rehabilitation efforts could include one or more of the following methods of seed bed preparation:
 disk, follow, black line on natural non-disturbed ground, natural, wildfire, harrow, roller pack, cultipack, and/or treated with an herbicide.

**Seed Bed Preparation
Table 2**

Seed Bed Preparation	No Adverse Effect	May Affect	Rationale/Description
Disking		Y	Disking is typically used when it is necessary to turn the soil, or invert the top 4 to 8" of soil. In this process the surface vegetation and duff layer is buried to this depth. In most cases the seed contained in the duff layer is buried deep enough to eliminate successful germination of the undesirable plant(s); therefore, the purpose of this technique is to eliminate the competition for the seeded plants, and to conserve soil moisture from being used by undesirable plants.
Fallow		Y	Fallowing is the practice of removing the existing vegetation and then maintaining the site in a vegetative free condition for one complete growing season. This procedure attempts to save the soil moisture and then transport the moisture into the next growing season. Maintenance of vegetation free sites are done by initially disking the site to remove the vegetation and then shallow, or fallow disking the site as needed to keep the site free of vegetation until the soil is ready to seed.
Black line/ Prescribed Fire		Y	Black lining is the practice of burning "strips" or "widths" of 150-350' or more, for the purpose of removing competing vegetation or creating a fire barrier. Prescribed fire is similar to black lining, except there are no pre-conceived size limitations. The need dictates the size.
Natural		Y	Natural preparation does not use a soil surface treatment method. Seeding is performed directly into existing vegetation.
Wildfire		Y	This method is used to seed directly onto areas burned by wildfire. No additional surface preparation is performed.
Harrow		Y	Harrowing is used when it is desirable to break up the soil crust or remove plants from the surface. It is not as disturbing to the vegetation or soil as disking, but may not remove all of the surface vegetation. A harrow contains numerous "teeth" which drag along the soil surface to disturb the upper 1-2".
Cultipack		Y	A cultipacker consists of a heavy roller, or sets of wheels, which would roll across the ground to provide soil compaction. Cultipacking is typically used in conjunction with another surface preparation method that has loosened the soil. This would typically be disking.
Herbicide		Y	Herbicide pretreatment is used when it is desirable to remove vegetation in a precise area prior to seeding. The herbicide may target certain species of weeds or may target a broad spectrum which kills all vegetation within the application area. As per the Vegetation Treatments EIS (USDI-BLM 1991), herbicide application may be used in conjunction with mechanical seed bed preparation. Herbicide application would help to eliminate populations of perennial noxious weeds and reduce amounts of viable annual weed seed in the soil. Herbicides that control weeds, but are less harmful to grasses and shrubs would be used.

**Cover Treatments
Table 3**

Cover Treatment	No Adverse Effect	May Affect	Rationale/Description
Chaining		Y	Chaining is a site treatment that provides soil scarification and removes vegetation. This treatment utilizes a heavy (40-90 pounds per link) anchor chain pulled behind two crawler-type tractors in a “U” or “J” pattern. The chain may be of various sizes (generally 100-350' long) and may weigh up to 32K pounds. The width of each swath would vary from 50-120'. Chaining is typically used in conjunction with broadcast seeding to cover the seed. Chaining is used in areas where remnant large woody and/or rocky conditions are present, that prevents other cover treatments.
Harrow		Y	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.

Irregular boundaries and unburned islands of vegetation would be maintained through the rehabilitation process, to ensure a natural visual impact and “edge” effect for wildlife. Seeded areas would be protected from livestock grazing and wood removal, for a minimum of two growing seasons. Seed mixtures would be formulated/designed for specific precipitation zones, and also to benefit wildlife habitat types. These seed species are intended as a guide and would be applied depending on seed availability and EFR conditions. Parameters such as soil properties, erosion potential, aspect, elevation, intended use, potential plant community, threats to existing watershed, seed availability and cost would be evaluated in developing seed mixtures.

The potential plant species that may be used for EFR, within the SLFO, can be found in Appendix C. Seed mixtures would be developed on a case-by-case basis as each EFR project requires, as per Rangefield Descriptions (USDA-SCS 1994).

Seeding Criteria 1-18

The following criteria would be practiced for all EFR activities:

1. Seeds would be applied only in designated areas, and at specific rates and mixtures. Native species would be utilized when appropriate and/or available.
2. Islands of unburned vegetation would not be seeded. Irregular boundaries of the burned area would be maintained throughout the chaining process, where chaining is deemed necessary to cover the seed.
3. Livestock (sheep and cattle) may be used (only in the dormant season) as a tool in seed bed preparation and/or coverage during broadcast rehabilitation efforts, as subject to Grazing Regulations 43CFR 4100.
4. Inventory would be conducted for Special-Status-Species within rehabilitation locations. Rehabilitation would be conducted to have “No Effect” within burn areas where T&E species occur.
 - 4.a. No ground disturbing activities would be conducted within 100' of both Betridge and Donner Creeks. These riparian areas may support Lahontan Cutthroat Trout. Camp Creek supplies water, during spring run-off, to the impoundment that supports the June Sucker.
 - 4.b. Native plant species would be encouraged within identified Canada Lynx habitats.

- 4.c.** Winter aerial seeding would not be conducted within ½ mile of wintering Bald Eagle roosting sites.
- 4.d.** There would be no ground disturbing activities within identified riparian areas, that support the Fat-whorled Pondsnaill.
- 5.** Areas scheduled for rehabilitation would be field checked for soil, climate, or multiple use management resources to confirm that the proposed treatment is appropriate.
- 6.** A project inspector would monitor all phases of the proposed project.
- 7.** The area to be seeded would be rested from grazing for at least two growing seasons or until vegetation is successfully established. Deferment would be done by fencing, closing specific pastures, herding in sheep allotments, or closing entire allotments. In lieu of a signed agreement, a grazing decision would be issued with notification of the closures. Authorized livestock grazing, during the two-year rest period, may be approved by an authorized officer on a case-by-case basis. Livestock grazing could be used only when cattle encourage the success of rehabilitation.
- 7.a.** Closures may occur for roads, and recreation uses, both permitted and casual.
- 8.** Drill rows would run along the contour of the land.
- 9.** Browse species with the exception of four-wing salt bush, forage kochia, winter fat, Gardner saltbush, and sagebrush would generally only be seeded in areas usually receiving more than 12" of precipitation.
- 10.** Reseeding and planting, within WSAs would usually utilize species native to the area. Seeding and planting would be staggered or irregular, so as to avoid a straight line plantation appearance and also to minimize cross-country use of motorized equipment. Rehabilitation in 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, and the Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook (2001). Should any areas within the SLFO be designated as wilderness, fire rehabilitation activities would be conducted according to subsequent wilderness management plans.
- 11.** Seeds of species requiring scarification would be properly treated to ensure timely germination.
- 12.** Monitoring studies would be established to determine the effectiveness of rehabilitation treatments and to indicate when closures would be lifted.
- 13.** When EFR seeding is conducted within sage grouse use areas, it should benefit the long-term health of Sage Grouse habitat. When possible/permitable seed mixtures would include a diverse mixture of grass, forbs, and shrubs that represent the areas native plant community.
- 14.** When EFR seeding is conducted within crucial big game habitats, seed mixtures would include forb and browse species--for the benefit of long term crucial big game habitats.
- 15.** Precautions would be taken to avoid active raptor nests, and the disruption of their nesting and rearing activities. These actions would follow LUPs for dates and times for rehabilitation activities.
- 15.a.** Seasonal closures for motorized use may occur due to wildlife values. Closures would adhere to LUP designations.
- 16.** Native shrubs may be planted as an EFR measure to restore shrubs for species diversity, and promote wildlife habitats.
- 17.** Written notice would be given to the Utah Department of Air Quality prior to surface disturbing activities, or actions to prepare seed beds, such as black lining or prescribed fire. Documentation would be part of the record and available to the public.

18. Cultural inventories would be completed prior to ground disturbing activities. If cultural values are present, the area would be flagged and avoided. Consultations with affected Tribes would be completed when necessary.

Alternative 2- No Action/No Rehabilitation

The no action alternative would leave all burned areas untreated, regardless of multiple use objectives, downstream threats, private land uses, or human safety. Areas burned by fire would discontinue grazing for two years.

There would be no treatments on burned areas within the SLFO.

Alternative Considered but Eliminated/Minimum Plant Cover

Conduct fire rehabilitation only in critical restoration areas where the burn could result in excessive loss of the soil resource, by the forces of wind or water. Other criteria, including the likelihood of undesirable vegetation establishment, and adequacy of wildlife cover, would not be considered. Areas burned by fire would discontinue grazing for two years.

This alternative is inconsistent with Bureau policy (BLM Manual Handbook H-1742-1) and would not be considered further in this document.

Alternative Considered but Eliminated/Maximum Plant Cover

The goal of EFR activities would focus only on planting seed mixtures that contain rapid growing plants, which have the largest root mass. Only seed types that have been recently successful would be used to provide rapid plant cover and maximum soil protection. Using only this type of seed mixture, which contains rapid growing plants with a large root mass, is undesirable and would not benefit all aspects of the ecosystem. Areas burned by fire would discontinue grazing for two years.

This alternative is not consistent with current bureau policy regarding the use of native plant species, which are typically associated with range rehabilitation and would not be considered further in this document.

CHAPTER 3 AFFECTED ENVIRONMENT

General Location

The SLFO manages public lands located in eleven counties in northwestern Utah, which exist on the eastern edge of the Great Basin's physiographic province, portions of the Rocky Mountain province and the Colorado Plateau. The area consists of several north south trending basin and range mountains, separated by broad valleys and a vast desert rangeland. Refer to the General Location Map (in Appendix A).

Landscape and Climate

There are a variety of natural landscapes within the SLFO, differing in elevation and precipitation. Elevation ranges from a low at the Great Salt Lake of 4,200' (average) to more than 10,748 feet in the Deep Creek Mountains.

Average annual precipitation varies widely, from 6" or less on the floor of the Great Salt Lake Desert to 30" or more annually on the top of the Stansbury, Oquirrh, Deep Creek, and Crawford Mountains. Mean temperatures vary from 15EF in January to 94EF in July. Temperature extremes of -50EF to 100EF occur for short periods (Utah Climate Center).

Critical Elements of the human environment that have been considered for this EA are listed below. Elements that may be affected are further discussed in Chapter 4, Environmental Consequences.

**Critical Elements
Table 4**

Critical Element	No Adverse Effect	May Affect	Rationale/Description
Air Quality	Y		<p>The U.S. Environmental Protection Agency has designated Northwestern Utah in Class II for air quality, having good air quality with no ambient air quality standards exceeded. This classification permits moderate air quality deterioration which normally accompanies well-controlled growth. There are localized occurrences of dust caused by high winds, vehicular traffic, and construction activities. Local fires sometimes cause a reduction in visibility in limited areas.</p> <p>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, hampering water and traffic thereby contributing to various accidents. If the dust is blown into nearby communities, numerous complaints may occur. Revegetation would decrease the loss of soil and ash to wind erosion.</p> <p>Soil disturbing activities would affect air quality for a short duration. Rehabilitation goals of establishing vegetative cover would be beneficial to maintaining air quality. Soil susceptibility to wind erosion would be evaluated on a case-by-case basis. Long term effect could place highly erosive soils at risk of displacement and contributing to dust storms locally and atmospherically. National Ambient Air Quality Standards for carbon monoxide, nitrogen dioxide, ozone, lead, and sulfur dioxide would not be exceeded by the proposed action nor alternatives.</p> <p>Particles released during rehabilitation efforts would be evaluated on a case-by-case basis in coordination with the Utah Division of Air Quality. The proposed action would be conducted when the clearing index is above 500, when atmospheric local conditions are clear and not contributing to visibility concerns.</p>

ACEC	Y		<p>These areas would be evaluated on an individual basis. Rehabilitation in ACEC would be consistent with the guidelines in this EA in conjunction with the management plans for the ACEC.</p> <p>The proposed action and alternatives effect to ACEC would vary depending on the site. Bonneville Salt Flats would not burn, therefore not requiring an EFR Plan. Laketown Canyon could be affected by wildfire. EFR activities on the Railroad Grade would be designed to avoid causing an adverse effect and would be subject to Section 106 consultation. Again, depending on the circumstances, EFR activities would not cause an adverse effect.</p>
Cultural & Historical Resources		Y	<p>Cultural resource inventories have been completed on a small percentage of the SLFO, with approximately 1500 sites recorded. These sites represent cultures dating from the Archaic period, more than 7,000 years old, through the near present. Most prehistoric sites contain remnants from one or more Indian cultures: Fremont and/or Archaic. No Traditional Cultural Properties have been identified in the SLFO, although they are likely present.</p> <p>In addition, there are numerous historic sites, ranging from the sites and trails of the mountain men and fur trappers, the Mormon pioneers, to the sites from historic mining, settlement, and railroading. In large part, modern roads parallel the routes of the historic trails. There are three sites listed on the National Register of Historic Places (NRHP), the GAPA Site, the Bonneville Salt Flats, and the Central Pacific Railroad Grade.</p>
Environmental Justice	Y		<p>Minority and low income groups would not be disproportionately affected by environmental effects due to rehabilitation activities. Rehabilitation contracts would be advertised and small or minority owned businesses would be allowed to bid.</p>
Farmlands, Prime/Unique	Y		<p>There is no prime/unique farmland located within the SLFO.</p>
Floodplains	Y		<p>The proposed action would reduce the vulnerabilities of the nation from loss of life, property, and the disruption of social and economic pursuits, by flooding or facility maintenance. The proposed action would sustain, restore, and/or enhance natural resources, ecosystems, and other functions of the floodplain.</p>
Invasive Nonnative Species		Y	<p>Approximately 2,300 acres on the SLFO are infested with 19 species of noxious weeds. Box Elder County has yet to be surveyed, therefore, the total acreage is likely to increase. In addition, about 1,500,000 acres are infested with cheatgrass. Different noxious weed species respond differently to fire. The characteristics that cause weeds to be labeled "noxious" are: hardy, adaptable, resistant to stress, and prolific--which tends to make them a fire tolerant species. Some weed species such as, squarrose knapweed, leafy spurge, and cheatgrass are all favored by fire, and can be distributed in suppression/rehabilitation activity.</p>
Native American	Y		<p>Prior to developing any cultural resource activity plans for fire rehabilitation, the appropriate Native American groups would be consulted to ensure the activity plan is developed with sensitivity to Native American cultural resources.</p>

<p>Threatened & Endangered Fish and Wildlife Species</p>	<p>Y</p>	<p>There are federally listed threatened species within the SLFO. Management activities may influence federally listed species.</p> <p>The Bald Eagle (<i>Haliaeetus leucocphalus</i>) is a threatened species which has winter range within the SLFO, and is found from late October through March. Several roosting areas have been identified near Vernon and Fairfield on private land, and also in the Tintic, Oquirrh, Sheeprock, Onaqui, and Stansbury Mountain Ranges, as well as the southern portion of the Great Salt Lake. Some eagle habitat has been identified in Rich County, yet the major foraging area is essentially Rush Valley. Public land, within the SLFO, that has been identified as eagle habitat may be considered “buffer” range. Other important use areas include Cedar, and Skull Valley. The bald eagle population wintering in these areas fluctuates according to weather, food supply, and time of year. Peak numbers occur in late January and early February. The lack of rehabilitation may impact their winter range.</p> <p>The Canada Lynx (<i>Lynx canadensis</i>) is a threatened species that has not been documented within the SLFO. Some habitat has been determined from vegetation mapping in Rich County. Currently, no Canada Lynx have been found based on two years of hair survey performed by the Wasatch Cache National Forest. Any rehabilitation efforts would not have an effect on Canada Lynx populations.</p> <p>The Lahontan Cutthroat Trout (<i>Oncorhynchus clarki henshawi</i>) is a threatened species found in the Pilot Mountain Range at Donner and Betridge Creeks, located in western Box Elder County. Their habitat within the SLFO has been excluded from livestock use for numerous years. These areas are reaching their site potential. No ground disturbing activities would occur 100' from habitat containing Lahontan Cutthroat Trout. Habitat would return naturally after burned by wildfire.</p> <p>Fat-whorled Pondsail (<i>Stagnicola bonnevillensis</i>) is a candidate species that occurs on private lands within the SLFO.</p> <p>The Whooping Crane (<i>Grus americanus</i>) is an endangered species which most likely uses the Randolph Sage Creek Complex in Utah as a migratory corridor. There are no known resident populations. It is not expected that rehabilitation activities would effect their migration corridor.</p> <p>The June Sucker (<i>Chasmistes liorus</i>) an endangered species, exists on private land as an introduced population in Box Elder County. The water source for that population is supplied by Camp Creek during spring runoff, which runs from adjoining public lands. No ground disturbing activities would occur within 100' of the riparian area in Camp Creek.</p> <p>Prior to rehabilitation efforts, a survey of the proposed rehabilitation area would be conducted for T&E species, and for identified critical habitat. If T & E species are found, the LUP for that particular area would be consulted. Rehabilitation activities would occur during times and/or within areas that would have “No Effect” to the species or its critical habitat.</p>
<p>Threatened & Endangered Flora</p>	<p>Y</p>	<p>There are no officially listed threatened and endangered plant species on public lands within the SLFO. However, there are three listed plants in near proximity to public lands within the SLFO. These plants are: Clay Phacelia (<i>Phacelia argillacea</i>) (endangered) which grows on private lands within Spanish Fork Canyon, Ute Ladies-tresses (<i>Spiranthes diluvialis</i>) (endangered) which grows at Willow Spring, west of Callao, and Desert milkvetch (<i>Astragalus desereticus</i>) (threatened) grows on private land near Birdseye in extreme southern Utah County.</p>
<p>Hazardous Waste</p>	<p>Y</p>	<p>Resource is not present nor would it be created by the proposed action or alternatives. If vehicles or equipment, used during rehabilitation and/or monitoring efforts, were to leak any gasoline or other fluids; the affected area would be appropriately cleaned as per Hazmat procedures and documented.</p>

Water Quality surface/ground	Y		<p>Wildland fires may burn vegetation next to live streams. There could be some impairment of water quality and an increase in run-off and sediment yield. Establishment of the desired plant community would improve water quality by reducing the above affects. Erosion control structures, along with the reestablished vegetation, could help slow the water movement caused by intense, heavy thunderstorms, and increase water holding capacity. As the water is retained, it would infiltrate into the soil, thus increasing the water supply for the new plants. Gully bank-sloughing and head-cutting would be reduced.</p> <p>Water erosion could result in a plant community dominated by cheatgrass. Fires originating in this community would likely spread to previously unburned areas. Cheatgrass communities are prone to a sequence of recurring fires that would lead to increased water erosion, especially during the interim between a fire and the reestablishment of the cheatgrass community. This erosion could, in many cases, affect nearby waters and associated fisheries due to an increased sediment yield.</p>
Wetlands/ Riparian	Y		<p>Wetland/Riparian habitats occupy a relatively small, yet an important portion of the SLFO. Proper functioning condition assessments have been and are in the process of being reevaluated and completed. Assessments would be on file at the SLFO. The major aquatic and riparian plants include Currant (<i>Ribes spp.</i>), willow (<i>Salix spp.</i>), rose (<i>Rosa spp.</i>), rushes (<i>Juncus spp.</i>), sedges (<i>Carex spp.</i>), lovegrass (<i>Eragrostic spp.</i>), monkey flower (<i>minulus spp.</i>), pondweed (<i>Potamogeton spp.</i>), spike rush (<i>Eleocharis spp.</i>), stinging nettle (<i>Urtica dioica</i>), water buttercup (<i>Ranunculus aquatilis</i>), and watercress (<i>Rorippa nasturtium-aquaticum</i>). Aspen (<i>Populus tremuloides</i>), Riverbirch (<i>Betula</i>), and Cottonwood (<i>Populus</i>) is often associated with these plant communities. Other aquatic and riparian species are present but occur infrequently. Algae are distributed throughout the streams. Some algae believed to be present are (<i>Vaucharia spp.</i>), (<i>Chaetophora elegans</i>), (<i>Cladophora glomerata</i>), and (<i>Prasiola nevadensis</i>). Phytoplankton and macro-invertebrates are also present.</p> <p>Should a wildfire initiate an EFR plan that affects Wetland/Riparian areas—the DNA would address specific affects. Overall rehabilitation activities described in the proposed action would not negatively affect Wetland/Riparian habitat. The BLM Utah State Office policy allows for activities within riparian zones that have an overall benefit and can be mitigated.</p>
Wild & Scenic Rivers	Y		<p>There are no wild & scenic rivers located within the SLFO.</p>
WSA/Other Wilderness	Y		<p>The SLFO contains lands with three wilderness concerns: 1. Wilderness Study Areas (WSAs), 2. BLM wilderness inventory areas, and 3. Other lands that are proposed as having wilderness character by citizens groups.</p> <p>Three mountainous areas in Tooele County have been designated as Wilderness Study Areas: Deep Creek Mountains, Cedar Mountains, and the North Stansbury Mountains.</p> <p>WSA's are managed to not impair their suitability for Congressional designation as wilderness. Generally this means that no new surface disturbance or permanent placement of structures is allowed, although existing developments may continue to be maintained.</p> <p>Following years of disagreement over the 1979-80 inventory and which lands in Utah have wilderness character, the BLM completed a second wilderness inventory of certain lands throughout Utah in 1999. Additional lands with wilderness character were found. In the future, these inventory areas will be considered for WSA status through the land use planning process.</p> <p>The SLFO includes the following Inventory Areas: Pilot Mountains, Newfoundland Mountains, Silver Island Mountains, Deep Creek Mountains, Cedar Mountains, North Stansbury Mountains, Oquirrh Mountains, and Dugway Mountains. Wilderness inventory areas are managed according to existing LUP's, yet BLM pays careful and particular attention to proposals that could impact BLM's ability to designate areas as WSA's, and limit Congress' ability to designate areas as wilderness. The BLM, therefore, considers proposals in the inventory area on a case-by-case basis to determine the potential impacts on wilderness characteristics.</p>

<p>WSA/Other Wilderness (continued)</p>	<p>Y</p>	<p>When appropriate, protective stipulations, relocations, or redesigns to reduce the effect on wilderness characteristics are considered. Further wilderness related information can be found at www.ut.blm.gov/ under wilderness.</p> <p>Areas proposed as having wilderness character by Citizens Groups (other areas): Lands within the SLFO have been identified by citizens groups for wilderness designation, and 2001 legislation has been introduced into the Congress (H.R. 1613 and S. 786) to designate these lands as wilderness. These lands were inventoried by the BLM in the late 1970's and early 1980's and determined to lack wilderness characteristics. At this time, no new significantly different information has been submitted that would compel BLM to reconsider the wilderness character of these lands. Thus, no new inventories have been completed by the BLM to determine if additional lands have wilderness characteristics. Rehabilitation in WSA's 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, and the Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook (2001).</p>
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Non-Critical Elements of the human environment that have been considered for this EA are listed below. Elements that may be affected are further discussed in Chapter 4, Environmental Consequences.

**Non-Critical Elements
Table 5**

Non-Critical Elements	No Adverse Effect	May Affect	Rationale/Description
Lands and Access	Y		The issue of legal access and land ownership in a particular area is an important aspect of the BLM performing on-the-ground projects. Particular care should be exercised to insure that legal access and correct land ownership data exists before planning a project, and that private property rights are not affected by our work. It should be kept in mind that the counties may consider certain existing roads to be 'county roads' under the auspices of Revised Statute 2477. The BLM SLFO does not recognize county rights on any roads in Tooele or Utah Counties that have not been issued a federal right-of-way. We recognize that the counties maintain certain roads, but they have never made an assertion or application to the BLM to receive an authorization to do so. Although the State of Utah currently has a lawsuit against the BLM, there is no resolution of this issue at the present time. Check with the lands staff on the use of any existing roads in an area and for the correct land ownership status.
Mining & Geology	Y		Neither resource would be affected by the proposed action nor the alternatives, except for temporary suspension of operations during rehabilitation efforts. Mining claim markers could be knocked over by the rehabilitation efforts. Active claimants would be notified of the proposed activity.
Neotropical Migratory Bird Species		Y	Under Executive Order 13186 of January 10, 2001 "Responsibilities of Federal Agencies to Protect Migratory Birds," and under the authority of the "Migratory Bird Treaty Act" 16 U.S.C. actions for rehabilitation may have an "Unintentional Take" on some bird species. Some rehabilitation actions and/or seed mixtures may benefit one species over another. Many species of neotropical migratory birds occupy the sagebrush steppe ecosystem during various periods of their life history. The bird species that occupy desert shrub, pinyon/juniper, sagebrush steppe, mountain shrub, and riparian areas would be included within EFR analysis and documented.
Rangeland Health	Y		BLM is assessing the complete SLFO area for Utah's Standards for Rangeland Health. Currently, 15 to 20% of the SLFO has been assessed. BLM assesses the condition of the uplands for soil site stability, hydrologic function, biotic integrity and riparian function. Rangeland Health and Conformance Reviews by allotment are on file. Refer to the grazing permit renewal EAs (1999-2001) also on file. The proposed action would ensure achievement of Utah's Standards for Rangeland Health. Rangeland health would be specifically addressed in each EFR DNA.
Rangeland Seeding	Y		In addition to the above identified plant communities, there are large areas previously seeded to crested wheatgrass (<i>Agropyron desertorum</i> and <i>Agropyron cristatum</i>), and tall wheatgrass (<i>Elytrigia elongatum</i>), from the 1940's to the 1980's. Refer to rangeland improvement case restoration file.

Recreation		Y	<p>Some areas within the SLFO receive substantially more motorized use than other areas, and some areas experience virtually no recreation (non-motorized or motorized) use. Destination recreation areas are described within applicable MFPs, RMPs, and the SLFO Fire Management Plan. Destination recreation areas typically experience a high level of use. Should fire rehabilitation be required within those areas, a high level of public contact, education, and enforcement would be necessary to prevent recreation use from exacerbating resource damage caused by wildland fire. In some instances, areas may need to be temporarily closed to OHV and recreation use through an emergency closure in the Federal Register, to preclude additional damage to resources due to compounded damage of use and fire.</p> <p>The SLFO manages the public lands according to the following OHV designations, depending on location:</p> <p>Open: Any type of motorized vehicle may be used anywhere within open areas. Cross country travel is allowed.</p> <p>Limited: Motorized use is either limited to existing roads and trails, limited to designated routes, or limited to use based on the season.</p> <p>Closed: No motorized use is allowed anywhere at any time within closed areas. Maps of OHV designations can be found in applicable RMP's, and MFP's as amended.</p> <p>Other forms of recreation which occur within the SLFO include: Mountain biking, hiking, hunting, camping, back country driving, historical site viewing, as well as other resource dependant activities. All of these users may be affected by fire rehabilitation activities.</p> <p>Affects to recreation would be discussed in Chapter 4, Environmental Consequences.</p>
Socio-economic Concern	Y		<p>Although agriculture and recreation are important constituents of the local economies, there is no sufficient information to indicate that the proposed action nor alternatives would impact social or economic concern. Circumstances requiring contracted services would be made available through official procurement contracting procedures.</p>
Soil		Y	<p>Soil types vary within the basin and range portion of Western Utah to the middle Rocky Mountain physiographic province of Rich County. The SLFO consists of approximately: 24% well-drained soils on mountains and foothills, 43% well-drained semi desert with level to steep soils on hills, lake terraces and alluvial fans, 33% well-drained to excessively-drained desert soil, nearly level lake plains, and basin floors. Soil information can be found in the Randolph County Management Framework Plan, Draft EIS Pony Express Resource Management Plan, Draft Box Elder RMP EIS, Environmental Impact Statements, and by soil surveys conducted by the Soil Conservation Service/NRCS. The primary factor in erosion susceptibility and rehabilitation success is slope and parent material, tempered by vegetation type and density. Some steep slopes with favorable vegetation characteristics are of only moderate susceptibility, while some milder slopes with unfavorable vegetation characteristics have high erosive potential. Lands of slight to no erosion susceptibility consist of relatively flat lake plains, and basin floors. These lands are subject to wind erosion when vegetation cover is removed. Two-thirds of the area has slight to moderate erosion susceptibility. The remaining one-third consists of generally steep to very steep mountainous areas. Affects to soil would be discussed in Chapter 4, Environmental Consequences.</p>

Vegetation	Y	<p>BLM Sensitive Flora or Special-Status-Plants located on SLFO public lands that receive limited protection are: Goose Creek milkvetch (<i>Astragalus anerinus</i>), and Idaho penstemon (<i>Penstemon idahoensis</i>) that grows in the northwest corner of the SLFO; Grouse Creek rockcress (<i>Arabis falcatoria</i>) that grows infrequently north of Grouse Creek; Cottam cinquefoil (<i>Potentilla cottamii</i>) and Rock violet (<i>Viola lithion</i>), that grow in the Pilot Mountains; Moss rockcress (<i>Draba kassii</i>) and Deep Creek stickseed (<i>Hackelia ibapensis</i>) that grow in the east canyons of the Deep Creeks; Pohl's milkvetch (<i>Astragalus lentiginosus</i> var. <i>pholii</i>) that grows in Skull and Rush Valley; Giant saltbrush (<i>Atriplex canescens</i> var. <i>gigantea</i>) and Sand-loving buckwheat (<i>Eriogonum nummularum</i> var. <i>ammophilum</i>) grows on dunes in Skull Valley. Sensitive flora likely to occur on BLM lands, but have yet to be documented are: Elegant penstemon (<i>Penstemon concinnus</i>), House Range primrose (<i>Primula domensis</i>), Passey's onion (<i>Allium passeyi</i>), Lewis Buckwheat (<i>Eriogonum lewisii</i>), Mesic Milkvetch (<i>Astragalus diversifolius</i>), Entire pepperweed (<i>Lepidium integrifolium</i>), and Neese narrowleaf Penstemon (<i>Penstemon angustifolius</i> var. <i>dulcis</i>). The Salt Desert Shrub has been greatly reduced by wildfire, within the SLFO, and mostly converted to cheatgrass communities. The SLFO intends to protect remaining Salt Desert Shrub communities through management efforts, fire prevention, fire suppression, and EFR activities. Rehabilitation aims toward the reestablishment and restoration of Salt Desert Shrub communities in areas where they previously existed. Ecological site descriptions are available as part of soil surveys. These descriptions provide detailed information regarding vegetation communities. For the purposes of this discussion, 11 broad plant communities have been identified: Mudflat is mostly devoid of vegetation. Plants that may be found are extremely salt tolerant, and include salicornia, prickle-weed, seepweed and greasewood. Precipitation less than 5".</p> <p>Big Sagebrush grows on a variety of soils on arid plains, valleys and foothills, mountain slopes, and is the most extensive plant community in the area. Slopes range from 2 to 50%, but slope gradients of 4 to 15% are most typical. Elevations are from 4,000 to 6,000'. Plant community is characterized by needle and thread (<i>Stipa comata</i>), blue bunch wheatgrass (<i>Pseudoroegneria spicata</i>), Wyoming big sagebrush (<i>Artemisia tridentata</i> subsp. <i>wyomingensis</i>), Indian ricegrass (<i>Achnatherum hymenoides</i>), Basin wildrye (<i>Leymus cinereus</i>), bottlebrush squirreltail (<i>Elymus elymoides</i>), spiny hopsage (<i>Grayia spinosa</i>), Nevada joint fir (<i>Ephedra Nevadensis</i>), Sandberg bluegrass (<i>Poa secunda</i>), rabbitbrush (<i>Chrysothamnus viscidiflorus</i>), rubber rabbitbrush (<i>Chrysothamnus nauseosus</i>), and Nevada bluegrass (<i>Poa nevadensis</i>). Arrowleaf balsamroot (<i>Balsamorhiza sagittata</i>), long-leaf Phlox (<i>Phlox longiflora</i>), and tapertip hawksbeard (<i>Crepis acuminata</i>) are important herbaceous species associated with this site. Potential vegetation composition is about 50% grasses, 15% forbs, and 35% shrubs. Precipitation is 12-14".</p>
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Vegetation (continued)	Y	<p>Low Sagebrush (<i>Artemisia arbuscula</i>) occurs on high mountain ridges, mountain side slopes, and plateaus. Slopes range from 4 to 75%, but slope gradients of 15 to 50% are most typical. Elevations range from 5,000 to 9,500'. Plant community is characterized by Idaho fescue (<i>Festuca idahoensis</i>). Low sagebrush is most common in foothills and on mountain slopes above 6,000'. In some areas, the dwarf sagebrushes are intermingled with severely stunted big sagebrush (<i>Artemisia tridentata</i>). Other important grasses are Indian ricegrass (<i>Oryzopsis hymenoides</i>), bottlebrush squirreltail (<i>Elymus elymoides</i>), Sandberg bluegrass (<i>Poa secunda</i>), Nevada bluegrass (<i>Poa nevadensis</i>), and pine bluegrass (<i>Poa scabrella</i>). Potential vegetation composition is about 50% grasses, 15% forbs, and 35% shrubs. Precipitation is 8-12".</p> <p>Black Sagebrush (<i>Artemisia nova</i>) occurs on shallow calcareous loam sites. It is common from low arid foothills and ranges to high mountain ridges. Areas of both big sagebrush and black sagebrush occur within the sagebrush type. Past over-utilization and improper seasons-of-use have allowed big sagebrush to dominate and have consequently reduced the productivity of these areas. Therefore, these sites often have high potential for land treatment. Sites with black sagebrush are located higher in the mountains on coarse, shallow soils. These areas, while generally in better condition, have low treatment potential.</p> <p>Mountain Brush occurs on upland terraces and inset mountain valleys and slopes of all aspects. Slopes range from 4 to 50%, but 30% is most common. Elevations range from 6,000 to 9,000'. Plant community is characterized by Idaho fescue (<i>Festuca idahoensis</i>), bitterbrush (<i>Purshia tridentata</i>), cliffrose (<i>Purshia mexicana</i>), blue bunch wheatgrass (<i>Pseudoroegneria spicata</i>), snowberry (<i>Symphoricarpos spp.</i>), antelope bitter brush (<i>Purshia tridentata</i>), and serviceberry (<i>Amelanchier utahensis</i>). Mountain brome (<i>Bromus marginatus</i>), ocean spray (<i>Holodiscus dumosus</i>), curleaf mountain mahogany (<i>Cercocarpus ledifolius</i>), mountain big sagebrush (<i>Artemisia tridentata</i> subsp. <i>vaseyana</i>) are other important species associated with this site. Brush species are dominant in some areas. Precipitation in mountain brush communities generally is about 14-16". Limited to the mountain ranges, the mountain shrub is the least common yet most productive vegetation type in some areas. This type is important to ranchers and range managers because it receives summer grazing use by both livestock and wildlife.</p> <p>Pinyon/Juniper Woodland occurs in mountainous regions. Slopes range from 30 to 50%, but slope gradients of 30% are most typical. Elevations are about 5,500 to 9,000'. Plant communities are characterized by pinyon pine (<i>Pinus monophylla</i>), and/or Utah juniper (<i>Juniperus utahensis</i>), blue bunch wheatgrass (<i>Pseudoroegneria spicata</i>), and black sagebrush (<i>Artemisia nova</i>). Sandberg bluegrass (<i>Poa secunda</i>), Basin wildrye (<i>Leymus cinereus</i>), and needle-and-thread (<i>Stipa comata</i>) are important species associated with pinyon/juniper. Precipitation is 12-14". Juniper without the pinyon association comprises the majority of the pinyon/juniper type in the SLFO. The juniper type has significantly invaded the sagebrush type; these invaded areas have the best treatment potential in the SLFO (Vallentine, 1971). Pinyon pine is found on the south end of the Oquirrh and Sheeprock Mountains, the Deep Creek Mountains, Simpson Mountains, Tintic Mountains, and northwest Box Elder County.</p> <p>Shadscale occurs on alluvial terraces, fans, and foothills on all aspects. Slopes range from 0 to 30%, but slope gradients of 0 to 8% are most typical. Elevations range from 4,000 to 5,800'. Plant communities are characterized by shadscale (<i>Atriplex confertifolia</i>), globe mallow (<i>Sphaeralcea coccinea</i>), gray molly (<i>Koshia americana</i>), four-wing saltbrush (<i>Atriplex canescens</i>), halogeton (<i>Halogeton glomeratus</i>), and bud sage (<i>Artemisia spinescens</i>). Indian ricegrass (<i>Oryzopsis hymenoides</i>), spiny horse brush (<i>Tetradymia spinosa</i>), falcate saltbrush (<i>Atriplex falcata</i>), and bottlebrush squirreltail (<i>Elymus elymoides</i>) are important species associated with this type. Potential vegetation composition is approximately 20% grasses, 5% forbs, and 75% shrubs. Precipitation is 8-12".</p> <p>Greasewood occurs on closed-basin bottom lands adjacent to playas. Slopes range from 0 to 2%. Elevations are from 4,000 to 6,000'. Plant communities are characterized by black greasewood (<i>Sarcobatus vermiculatus</i>). Vegetation of this type is normally restricted to coppice mound areas that are surrounded by playa-like depressions or nearly level--usually barren--interspaces. Basin wildrye (<i>Leymus cinereus</i>) and inland saltgrass (<i>Distichlis spicata</i> var. <i>stricta</i>), Alkali saccaton (<i>Sporobolus airoides</i>), and Seepwood (<i>Suaeda occidentalis</i>) are the most prevalent herbaceous species associated with this type. Saltgrass may extend into the interspace zone in some areas. Potential vegetation composition is about 25% grasses, 5% forbs, and 70% shrubs. Precipitation is mostly 6-10".</p> <p>Winterfat occurs on alluvial fans and terraces and favors silty loam sites. Slopes range from 2 to 30%, but slope gradients of 4 to 15% are most typical. Elevations are from 4,000 to 6,000'. Plant communities are characterized by winterfat (<i>Ceratoides lanata</i>), and bud sagebrush (<i>Artemisia spinescens</i>). Shadscale (<i>Atriplex confertifolia</i>), Gardner saltbrush (<i>Atriplex gardneri</i>), Indian ricegrass (<i>Oryzopsis hymenoides</i>), and bottlebrush squirreltail (<i>Elymus elymoides</i>) are important species associated with this type. Potential vegetation composition is about 20% grasses, 5% forbs, and 75% shrubs. Precipitation is 8-12".</p> <p>Conifer-Aspen type is limited to the north-facing slopes of the mountain tops which are very steep and mostly unsuited for livestock grazing. This type is used by big game for cover and minimal grazing. Precipitation is 25-30".</p> <p>Grass of the perennial type includes several small areas on mountain benches and valley bottoms, which are dominated by species such as bluebunch wheatgrass</p>
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VRM		Y	<p>VRM classes found within the SLFO are VRM class II, III, and IV. Management prescriptions for these classes are found in Appendix E.</p> <p>The visual resources within the SLFO were inventoried for: scenic quality, visual sensitivity, and distance zone in accordance with BLM Manual 8400. Based on these factors, visual resource management (VRM) classes and related management objectives were proposed and adopted within the SLFO LUP's. The scenic characteristics of the public lands within the SLFO vary in land form: long flat valleys to gentle sloping foothills and rugged steep craggy mountains. Colors vary throughout the SLFO but mostly follow monochromatic tones and shades of green, gray, and brown. Textures also vary from smooth valleys of grasses with scattered islands of spiked shaped vegetation and pockets of feather-like masses of trees, to sharp jagged mountain terrain. The landscape includes broad, semi-arid and arid valleys separated by mountain ranges and interspersed with "islands" of mountains. Visible human developments include roads, transmission lines, fences, structures, agricultural lands, community sites, and bare ground associated with quarry sites and signs.</p>
Water Rights	Y		<p>Impacts to water rights would be reviewed on a case-by-case basis. In general, water rights are not expected to be impacted by the proposed action nor alternatives. Stock water, irrigation, and domestic beneficial uses would still be occurring. It is possible that public land closure to specific uses such as recreation or livestock grazing could limit an owner of a water right from making beneficial use—such as livestock watering. This action would not result in a “take” of a water right.</p>
Wildlife		Y	<p>Within the SLFO there is approximately 75 species of mammals, 320 species of birds, 25 species of reptiles and amphibians, and 30 species of fish. It should be noted that when wildfire and rehabilitation activities occur, especially in riparian areas, all local wildlife would likely be affected.</p> <p>The mammals of primary concern with respect to EFR projects are the big game and fur bearing species. Elk (<i>Alces alces</i>), moose (<i>Cervus elaphus</i>), and mule deer (<i>Odocoileus hemionus</i>), are normally found in higher elevations, and pronghorn antelope (<i>Antilocapra americana</i>), are normally found in broad open valleys. The fur bearing species include, coyote (<i>Canas latrans</i>) and bobcat (<i>Lynx rufus</i>). Rabbit and rodent populations could also be affected by EFR activities.</p> <p>Upland game birds likely to be affected by EFR activities include the chukar partridge (<i>Alectoris chukar</i>), sage grouse (<i>Centrocercus urophasianus</i>), the hungarian partridge (<i>Perdix perdix</i>), and blue grouse (<i>Dendragapus obscurus</i>). Passerine species could also be affected by rehabilitation activities.</p> <p>Sage grouse is considered a sagebrush obligate species that has undergone substantial decline in numbers due to habitat degradation and multiple-land use changes over time. Currently, sage grouse and Bonneville Cutthroat Trout are “Special Status Species.” Special Status Species are covered under BLM national policy (BLM 6840 Manual) which states: “BLM shall carry out management, consistent with principles of multiple use, for the conservation of candidate [and sensitive] species and their habitats and shall ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened/ endangered.” Effects to wildlife are discussed in Chapter 4, Environmental Consequences.</p>
Wild Horses	Y		<p>Free roaming wild horses are common within Tooele County. The management level of wild horses consists of two herds concentrated on the Onaqui and Cedar Mountains, with approximately 600 horses. Wild horses have occupied this area since the late 1800's.</p> <p>Wild horse numbers fluctuate and may exceed AML. However, adequate provisions exist through management efforts for removal of excess horses due to closures or required adjustments.</p> <p>Wild horse populations would benefit from a more reliable forage source. New fencing used in the rehabilitation project could impair the movement of the wild horses. If new water retention devices are constructed, they would provide additional water sources which may assist in the dispersal of wild horses, thus lessening their impact on specific areas.</p>

Livestock Grazing by County
Table 6

Livestock Grazing by County	No Adverse Effect	May Affect	Allotments	Operators (sheep & cattle)	Active Preference	Rationale
Box Elder	Y		48	84	51,260.	Areas of rehabilitation would be rested from grazing for a minimum of two complete growing seasons.
Rich	Y		19	61	24,000.	Areas of rehabilitation would be rested from grazing for a minimum of two complete growing seasons.
Tooele	Y		73	117	106,299.	Areas of rehabilitation would be rested from grazing for at minimum of two complete growing seasons.
Utah	Y		12	20	2,315.	Areas of rehabilitation would be rested from grazing for at minimum of two complete growing seasons.

The chart above shows the amount of use by county. The SLFO has more cattle operators than sheep operators, with most being a cow-calf operation. Seasons of use vary through spring and winter, depending on allotment.

Refer to the allotment and operator data contained within BLM's Grazing Application Billing System and/or case records on file.

Deferment of grazing for two growing seasons could have an economic effect on livestock operators as other feed sources must be found. The cost of each AUM would vary depending on private market conditions. Presently the private land lease rate is \$10.00 per AUM (BLM-USO 2001). Following rehabilitation, the amount of forage is usually greater than before the wildfire. Over time, the productivity of the new seeding usually declines, but the forage production may remain above pre-fire levels for many years even though re-invasion of woody species may occur. Without seeding, an annual such as cheatgrass may invade the site resulting in a long-term loss of livestock forage. Adjustments could be made in authorized AUM's based on the percentage of the allotment burned or affected by the rehabilitation.

Adjustments could be made in grazing season length and/or number of livestock authorized. Exchange of use grazing agreements would also be adjusted to be consistent with the active preference. Adjustments are authorized under provision 43 CFR 4100 and follow Utah's guidelines for Grazing Management. No increases in active preference would be made. Any increase in AUM's would be allotted to wildlife and watershed requirements. Specific AUM figures would be documented as part of the EFR.

While seeding of native species is most desirable, several factors limit this action; seed is not readily available, quantity of seed needed is not available, and/or the technology is not available for successful seeding.

Additionally, there are very few species available which can be successful in less than 10" annual

precipitation. If seed is available, the purity cannot always be guaranteed to be within BLM guidelines, or the cost of the seed would render the rehabilitation project uneconomical. Native seeds may also not be from a similar ecological site, thus decreasing the chance of germination and adaptability. While native seed supplies are constantly improving, the supplies are not adequate to meet current demand (See Appendix C for a seed species list).

If seeding is successful, the reestablishment of perennial vegetation would provide an improved plant community, reducing the hazard for fire and erosion potential.

If a cheatgrass dominated plant community became established, the native plant community would not reestablish in the near future due to the competitive nature of cheatgrass, and the frequency of the fire cycle.

It may be difficult and expensive to establish a perennial plant community through seeding since cheatgrass caryopses persist for several years in the soil. It is recommended that these sites be monitored for at least two years prior to seeding (Young).

CHAPTER 4
ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION AND
ALTERNATIVES CONSIDERED

Critical Elements/Consequences

Cultural & Historical Resources

Alternative 1- Proposed Action/Resource Management Plan

Prior to conducting any surface disturbing fire rehabilitation activities, consultation with the State Historic Preservation Officer would be conducted in compliance with Section 106 of the National Historic Preservation Act. A cultural resource inventory would be completed prior to any land disturbing activity (including, but not limited to, fence construction, seeding, and construction of erosion/sediment control facilities). Cultural resources would be avoided whenever possible. If cultural resources cannot be avoided, further work would be undertaken to mitigate adverse affects to the site(s).

SEEDING METHODS	ENVIRONMENTAL CONSEQUENCES
Ground Broadcast	"No Effect."
Aerial Broadcast	"No Effect."
Rangeland Drill	Use of a rangeland drill would displace cultural materials both horizontally and vertically, thereby destroying their interpretive context.
Press Wheel Drill	Use of a press wheel drill would displace cultural materials both horizontally and vertically, thereby destroying their interpretive context.
Land Imprinter Seeder	Use of a land imprinter seeder would displace cultural materials both horizontally and vertically, thereby destroying their interpretive context.
No-till Drill	Use of a no-till drill would displace cultural materials both horizontally and vertically, thereby destroying their interpretive context.

SEED BED PREPARATION	ENVIRONMENTAL CONSEQUENCES
Disking	Disking would displace cultural materials both horizontally and vertically, thereby destroying their interpretive context.
Fallow	Following would displace cultural materials both horizontally and vertically, thereby destroying their interpretive context.
Black line/ Prescribed Fire	Black lining may affect and even destroy some types of cultural resources. Cultural resources would include: rock art, wooden artifacts, or features, i.e., structures or tent stakes.
Natural	"No Effect."
Wildfire	"No Effect."
Harrow	Harrowing would displace cultural materials both horizontally and vertically, thereby destroying their interpretive context.

Cultipack	Cultipacking would displace cultural materials, especially when used in conjunction with other ground disturbing methods.
Herbicide	The use of herbicides would not adversely affect cultural resources.

COVER TREATMENTS	ENVIRONMENTAL CONSEQUENCES
Chaining	Chaining would displace cultural materials both horizontally and vertically, thereby destroying their interpretive context.
Harrow	Harrowing would displace cultural materials both horizontally and vertically, thereby destroying their interpretive context.

Alternative 2- No Action/No Rehabilitation

Lack of plant cover and the resulting erosion may cause adverse effects to cultural resources, including presently unidentified resources.

Invasive Nonnative Species

Alternative 1- Proposed Action/Resource Management Plan

Relative to fire rehabilitation activities, noxious weed surveys would be a consideration in all fire rehabilitation plans. Often these species are among the first to re-sprout. At these times they are much easier to locate than when intermixed within a diverse plant community. The best times to survey burns for noxious weeds would be when post burn regrowth begins (autumn, and just after the burn), and as plant growth begins in the spring following the burn.

SEEDING METHODS	ENVIRONMENTAL CONSEQUENCES
Ground Broadcast	Establishment of seeded species would competitively disadvantage noxious and invasive species in some numbers. Failure to establish seeded species or regeneration of native species, would likely result in establishment and/or dominance of noxious or invasive species.
Aerial Broadcast	Establishment of seeded species would competitively disadvantage noxious and invasive species in some numbers. Failure to establish seeded species or regeneration of native species, would likely result in establishment and/or dominance of noxious or invasive species.
Rangeland Drill	Establishment of seeded species would competitively disadvantage noxious and invasive species in some numbers. Failure to establish seeded species or regeneration of native species, would likely result in establishment and/or dominance of noxious or invasive species.
Press Wheel Drill	Establishment of seeded species would competitively disadvantage noxious and invasive species in some numbers. Failure to establish seeded species or regeneration of native species, would likely result in establishment and/or dominance of noxious or invasive species.
Land Imprinter Seeder	Establishment of seeded species would competitively disadvantage noxious and invasive species in some numbers. Failure to establish seeded species or regeneration of native species, would likely result in establishment and/or dominance of noxious or invasive species.
No-till Drill	Establishment of seeded species would competitively disadvantage noxious and invasive species in some numbers. Failure to establish seeded species or regeneration of native species, would likely result in establishment and/or dominance of noxious or invasive species.

SEED BED PREPARATION	ENVIRONMENTAL CONSEQUENCES
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Disking	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.
Fallow	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.
Black line/ Prescribed Fire	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.
Natural	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.
Wildfire	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.
Harrow	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.
Cultipack	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.
Herbicide	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.

COVER TREATMENTS	ENVIRONMENTAL CONSEQUENCES
Chaining	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.
Harrow	Aiding the establishment of seeded or native species would help provide competition to noxious and invasive species.

Alternative 2- No Action/No Rehabilitation

Without seeding and grazing deferment, the burned area would become a fire prone cheatgrass monoculture with knapweed infestations at elevations of 5000'. Fire can control juniper encroachment and release desirable herbaceous native understory species at elevations above 5000' (in relative intact plant communities).

WSA/Other Wilderness

Alternative 1- Proposed Action/Resource Management Plan

WSAs are managed according to the IMP. If fire rehabilitation efforts are conducted within a WSA, caution must be used to avoid unnecessary impairment of the area's suitability for preservation as wilderness. Efforts would be conducted by applying "light-hand-on-the-land" fire rehabilitation tactics. Among other considerations, the use of motorized vehicles and equipment directly on the land should be avoided, native vegetation establishment should be promoted, and invasive species and potential invasive species should be eradicated.

Within certain areas in Utah's West Desert, invasive species establishment remains a growing issue. Wilderness character and values may decline if native species are out competed by invasive species. The BLM must manage WSAs to retain their wilderness character, until Congress designates the WSAs as wilderness or releases them for other uses. Some temporary disturbance may occur within a WSA from EFR activities, however, all activities would occur with the maintenance of wilderness values/character as the objective and would meet the "minimum tool" requirements.

There are no proposals at this time for new developments or surface disturbing activities that would affect wilderness characteristics. Any such developments or activities that may be proposed in the future would be considered on a case-by-case basis, and impacts to wilderness values would be assessed and mitigated as appropriate at that time. Therefore, impacts to wilderness characteristics associated with implementation of EFR activities are not an issue that would be analyzed further in this EA. This same logic would also apply to the lands proposed as having wilderness character by citizen's groups.

SEEDING METHODS	ENVIRONMENTAL CONSEQUENCES
Ground Broadcast	The hand mounted "whirly bird" seeder would be the preferred tool for rehabilitation within a WSA. As circumstances require, other methods may be used (ATV, trucks, etc.) if utilized in a limited manner and all evidence of such use is erased.
Aerial Broadcast	Aerial broadcast use in WSAs should be encouraged if it represents a viable technique for establishing seed.
Rangeland Drill	Rangeland drill seeding within a WSA should occur only if drill rows are created in an irregular, non-symmetrical manner. Should rangeland drill seeding be utilized, drill rows should be knocked down after application of seed mixture. Any appearance of rows or uniformity with the seeding should be minimized to maintain a natural appearance.
Press Wheel Drill	Use of the press wheel drill within a WSA should be in accordance with rangeland drill recommendations.
Land Imprinter Seeder	Impacts/preferences are similar to the rangeland drill above.
No-till Drill	Impacts/preferences are similar to the rangeland drill above.

SEED BED PREPARATION	ENVIRONMENTAL CONSEQUENCES
Disking	Impacts from disking would be diminished by implementation of rangeland drill seeding mitigation measures.
Fallow	This should occur within WSAs on a limited, case-by-case basis. If invasive species issues occur, this method would not be utilized.
Black line/ Prescribed Fire	Black lining in WSAs should be irregular in shape to mimic natural fire burn patterns.
Natural	There is no impact from this form of seed bed preparation.
Wildfire	There is no impact from this form of seed bed preparation.
Harrow	Irregular patterns should be created when using this method. This method is more desirable than disking due to some vegetation being retained. Any non-natural features created from harrowing should be eliminated.
Cultipack	Cultipack objectives should be the same as disking. Reduce visible evidence of seed bed preparation.
Herbicide	Herbicide applications should be applied in a manner to retain a natural, feathered appearance, i.e., not square in appearance.

COVER TREATMENTS	ENVIRONMENTAL CONSEQUENCES
Chaining	Chaining should be used on a case-by-case basis, only when absolutely necessary. If utilized, the chaining should be irregular and natural in appearance.
Harrow	Irregular patterns should be created when using this method. This method is more desirable than disking due to some vegetation being retained. Any non-natural features created from harrowing should be eliminated.

Alternative 2- No Action/No Rehabilitation

Not pro-actively fighting the invasion of invasive species could result in degradation of wilderness character in these areas, and violate requirements under the IMP.

Non-Critical Elements

Neotropical/Migratory Bird Species

Alternative 1- Proposed Action/Resource Management Plan

The proposed action promotes the rapid development of habitats available to neotropical/migratory bird species. Seed mixtures containing diverse and native seeds would be encouraged.

SEEDING METHODS	ENVIRONMENTAL CONSEQUENCES
Ground Broadcast	Ground broadcast machines would benefit the welfare of most species over time.
Aerial Broadcast	Aerial broadcast methods would benefit the welfare of most species over time.

Rangeland Drill	Rangeland drill machines would benefit the welfare of most species over time. Rangeland drills may impact ground nesting birds and burrowing owls.
Press Wheel Drill	Press wheel drill machines would benefit the welfare of most species over time. Press wheel drills may impact ground nesting birds and burrowing owls.
Land Imprinter Seeder	Land imprinter seeders would benefit the welfare of most species over time. Land imprinter seeders may impact ground nesting birds and burrowing owls.
No-till Drill	The no-till drill would benefit most species over time, but may impact ground nesting species of birds.

SEED BED PREPARATION	ENVIRONMENTAL CONSEQUENCES
Disking	Disking may benefit the welfare of most species over time.
Fallow	Fallow preparation may benefit the welfare of most species over time.
Black line/ Prescribed Fire	Black lining would not be recommended within wildlife habitat.
Natural	Natural preparation would not likely benefit neotropical bird species habitat. The burned area may be prone to noxious weeds, and cheatgrass infestations. Many areas may experience slow recovery.
Wildfire	Wildfire would not be recommended within wildlife habitat.
Harrow	Harrowing may promote rapid recovery of the burn area, yet may impact some ground nesting bird species.
Cultipack	Soil preparation using a cultipacker may promote rapid recovery of the burn area, yet may impact some ground nesting bird species.
Herbicide	Could impact various bird species, either initially and/or over time.

COVER TREATMENTS	ENVIRONMENTAL CONSEQUENCES
Chaining	Chaining may promote rapid recovery of the burn area, yet may have an impact on ground nesting bird species.
Harrow	The use of a harrow may promote rapid recovery of the burn area, yet may have an impact on ground nesting bird species.

Alternative 2- No Action/No Rehabilitation

The no action alternative may promote the invasion of noxious weed species and/or cheatgrass to areas burned by wildfire. This alternative reduces diversity within plant communities, and would reduce the number of neotropical/migratory birds in some areas.

Recreation

Alternative 1- Proposed Action/Resource Management Plan

Organized OHV events within EFR project areas would be curtailed for a minimum of two growing seasons or until revegetation occurs.

SEEDING METHODS	ENVIRONMENTAL CONSEQUENCES
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Ground Broadcast	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Aerial Broadcast	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Rangeland Drill	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Press Wheel Drill	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Land Imprinter Seeder	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
No-till Drill	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.

SEED BED PREPARATION	ENVIRONMENTAL CONSEQUENCES
Disking	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Fallow	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Black line/ Prescribed Fire	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Natural	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Wildfire	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Harrow	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Cultipack	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Herbicide	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.

COVER TREATMENTS	ENVIRONMENTAL CONSEQUENCES
Chaining	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.
Harrow	Utilization of this method would not significantly affect recreation use. Recreation use, however, would be impacted in areas closed for two growing seasons, or until the establishment of vegetation, and also by possible use restrictions in other areas. Access to some areas may be redirected, restricted, or prevented-which may impact recreation opportunities.

Alternative 2- No Action/No Rehabilitation

If the no action alternative is implemented, and no rehabilitation activities occur, the opportunity for recreation may diminish as vegetative cover is lost. Public lands may become more susceptible to erosion and invasion of cheatgrass and other unwanted plant species. Continued recreation use in

these areas could further spread these unwanted species. Users perceptions of healthy ecosystems may diminish from viewing fire scars.

Soil

Alternative 1- Proposed Action/Resource Management Plan

After a burn, the soil would be free and exposed to extensive wind and water erosion. Soil erosion would increase as much as six times from pre-burn condition. Once the burn is rehabilitated, soil erosion would be equal to or less than before the fire. In the short term, soil erosion could be more than five tons/acre/year until the new vegetation is established. Minor soil compaction along new/reconstructed fence lines would occur from vehicular traffic.

In areas of high erosion potential, structures such as retention dams and sediment ponds would catch a large volume of rapidly moving water and sediment, allowing a small outflow to occur. The reduced flow below the dam would lessen erosion action of the water. Construction of the retention structures would disturb the soil's micro flora and fauna. Soils would be stabilized after the vegetation has established.

Following fire, soils are typically left unprotected from raindrop impact and overland flow. The erosive action of overland flow, is further amplified by the hydrophobic effects that fire has on soils. Late season monsoonal moisture patterns, which are common to northern Utah, place an additional risk of erosion on burned soils.

SEEDING METHODS	ENVIRONMENTAL CONSEQUENCES
Ground Broadcast	Short term ground disturbance would occur with truck and ATV use. This would result in some short-term wind erosion depending on the site.
Aerial Broadcast	There would be no soil disturbance on sites aerial seeded. Seeding on bare spots would improve vegetative ground cover to prevent erosion.
Rangeland Drill	Wind erosion from drilling would be off set by low water erosion, due to the rills from the drill. Plant material seeded would sprout to provide soil protection.
Press Wheel Drill	A press wheel drill would improve water infiltration rates, but initial wind erosion would increase. Once vegetation became established, the site would be stable.
Land Imprinter Seeder	The initial imprinting could cause wind erosion, but the imprint on the ground surface would catch water and prevent water erosion. The imprint would allow safe sites for seeds to germinate and provide soil protection.
No-till Drill	Wind erosion from drilling would be off set by lower water erosion, due to the rills from the drill. Plant material would have an added advantage to sprout, compared to the rangeland drill to provide soil protection.

SEED BED PREPARATION	ENVIRONMENTAL CONSEQUENCES
Disking	Actual disking has a tendency to cause enormous wind erosion, until the soil became stable from rainfall and plant growth. This adverse initial effect would be overcome by a cohort of seeded species, should the seeding be successful.
Fallow	Restricting vegetation from the site for a season would allow for both wind and water erosion. Actual fallow disking would create wind erosion. The risk of the project might be at fault due to the initial erosion
Black line/ Prescribed Fire	Initial pollution from smoke could be mitigated by not having larger fires later on. The area black lined would be subject to erosion until plant growth reoccurred.

Natural	There would be no surface disturbance, unless soil is already disturbed or lacks a seed bank and/or vegetation. Safe sites for seed species would not occur.
Wildfire	There would be no surface disturbance unless there is a safe site for the seed. Only existing plant material would grow.
Harrow	Harrowing would cause wind erosion, but would help to prevent water erosion. Existing and seeded vegetation would improve ground cover, to prevent erosion. This method would allow safe sites for seeded species.
Cultipack	This would help to prevent wind erosion.
Herbicide	Herbicide use on noxious weeds would help to prevent the occurrence of unwanted plant species. Green-stripping due to non selection of herbicides causes erosion until the new plants are established.

COVER TREATMENTS	ENVIRONMENTAL CONSEQUENCES
Chaining	Chaining has a tendency to cause wind erosion and water erosion for the short term. Once vegetation is established, the site would be more productive.
Harrow	Harrowing would cause wind erosion, but would help to prevent water erosion. Existing and seeded vegetation would improve ground cover, to prevent erosion. This method would allow safe sites for seeded species.

Alternative 2- No Action/No Rehabilitation

Desirable species could not occur. Public lands may become more susceptible to erosion, and invasion of cheatgrass and other annuals would likely dominate the site.

Vegetation

Alternative 1- Proposed Action/Resource Management Plan

The effects of fire on vegetation are a function of many factors, but the two most important factors are the type of fuel which is burning and the rate of spread at which a fire is traveling.

The success of seeding sown by rangeland drills is usually quite high. Failures can usually be attributed to lack of adequate moisture (especially in the spring months), though high temperatures, high evaporation rates, wind damage to seedlings, and slow growth during the seedling stage are frequent causes of failure (Vallentine, 1971). Provided that the site is capable of supporting rangeland seeding, the seed is of high quality and planted at the correct depth, and there is little competition from weeds species such as cheatgrass, the chance for success is high.

SEEDING METHODS	ENVIRONMENTAL CONSEQUENCES
Ground Broadcast	The success of seeding where the seed has been broadcast is frequently low. Success increases with increased precipitation and elevation. Depending on soil and moisture conditions, much of the planted seed frequently does not germinate while much of the seed that does germinate does not establish due to shallow root development (Vallentine, 1971).
Aerial Broadcast	The success rate from aerial seeding increases when the seeds have been covered by dragging an anchor chain across the planting. Where shrub seedlings have been planted, the success has been variable. The moisture is again a critical factor. Damage to seedlings by rodents is also a frequent cause of failure.
Rangeland Drill	To the extent that a method creates better soil to seed contact, and creates a favorable macrosite and/or reduces competition, the method would enhance the chances of seed germination.

Press Wheel Drill	To the extent that a method creates better soil to seed contact, and creates a favorable macrosite and/or reduces competition, the method would enhance the chances of seed germination.
Land Imprinter Seeder	To the extent that a method creates better soil to seed contact, and creates a favorable macrosite and/or reduces competition, the method would enhance the chances of seed germination.
No-till Drill	To the extent that a method creates better soil to seed contact, and creates a favorable macrosite and/or reduces competition, the method would enhance the chances of seed germination.

SEED BED PREPARATION	ENVIRONMENTAL CONSEQUENCES
Disking	Disking would assist in the reduction of damaging competition.
Fallow	Fallowing may support an increase of soil moisture
Black line/ Prescribed Fire	Black lining would assist in the reduction of damaging competition.
Natural	Supports natural regeneration.
Wildfire	Wildfire would assist in the reduction of competition.
Harrow	Harrowing would assist in the reduction of damaging competition.
Cultipack	A cultipacker would increase soil to seed contact.
Herbicide	Herbicide treatments would reduce the amount of undesirable competition, and may increase soil moisture by the elimination of strong competitors.

COVER TREATMENTS	ENVIRONMENTAL CONSEQUENCES
Chaining	To the extent that a method creates better soil to seed contact, and creates a favorable macrosite and/or reduces competition, the method would enhance the chances of seed germination
Harrow	Harrowing would assist in the reduction of damaging competition.

Alternative 2- No Action/No Rehabilitation

Without seeding and grazing deferment, the burned area would become a fire prone cheatgrass monoculture with knapweed infestations at elevations of 5000' or below. Fire can control juniper encroachment and release desirable herbaceous native understory species at elevations above 5000' (in relative intact plant communities).

Visual Resource

Alternative 1- Proposed Action/Resource Management Plan

Visual resource class would not change due to wildfires, except visual quality may be reduced along highways and other areas of moderate to high traffic flow. Following rehabilitation, the visual quality is usually restored, although the vegetation composition may appear different. Visual quality in some areas may increase with establishment of native species, texturing and feathering rehabilitation into visible islands, and further species diversification efforts.

SEEDING METHODS	ENVIRONMENTAL CONSEQUENCES
Ground Broadcast	Should be used in VRM Class II areas if appropriate, as opposed to other seeding methods to maintain visual quality.
Aerial Broadcast	Should be used in VRM Class II areas if appropriate, as opposed to other seeding methods to maintain visual quality
Rangeland Drill	Allowable in all VRM Classes if vegetation growth is assured. If vegetation growth is not assured, use of a rangeland drill would be avoided in areas of VRM Class II. Drill rows should be knocked over in VRM Class II areas.
Press Wheel Drill	Allowable in all VRM Classes if vegetation growth is assured. If vegetation growth is not assured, use of a press wheel drill would be avoided in areas of VRM Class II. Drill rows should be knocked over in VRM Class II areas.
Land Imprinter Seeder	Use of a land imprinter seeder would be conducted in an irregular pattern in VRM Class II areas. Use of the land imprinter seeder is allowable in VRM Classes III and IV.
No-till Drill	Allowable in all VRM Classes if vegetation growth is assured. If vegetation growth is not assured, use of a no-till drill would be avoided in areas of VRM Class II. Drill rows should be knocked over in VRM Class II areas.

SEED BED PREPARATION	ENVIRONMENTAL CONSEQUENCES
Disking	Disking is allowable in VRM Classes III and IV. Disking should be avoided in VRM Class II areas, unless absolutely necessary. Minimization of visual impacts should be achieved.
Fallow	This method is allowable in VRM Classes III and IV. This method should be avoided in VRM Class II areas, unless absolutely necessary. Minimization of visual impacts should be achieved.
Black line/ Prescribed Fire	Within VRM Class II areas, burned strips should be feathered to maintain a high visual quality.
Natural	“No Effect.”
Wildfire	“No Effect.”
Harrow	Harrowing is the preferred method, as opposed to disking, in VRM class II areas. Visual disturbances and irregular patterns should be minimized.
Cultipack	Use of this method is allowable in VRM Classes III and IV. This seed bed preparation should be avoided in VRM Class II areas, unless absolutely necessary. Minimization of visual impacts should be achieved.
Herbicide	The use of herbicides should only be used in VRM Class II areas, if visual impacts are minimized. Herbicides would be used in an irregular, and natural pattern.

COVER TREATMENTS	ENVIRONMENTAL CONSEQUENCES
Chaining	Chaining should be avoided in VRM Class II areas, unless visual impacts can be mitigated. Chaining would occur on a case-by-case basis within VRM class II areas.
Harrow	Harrowing is the preferred method, as opposed to disking, in VRM class II areas. Visual disturbances and irregular patterns should be minimized.

Alternative 2- No Action/No Rehabilitation

If rehabilitation activities were not initiated on public lands, cheatgrass and other invasive unwanted species may become even more predominate. Visual quality could possibly diminish due to the increased fire potential, thus creating fire scars. New growth of native vegetation may not occur, and visual quality in the area may decline.

Wildlife

Alternative 1- Proposed Action/Resource Management Plan

Reestablished perennial vegetation would provide a plant community critical to the needs of wintering wildlife in the area. Natural succession would take much longer and may not produce the forage plants desired by big game species.

Rehabilitation efforts would minimize the likelihood of cheatgrass establishment, and its tendency to dominate infected sites.

Reestablished perennial vegetation is less likely to burn as frequently, and as uncontrollably as cheatgrass and other annual plants. Reducing fire frequency would enable the natural successional process to function.

As native ecosystems are restored, the associated wildlife species would also increase. Habitat and

species diversity would be improved.

Rehabilitation treatments would be designed to incorporate irregular edges, islands of vegetation, and edge effect.

In the short term, following fire and rehabilitation, the abundance of small game/rodents would decrease, which would also cause a net reduction in avian and mammalian predators. Over the long term, there would be an increase in species numbers and diversity.

Sensitive wildlife species dependant upon certain vegetation communities, such as sage grouse, would benefit from rehabilitation efforts when the seed mixture includes sagebrush and succulent forbs.

Failure to

rehabilitate sagebrush areas would result in a short term decline in sage grouse numbers and distribution.

Rehabilitation efforts along streams, or in upland communities, that supply runoff to streams would have a positive impact on water quality, stream sediment, and stream bank stability. The dependent aquatic species, such as fish and macro-invertebrates would benefit from improved water quality.

Failure to rehabilitate would increase the chances of stream bank deterioration, sediment loading, and poor water quality, all of which reduce the suitability of the streams for plant and animal life.

In some instances, fencing of treated areas would be required to protect the seedlings from livestock grazing for a period of two years, or until root establishment occurs. Fencing would create barriers for wildlife migration, and may create physical dangers to low flying, or jumping species. The fences built to BLM Wildlife Specifications would minimize most all negative effects of the fences.

Fencing would allow the establishment of healthy vegetation communities that would support healthy populations of wildlife species. Removal of the fences-most often temporary projects-would eliminate the presence of physical barriers, but would increase the likelihood of higher levels of forage consumption by livestock.

SEEDING METHODS	ENVIRONMENTAL CONSEQUENCES
Ground Broadcast	No impact on species, dependent on time of year and location of rehabilitation.
Aerial Broadcast	No impact on species, dependent on time of year and location of rehabilitation.
Rangeland Drill	Impacts may occur if performed in riparian areas that are upstream, and/ or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time lines to minimize impacts to wildlife species.
Press Wheel Drill	Impacts may occur if performed in riparian areas that are upstream, and/or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time frames to minimize impacts to wildlife species.
Land Imprinter Seeder	Impacts may occur if performed in riparian areas that are upstream, and/or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time frames to minimize impacts to wildlife species.
No-till Drill	Impacts may occur if performed in riparian areas that are upstream, and/or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time frames to minimize impacts to wildlife species.

SEED BED PREPARATION	ENVIRONMENTAL CONSEQUENCES
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Disking	Impacts may occur if performed in riparian areas that are upstream, and/or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time frames to minimize impacts to wildlife species.
Fallow	Impacts may occur if performed in riparian areas that are upstream, and/or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time frames to minimize impacts to wildlife species.
Black line/ Prescribed Fire	May impact wildlife species depending on time and location.
Natural	Preferred preparation in riparian areas. Preferred preparation to be used in critical wildlife habitats where native plant communities dominate.
Wildfire	Wildfire may impact fish and wildlife species, due to lack of control.
Harrow	Impacts may occur if performed in riparian areas that are upstream, and/or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time frames to minimize impacts to wildlife species.
Cultipack	Impacts may occur if performed in riparian areas that are upstream, and/or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time frames to minimize impacts to wildlife species.
Herbicide	Herbicides may impact fish and wildlife species.

COVER TREATMENTS	ENVIRONMENTAL CONSEQUENCES
Chaining	Impacts may occur if performed in riparian areas that are upstream, and/or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time frames to minimize impacts to wildlife species.
Harrow	Impacts may occur if performed in riparian areas that are upstream, and/or within areas occupied by threatened or candidate species. Land disturbing activities would need to abide by LUPs and time frames to minimize impacts to wildlife species.

Alternative 2- No Action/No Rehabilitation

Within the SLFO Land Use Plan, objectives for fish and wildlife species would not be met. All RMPs for the SLFO include the reduction of erosion, protection of watersheds, and stabilization of disturbed areas through vegetation manipulation. Without vegetation rehabilitation, many areas could possibly become cheatgrass dominated communities. In cheatgrass dominated areas there is a loss of plant species diversity and a causal loss of diversity among wildlife species. Diversities in both plant and animal community may provide forage, cover, and/or other habitat that could support both fish and wildlife species in that area.

All the RMP's of the SLFO includes the reduction of erosion, protection of watersheds, and to stabilize disturbed areas through vegetation manipulation. Without vegetation rehabilitation many areas could become a cheatgrass dominated community. Cheatgrass dominated areas have a loss of plant species diversity, and a causal loss of diversity among wildlife species. Diversities within plant and animal communities may provide forage, cover, and/or other habitats that could support species within communities.

Cumulative Impacts

Additional fires occurring within the same area would increase the impacts to various resources such as soil, vegetation, water, and wildlife. There would be less native vegetation to serve as a seed source for the burned area. Immediate action to rehabilitate the burned areas would help assure that long-term productivity of watershed and rangeland values would be protected. The short-term loss of livestock grazing would be compounded if additional fires occur in the surrounding area.

There are no other activities/actions that are presently known by the BLM that have been proposed or are likely to occur on USFS, military, reservations, refuges, and private lands within or adjacent to the analysis area.

Mitigation

Monitoring Plan

The NFRP presented in this document would be implemented over a period of several years, until modified or cancelled by the BLM. The ability of the SLFO to complete projects is directly dependent upon available funding. The priorities for accomplishments would be reevaluated annually and may be revised based on changes in law, regulations, policy, or economic factors. Monitoring studies, including use supervision, can be established and used for up to three growing seasons following fire control to determine whether EFR objectives are being met. The supervisor that developed and implemented the EFR plan is encouraged to participate in project monitoring. After the end of the third growing season, long-term monitoring is encouraged but must be funded through a benefitting activity. Monitoring studies are encouraged on all EFR projects.

Monitoring would focus on the success or failure of the rehabilitation plan, methodology, and the environmental factors that influence rehabilitation efforts. Monitoring would be conducted either by SLFO staff or through an agreement with Utah State University Department of Natural Resources.

Detailed monitoring information can be found in the Emergency Fire Rehabilitation Handbook, BLM Manual Handbook H-1742-1 (July 1999).

Should previously undiscovered cultural values be encountered during rehabilitation activity, work would stop immediately, the SLFO Manager and Archaeologist would be notified to ensure proper protective action.

Emergency actions could be taken to immediately remove all livestock from the affected area and continue to rest it from grazing for a period of two growing seasons. Revegetation would occur naturally from remaining root stalk and viable on-site seeds.

Removal of cattle would be labor intensive, requiring the use of one or more herders and/or miles of new fence construction. Long durations of time may be required to achieve adequate ground cover depending on the intensity of the fire. This does not coincide with bureau policy or direction regarding emergency rehabilitation.

T&E species and critical habitats would be identified.

Support Facilities and Standard Operating Procedures

A standard operating procedure within the planning documents states that disturbed areas, capable of producing vegetation, would be reseeded to prevent erosion and replace ground cover. This is consistent with EFR objectives and Standards and Guidelines for Healthy Rangelands. The inclusion of forb species in seed mixtures used in crucial wildlife habitats would keep all seeding, conducted with EFR funding, consistent with the Land Use Plans. The Western States' Sage Grouse Guidelines would be adhered to by including a mix of about 20% forbs in the seed mixtures as allowed for in the Range Site Descriptions.

Fences, gates, cattle guards, and other control features would be constructed as needed to protect seeding or other improvements during the rehabilitation period. Damaged fences which provide protection would be repaired and/or constructed around the burned area until the native vegetation or revegetation is successfully reestablished. Existing maintenance responsibilities assigned to grazing permittees would be enforced. Inadequate fencing due to lack of maintenance would not be corrected by EFR funding.

Construction of Erosion and Sediment Control Structures

Where off-site damage may occur, structures such as retention dams, land treatments, and contour furrowing could be needed to control erosion, sediment yield, and flood waters. In most cases these would be used in conjunction with the seeding treatment. Gully check dams or plugs may be required where head-cutting erosion is occurring. Gully treatment may include broadcast seeding and chaining to establish perennial vegetation on the sides and bottom.

Criteria for Erosion and Sediment Control Structures

1. The planning, design, and construction of erosion/sediment control structures and flood water retarding structures would be done in accordance with BLM Manual 1972, Water Control Structures.
2. Materials used would be of local origin to the greatest extent possible, with installation by local personnel and equipment, as per procurement/contracting procedures.

Fencing Criteria 1-7

- 1.** All fence posts, braces, and gates would be made of steel or wood material.
- 2.** A cultural inventory and T&E clearance would be completed along proposed new fences prior to any construction activity. Mitigation would take place if cultural and/or T&E values are present.
- 3.** In most cases, fencing construction and reconstruction would conform to the BLM Manual Handbook H-1741-1 (with exception of all metal material) and SLFO policy. Exceptions to this policy must be approved by the SLFO Manager.
- 4.** All necessary easements would be acquired prior to construction.
- 5.** Fences in wild horse areas would be designed to be visible to horses (with the top wire smooth in texture), and would have at least one gate installed per mile and/or every corner.
- 6.** All fences would conform to standard fence specification in big game habitat areas, so that movement would not be restricted.
- 7.** All fences within WSA's would be temporary in nature, and removed after vegetation has reestablished.

**CHAPTER 5
COORDINATION AND CONSULTATION**

List of Preparers

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NFRP: Appendix A:SLFO General Location Map

NFRP: Appendix B: References

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NFRP: APPENDIX C: Seed Species

Parameters such as soil properties, erosion potential, aspect, elevation, intended use, potential plant community, threats to existing watershed, seed availability and cost would be evaluated in developing seed mixtures.

Reseeding and planting within WSA's would usually utilize species native to the area when available. Seeding and planting would be staggered or irregular, so as to avoid a straight line plantation appearance and also to minimize cross-country use of motorized equipment. All activities would meet the non impairment criteria according to the IMP.

Fire rehabilitation activities in wilderness areas would be conducted according to subsequent wilderness management plans.

Native and diverse seed mixtures would be formulated to promote wildlife habitat. Mixtures would depend on availability.

Probable Normal Fire Rehabilitation, and Emergency Fire Rehabilitation Seedings

Barley (*Hordeum vulgare*)

Bluegrass, Nevada (*Poa nevadensis*)
Bluegrass, Sandberg (*Poa compressa*)
Brome, mountain (*Bromus carinatus*)
Brome, smooth (*Bromus intermis*)
Dropseed, sand (*Sporobolus cryptandrus*)
Fescue, creeping red (*Festuca rubra*)
Fescue, Idaho (*Festuca Idahoensis* var *ovina*)
Flax, blue (*Linum perenne*)
Foxtail, meadow (*Alopecurus pratensis*)
Kochia, forage (*Kochia prostrata*)
Needle & Threadgrass (*Stipa comata*)
Needlegrass, Letterman (*Stipa lettermanii*)
Orchardgrass (*Dactylis glomerata*)
Ricegrass, Indian (*Oryzopsis hymenoides*)
Ryegrass, Perennial (*Lolium perenne*)
Sacaton, Alkali (*Sporobolus airoides*)
Squirreltail, Bottlebrush (*Elymus elymoides*)
Wheatgrass, bluebunch (*Pseudoroegneria spicata*)
Wheatgrass, crested (Hybris) (*A. cristatum* X *A. desertorum*)
Wheatgrass, crested (*Agropyron cristatum*)
Wheatgrass, intermediate (*Thinopyron intermedium*)
Wheatgrass, NewHy (*Elymus hoffmannii*)

Wheatgrass, pubescent (*Thinopyrum intermedium*)
 Wheatgrass, siberian (*Agropyron fragile*)
 Wheatgrass, slender (*Elymus trachycaulus*)
 Wheatgrass, snake river (*Elymus wawawaiensis*)
 Wheatgrass, tall (*Thinopyrum ponticum*)
 Wheatgrass, thickspike (*Elymus lanceolatus*)
 Wheatgrass, western (*Pascopyrum*)
 Wildrye, basin (*Leymus cinereus*)
 Wildrye, beardless (*Leymus triticoides*)
 Wildrye, russian (*Psathyrostachys juncea*)

Alfalfa (*Medicago sativa*)
 Aster, blueleaf (*Aster glaucodes*)
 Arrowleaf, balsamroot (*Balsamorhiza sagittata*)
 Burnet, small (*Sanquisorba minor*)
 Flax, blue (*Linum perenne*)
 Flax, Lewis (*Linum perenne lewisii*)
 Globemallow, gooseberryleaf (*Sphaeralcea grossulariifolia*)
 Globemallow, scarlet (*Sphaeralcea coccinea*)
 Milkvetch, cicer (*Astragalus cicer*)
 Penstemon, palmer (*Penstemon palmeri*)
 Penstemon, Rocky Mountain (*Penstemon strictus*)
 Penstemon, Wasatch (*Penstemon cyananthus*)
 Saltbrush, fourwing (*Atriplex canescens*)
 Sagewort, Louisiana (*Artemisia ludoviciana*)
 Sainfoin (*Onobrychis viciifolia*)
 Sweetclover, yellow (*Melilotus officinalis*)
 Sweetvetch, Utah (*Hedysarum boreale*)
 Yarrow, western (*Achillea millefolium*)
 Aspen, quaking (*Populus tremuloides*)
 Bitterbrush, antelope (*Purshia tridentata*)
 Bitterbrush, desert (*Purshia glandulosa*)
 Buffaloberry, silver (*Shepherdia argentea*)
 Ceanothys, martin's (*Ceanothus martinii*)
 Chokecherry (*Prunus virginiana*)
 Cinquefoil, shrubby (*Pentaphylloides*)
 Cliffrose (*Cowania stansburiana*)
 Cottonwood, fremont (*Populus fremontii*)
 Current, golden (*Ribes aureum*)
 Ephedra, green (*Ephedra viridis*)
 Hopsage, spiny (*Grayia spinosa*)
 Kochia, forage (*Kochia prostrata*)
 Mahogany, mountain (*Cercocarpus ledifolius*)
 Rose, Woods (*Rosa woodsii*)
 Sagebrush, Basin big (*Artemisia tridentata*)

Sagebrush, black (*Artemisia nova*)
Sagebrush, mountain big (*Artemisia tridentata*)
Sagebrush, Wyoming big (*Artemisia tridentata* ssp. *Wyomingensis*)
Saltbrush, fourwing (*Atriplex canescens*)
Saltbrush, gardner (*Atriplex gardneri*)
Serviceberry, saskatoon (*Amelanchier alnifolia*)
Shadescale (*Atriplex confertifolia*)
Snowberry, mountain (*Symphoricarpus albus*)
Spruce, Engelmann (*Picea engelmannii*)
Spruce, blue (*Picea pungens*)
Sumac, skunkbush (*Rhus trilobata*)
Willow, coyote (*Salix exigua*)
Willow, drummond (*Salix drummondiana*)
Willow, lemmon (*Salix lemmonii*)
Willow, scouler (*Salix scouleriana*)
Winterfat (*Ceratoides lanata*)

NFRP: APPENDIX D: Comments from Southern Utah Wilderness Alliance

NFRP: APPENDIX E: Visual Resource Management (VRM) Class Objectives

Class I Objectives - No Visible Change

The objective of this class is to preserve the existing character of the landscape. Only Congressionally authorized areas or areas approved through the RMP process where the goal is to provide a landscape setting that appears unaltered by man, should be placed in this class. The level of change to the characteristic landscape should be extremely low because only very limited development such as hiking trails should occur in these areas.

Class II Objectives - Change Visible but Does Not Attract Attention

The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any change must repeat the basic elements of form, line, color, and texture found in the predominant natural feature of the characteristic landscape.

Class III Objective - Change Attracts Attention but is Not Dominant

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

Class IV Objectives - Change is Dominant but Mitigated

The object of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be a major focus of the viewers attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic element.