

Vale District Bureau of Land Management  
Lytle Emergency Stabilization and Rehabilitation Plan N149  
Environmental Assessment  
EA No. OR-030-01-016

I. PURPOSE AND NEED

A. Background

A human caused fire originating on public land in T.19S., R.45E., W.M. Section 25 during the morning of July 27, 2001, rapidly spread on public land and crossed Lytle Boulevard to include Malheur County land on which the Vale Dump is located. It was suppressed on initial attack by federal and Vale Rural firefighters as the Lytle Fire (N 149) (figure 1). It burned a total of 334 acres of which approximately 35 acres are private (Malheur County) and 299 acres are public domain in the Malheur Resource Area of the Bureau of Land Management Vale District. Containment was achieved at 1317 on July 27 with control at 2056 on July 27. One dozer, one grader, a number of engines, one helicopter, a water tender, and air tankers were used during suppression activities. Access to the fire was by way of the paved Lytle Boulevard on the southwest boundary, with approximately 2 miles of bladed two-tracks and fireline on the northeast boundary used for control lines from which back-burning was conducted. All soil disturbance associated with firelines and roads was adjacent to the fire boundary. The firelines and roads used for control were reshaped and smoothed to the extent possible before heavy equipment left the scene of the fire. Due to dry soil and extremely dusty conditions, there is a need to delay seeding of roads and bladed line used for fire suppression activities until sufficient moisture is available during the fall of 2001.

The majority of the burned area is within Lincoln Bench Pasture of North Harper Allotment. Minor acreage is on private land in the Vale Dump enclosure and private land in West Canal Pasture. Though a portion of the area burned was dominated by native sagebrush/bunchgrass vegetation communities prior to the fire, the majority of the burned area, including areas of previous disturbance, was dominated by annual herbaceous species. Native communities contained Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*), rabbitbrush (*Chrysothamnus sp.*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Thurber's needlegrass (*Stipa thurberiana*), and Sandberg bluegrass (*Poa secunda*). Cheatgrass (*Bromus tectorum*) was dispersed through most vegetation communities. Scotch thistle (*Onopordum acanthium*), an aggressive biennial, dominates small acreage at a number of locations in and adjacent to the fire boundary. Scotch thistle is also present as a minor component throughout the burned area. Rush skeletonweed (*Chondrilla juncea*), an invasive perennial noxious weed, has also been inventoried within and adjacent to the burned area. Where native perennial herbaceous species were limited or devoid in the understory of sagebrush/ grassland communities, the shrub community provided competition with annual species for available moisture and soil nutrients. Sagebrush steppe vegetation communities provided year-long or winter habitat for a number of wildlife species including big game animals, upland game species, and other sagebrush dependent species.

B. Purpose and Need

Interagency guidance and BLM policy as stated in H-1742 version 1.0 found at <http://fire.r9.fws.gov/ifcc/Esr/handbook/default.htm> provides for emergency stabilization and rehabilitation where fire has an adverse impact on vegetation, soils, and watersheds and also to

minimize other adverse changes to the extent practicable, including the following:

- ! loss of vegetative cover for watershed protection;
- ! loss of soil and on-site productivity;
- ! loss of water control and deterioration of water quality;
- ! invasion of burned area by flammable annual species which increase the potential for repeated wildfire.

The area burned by Lytle Fire is in need of stabilization and rehabilitation to minimize soil movement, preserve on-site productivity, reduce the invasion and increased dominance of undesirable flammable annual plants and reduce the potential for increased dominance of existing noxious weed as well as the invasion of new species. These objectives can be met by protecting residual native vegetation communities during a period necessary for recovery of health and vigor and establishing desirable perennial plant cover to replace annual vegetation communities to the extent possible. This environmental assessment analyzes the benefits and risks of implementing rehabilitation actions to establish native perennial vegetation cover as compared to establishment of desirable nonnative perennial species, and also includes a limited rehabilitation and a no action alternative.

## II. CONSISTENCY WITH LAND USE PLANS

In addition to other National Environmental Policy Act requirements, this environmental assessment was completed to ensure that treatments identified in the Emergency Stabilization and Rehabilitation Plan are consistent with the applicable land use plan objectives and decisions. Seeding and planting of grass, forb and shrub species as proposed in the preferred alternative is consistent with the following recommendations of the Northern Malheur Management Framework Plan dated March 14, 1983.

- SWA 3.2/4.1 Implement a vegetation manipulation program on approximately 80,000 acres of low-elevation (below 3,000 feet) lacustrine sediment material on the public land by reseeding an adapted perennial grass that will help protect these soils from wind and water actions and will also extend the wildfire resistance of the plant communities into the growing season.
- W/L 1.1 Seed or plant seedlings of suitable shrub and/or tree species on select sites within areas designated “C” on the Habitat Opportunity overlay. Species under consideration should include juniper, curl leaf mountain mahogany, aspen, cottonwood, willow, choke and bitter cherry. Livestock grazing of the treated areas should be prohibited for a minimum of two growing seasons and then allow spring season use there after.
- W/L 10.1 Within areas marked “F” on overlay, increase the survival of palatable browse species reproduction by 20% from the existing 5% (estimated) by 1990 through the initiation of livestock grazing systems utilizing “prescription” grazing toward a vegetative objective. Coordinated AMP/HMP planning will be required.
- W/L 10/2 Future seedings should include a variety of grasses, forbs, and browse (shrub) species in the seeding mixture. A mixture of approximately ½ grasses, ¼ forbs, and ¼ browse - each being represented by from 4 to 6 species - is considered ideal.

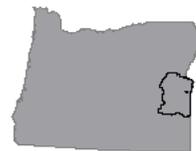
- W/L 10.4 Wild fire should be aggressively suppressed in critical browse and/or cover habitats.
- W/L 11.4 Attain and/or maintain a vegetative composition of 55% grasses, 25% forbs, and 20% shrubs.



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Figure 1:  
 Lytle Fire N149  
 334 acres



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The North Harper Allotment Management Plan implemented in 1982 does not provide specific management direction for seeding and establishment of shrub species though does identify management objectives to improve or maintain upland ecological conditions within native pastures.

Temporary fencing to ensure short-term exclusion of livestock from burned areas pending establishment of seed species and recovery of residual vegetation is also consistent with the Northern Malheur Management Framework Plan and affected activity plans.

### III. DESCRIPTION OF ALTERNATIVES AND THE PROPOSED ACTION

Alternatives considered and analyzed include a native seeding alternative, a nonnative seeding alternative, a limited rehabilitation alternative, and a no action alternative. Herbicide treatment of burned areas with herbicides such as Oust or Plateau to control competition from annual species during germination and establishment of perennial seeded species was considered though not analyzed since use of Oust is not consistent with an injunction on the use of herbicides on public lands in Oregon and Washington and Plateau is not licensed for use in rangeland systems. A summary of treatments analyzed by alternative is presented in table 1.

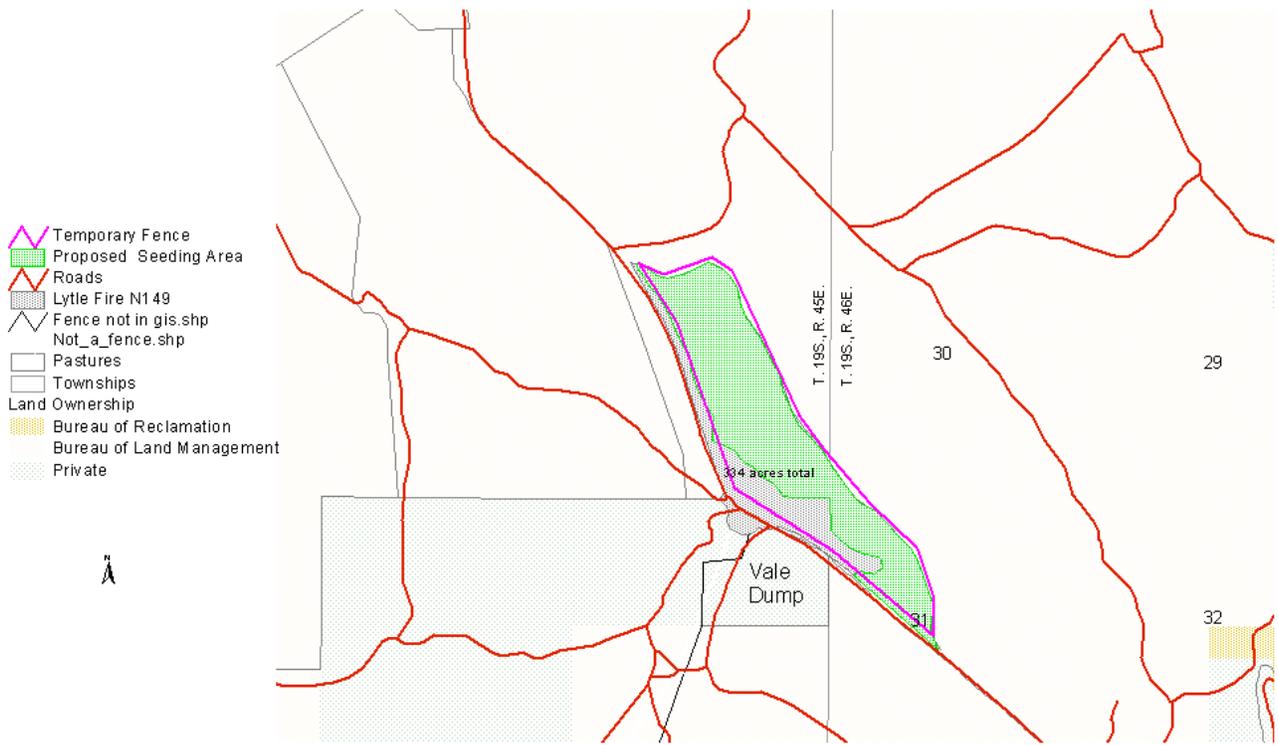
Table 1: Summarized treatments by alternative

Action	Alternative	Native Seeding	Nonnative Seeding	Limited Rehab	No Action
Native seeding (acres)*		220	0	0	0
Nonnative seeding (acres)*		0	220	0	0
Seedling shrub planting (acres)*		100	0	0	0
Aerial sagebrush seeding (acres)*		299	0	0	0
Cultipacking sagebrush seeding (acres)*		100	0	0	0
Temporary fencing (miles)*		4	4	0	0
Temporary livestock exclusion (acres)*		320	320	5,544	0
Fireline/Road Seeding (miles)		Concurrent with rehabilitation seeding	Concurrent with rehabilitation seeding	4	0
Monitoring*		Yes	Yes	Yes	No

\* Actions for which Emergency Stabilization and Rehabilitation funding is requested (data are public acreage only).

#### A. Native Seeding Alternative / Proposed Action

The native seeding alternative would include seeding approximately 220 acres of public land, as depicted on figure 2, using rangeland drills during the fall of 2001 or spring of 2002. Those areas seeded would include flat and moderately sloped topography. The native mixture would include cultivars of bluebunch wheatgrass, basin wildrye (*Leymus cinereus*), western wheatgrass (*Pascopyrum smithii*), Lewis flax (*Linum perenne var. lewisii*), scarlet globemallow (*Sphaeralcea coccinea*), bitterbrush (*Purshia tridentata*), and/or fourwing saltbush (*Atriplex canescens*) at a drilling rate of approximately 9 pounds per acre (35 seeds per square foot) (Table 2). All seed when mixed would be treated with organic seed coating to enhance germination success and seedling survival. The remaining 79 acres of public and 35 acres of private land within the fire boundary would not be seeded due to land ownership, steepness of slopes, or its location within islands which did not burn.



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Figure 2:  
 Lytle Fire N149  
 Proposed seeding area  
 220 acres



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All public land acres of the burned area would be broadcast seeded, on completion of drilling, with local Wyoming big sagebrush at a rate of 0.1 pounds pure live seed (pls) per acre (approximately 1 pound per acre bulk). Approximately 100 acres of accessible portions of the sagebrush seeding would be cultipacked to better ensure seed contact with the soil during germination and up to 100 acres of the burned area would be planted with 1-0 seedlings of additional shrub species including bitterbrush, four-wing saltbush, shadscale, and/or sagebrush to provide nurse stock for future colonization of the site by these shrub species. Shrub seedlings would be planted at a rate of approximately 50 seedlings per acre as available in the spring of 2002 and 2003 utilizing emergency fire rehabilitation funds and in later years as other funding sources are available.

Roads and firelines bladed during suppression actions would be drilled concurrent with the rehabilitation seeding since all disturbance was adjacent to portions of the fire which are proposed for seeding.

Due to the location of the 334 acre fire adjacent to Lytle Boulevard, a paved county road which serves as a major traffic corridor, and its central location in Lincoln Bench Pasture, approximately four miles

of temporary fencing would be proposed to exclude livestock grazing from fire impacted vegetation communities. The burned area would be closed to livestock grazing through July 15, 2003 and until monitoring indicates that desired residual perennial vegetation has recovered to levels that are adequate to support and protect upland function and that seeded species have become established. Approximately 4 acres of private land burned in West Canal Pastures would not have livestock use excluded. An additional 10 acres within the Vale Dump Enclosure would also not be grazed.

No repairs to permanent fence on private land between Lincoln Bench Pasture, West Canal Pasture, or the Vale Dump Enclosure would be completed by BLM.

Monitoring of the burn area would consist of livestock use supervision, vegetation monitoring and weed monitoring (For additional detail, refer to Section VII). Detected weeds would be controlled utilizing herbicide and mechanical methods in accordance with the EA and Decision Record for the Noxious Weed Control Program 1994-1998 (USDI/BLM 1994).

#### B. Nonnative Seeding Alternative

The nonnative seeding alternative would include seeding approximately 220 acres of public land, as depicted on figure 2, using rangeland drills during the fall of 2001 or spring of 2002. Those areas seeded would include flat and moderately sloped topography. The nonnative mixture would include cultivars of crested wheatgrass (*Agropyron cristatum*), basin wildrye, western wheatgrass, Ladak alfalfa (*Medicago sp.*), small burnet (*Sanguisorba minor*), Lewis flax, and scarlet globemallow at a drilling rate of approximately 9 pounds per acre (35 seeds per square foot). All seed when mixed would be treated with organic seed coating to enhance germination success and seedling survival. The remaining 79 acres of public and 35 acres of private land within the fire boundary would not be seeded due to land ownership, steepness of slopes, or its location within islands which did not burn.

Roads and firelines bladed during suppression actions would be drilled concurrent with the rehabilitation seeding since all disturbance was adjacent to portions of the fire which are proposed for seeding.

Due to the location of the 334 acre fire adjacent to Lytle Boulevard, a paved county road which serves as a major traffic corridor, and its central location in Lincoln Bench Pasture, approximately four miles of temporary fencing would be proposed to exclude livestock grazing from fire impacted vegetation communities. The burned area would be closed to livestock grazing through July 15, 2003 and until monitoring indicates that desired residual perennial vegetation has recovered to levels that are adequate to support and protect upland function and that seeded species have become established. Approximately 4 acres of private land burned in West Canal Pastures would not have livestock use excluded. An additional 10 acres within the Vale Dump Enclosure would also not be grazed.

No repairs to permanent fence on private land between Lincoln Bench Pasture, West Canal Pasture, or the Vale Dump Enclosure would be completed by BLM.

Monitoring of the burn area would consist of livestock use supervision, vegetation monitoring and weed monitoring (For additional detail, refer to Section VII). Detected weeds would be controlled utilizing herbicide and mechanical methods in accordance with the EA and Decision Record for the Noxious Weed Control Program 1994-1998 (USDI/BLM 1994).

Table 2: Proposed seed mixes for the Lytle Emergency Stabilization and Rehabilitation Plan

Species	Pounds Per Acre	Seeds per ft <sup>2</sup>	Total Pounds	Estimated Cost Per Pound*	Total Cost
<b><i>Native seeding alternative</i></b> <b><i>/Proposed action ** - 220 acres</i></b>					
Secar Bluebunch Wheatgrass	3	9.6	650	\$8.00	\$5,200
Goldar Bluebunch Wheatgrass	3	9.6	650	\$9.00	\$5,850
Magnar Basin Wildrye	2	6.0	450	\$9.50	\$4,275
Arriba Western Wheatgrass	0.5	1.3	100	\$3.50	\$350
Apar Lewis Flax	0.4	2.7	100	\$2.50	\$250
Scarlet Globemallow	0.1	1.1	25	\$30.00	\$750
	9	30.3	1,975		
				<b>Subtotal</b>	<b>\$16,675</b>
<b><i>Shrub Species</i></b> <b><i>/Proposed action***- 299 acres</i></b>					
Wyoming Big Sagebrush	1 lb bulk (0.1 lbs pls)		300 lbs bulk	\$8.50	\$2,550
				<b>Subtotal</b>	<b>\$2,550</b>
				<b>Total</b>	<b>\$19,225</b>
<b><i>Nonnative seeding alternative</i></b> <b><i>**** - 220 acres</i></b>					
Fairway Crested Wheatgrass	6	24.1	1,350	\$1.50	\$2,025
Magnar Basin Wildrye	1	3.0	250	\$9.50	\$2,375
Arriba Western Wheatgrass	1	2.6	200	\$3.50	\$700
Ladak Alfalfa	0.25	1.2	50	\$2.00	\$100
Small Burnet	0.25	0.3	50	\$1.50	\$75
Apar Lewis Flax	0.4	2.7	100	\$2.50	\$250
Scarlet Globemallow	0.1	1.1	25	\$30.00	\$750
	9	35.0	2,025		
				<b>Total</b>	<b>\$6,275</b>
<p>* The source of seed cost is an CSS County Crops Facility report, OSU Malheur County Extension Office.  ** Other varieties of native grass species listed or other native forbs may be substituted based on seed availability or cost.  *** Sagebrush seed may include 25 percent or less basin big sagebrush seed, dependent of seed availability and cost.  **** Other varieties of nonnative grass species listed or other forbs may be substituted based on seed availability or cost.</p>					

### C. Limited Rehabilitation Alternative

Emergency stabilization and rehabilitation would be limited to closing Lincoln Bench Pasture to livestock grazing through July 15, 2003 and until monitoring indicates that desired residual perennial vegetation has recovered to levels that are adequate to support and protect upland function. The minor acreage of private land burned in West Canal Pastures would not have livestock use excluded. No repairs to permanent fence on private land between Lincoln Bench Pasture, West Canal Pasture, or the Vale Dump Enclosure would be completed by BLM.

Approximately four miles of road and fireline bladed during suppression actions would be drilled using fire suppression funds to a native grasses to stabilize disturbed soil and reduce available sites for weed establishment. Revegetation of the remainder of the burned area would be allowed to occur from seed and plant material which remain on site and in the soil. Monitoring of the burn area would consist of livestock use supervision, vegetation monitoring, and weed monitoring (For additional detail, refer to Section VII). Detected weeds would be controlled utilizing herbicide and mechanical methods in accordance with the EA and Decision Record for the Noxious Weed Control Program 1994-1998 (USDI/BLM 1994).

### D. No Action Alternative

No emergency rehabilitation would be completed. Revegetation of the burned area would be allowed to occur from seed and plant material which remains on site and in the soil. Livestock grazing would not be excluded from Lincoln Bench or West Canal pastures.

No monitoring of the burn area would be completed beyond that scheduled prior to the fire.

## IV. AFFECTED ENVIRONMENT

### A. Vegetation

Native shrub steppe vegetation communities contained Wyoming big sagebrush, rabbitbrush, bluebunch wheatgrass, Thurber's needle grass, and Sandberg bluegrass prior to the fire. Areas adjacent to livestock water sources outside the fire boundary and other areas of previous disturbance were dominated by annual herbaceous species. Cheatgrass was dispersed through most vegetation communities with a number of other annual weedy species. Where native perennial herbaceous species were limited or devoid in the understory of sagebrush/ grassland communities, the shrub community provided competition with annual species for available moisture and soil nutrients.

### B. Noxious Weeds

Scotch thistle, an aggressive biennial, is present as scattered individuals throughout the burned area and forms a number of areas where dominance is greater. Rush skeletonweed, an invasive perennial noxious weed, is present within the boundary of the fire and was found immediately adjacent to the east boundary following the 1999 Lincoln Bench Fire. Whitetop or hoary cress (*Cardia spp.*), though not known to be present within the area burned, is present adjacent to the burned area and throughout the region. Medusa-head ryegrass (*Taeniatherum caput-medusae*), an aggressive annual grass, is present on clay soil benches within one mile of the eastern boundary of the fire.

C. Livestock Grazing

The burn area is primarily within Lincoln Bench Pasture of North Harper Allotment (00402), although also includes minor acreage of private land in West Canal Pasture. Lincoln Bench Pasture includes 5,254 public land acres, thus the 299 acres of PD burned by Lytle Fire comprises less than 6 percent of the public land portion of the pasture. Ten permittees are authorized to graze livestock in North Harper Allotment, although only three currently use Lincoln Bench pastures in their grazing rotation. Four livestock operators currently use West Canal Pasture in their grazing rotation. Active AUMs within the 31,500 acre allotment are listed below:

Permittees who currently use Lincoln Bench Pasture in addition to other pastures:

Gary Boor	143 AUM's
Harry Smith	566 AUM's
Frank Shirts (sheep)	400 AUM's

Permittees who currently use West Canal Pasture in addition to other pastures:

Frank Shirts Jr. (sheep)	400 AUM's
Steve and Becky Hawkins	809 AUM's
Schulthies Family Trust	135 AUM's
Van Schulthies	84 AUM's

Permittees who currently do not use Lincoln Bench or West Canal Pasture:

Raymond Findley Estate	1602 AUM's
Darrell Standage	96 AUM's
Jerald and Tammy Holloway	278 AUM's

The grazing permit held by Eddy and Evelyn Sayers authorizes grazing of 13 AUM's on public land within a custodial pasture of North Harper Allotment outside the burned area.

D. Soils/Watershed

Soils in the area are derived from lacustrine sediments, loess deposits, and alluvium. Textures range from silty clay loams to sandy loams depending on the parent material. These soils have the potential to be highly erosive without vegetative cover and on steep slopes. Soils in the burned area are similar to Xeric Haplocambids (Warden and Royal series), Xeric Haplodurids (Taunton and Gravden series), and Xeric Torriorthents (Kennewick and Wahluke series).

Portions of the burned area more distant from areas of livestock concentration and on fine textured soils support organic crusts composed primarily of lichens prior to the fire. These crusts provide an estimated 50 percent cover of the soil surface in some micro sites.

The area burned by the fire drains south into Cow Hollow, which is a tributary of Owyhee River, five miles upstream of its confluence with the Snake River. No perennial water sources nor riparian vegetation communities are identified within the fire boundary or proposed treatment area.

E. Wildlife

The proposed treatment area is within yearlong range or winter habitat for a number of wildlife species

including mule deer and pronghorn antelope, upland game species, and other sagebrush dependent species. There are no wildlife species listed as threatened or endangered under the Endangered Species Act of 1973 in the proposed treatment area. Western sage grouse are a BLM sensitive species. Sagegrouse are not known to be present within the burned area, although the nearest known leks are 12 miles south near Blackjack Butte and 14 miles southwest near Kane Springs.

#### F. Recreation and Visual Resources

Dispersed outdoor recreation in the proposed fire rehabilitation area consists primarily of off highway vehicle usage, hunting of upland birds and big game animals, and equestrian activities. Some dispersed general sightseeing occurs. Motorized vehicles are limited to using existing roads and two-tracks within the area burned by Lytle Fire. The burn and all proposed actions are within a visual resource management (VRM) Class III area.

The objective of VRM Class III is to partially retain the existing character of the landscape. Moderate levels of change are acceptable. Management activities may attract attention but should not dominate the view of a casual observer. Changes should conform to the basic elements of the predominant natural features of the characteristic landscape.

#### G. Cultural Resources / Paleontology

The route of the Oregon Trail parallels and crosses Lytle Boulevard along the western two mile long boundary of the fire. A corridor adjacent to a portion of that trail south of the town of Vale is identified as a property of national significance with designation as the Oregon Trail Keeney Pass Historic District. Management of this corridor is designed to preserve and enhance the visual integrity and aesthetic values of the area surrounding the Oregon Trail. The northwestern one mile of the fire burned within lands identified in that designation. Additionally, an area adjacent to that national designation and including additional acreage burned east of its boundary is proposed as an Area of Critical Environmental Concern in the Draft Southeastern Oregon Resource Management Plan dated October 1998.

Prehistoric and historic use of this area has been documented by the presence of artifacts and through oral histories. Prehistoric sites are mainly lithic scatters and camp sites associated with springs and water sources. Historic sites are represented by old tin can scatters and ranching/household trash.

#### H. Threatened and Endangered (T&E) Plants

No plant species listed or proposed for listing under the Endangered Species Act of 1973 are known to be present within the area burned. Mulford's milkvetch, a species listed by the State of Oregon as endangered, has been located on a number of sites providing sandy habitats two miles west of the fire. Similarly, Malheur forget-me-not (*Hackelia cronquistii*), another species listed by the State of Oregon as endangered, has been located on north facing slopes protected by sagebrush cover one mile north of the fire boundary. No ground disturbing actions are proposed within the habitats of either species. No other special status plant species are known or suspected within the immediate area.

#### I. Climate/Topography

Lytle Fire occurred in rolling hills where the elevation above sea level ranges from 2500 feet to 2700

feet. Semi desert shrub steppe vegetation communities result from cold winters and hot dry summers. The long term average annual precipitation measured at Vale, Oregon (six miles north of the fire boundary) is 9.77 inches (National Oceanic and Atmospheric Administration Climatological Data Annual Summary; Oregon 1999). Precipitation occurs primarily as snow fall during the winter with occasional mid-summer thunder storms.

#### J. Areas of Critical Environmental Concern

An area adjacent to Lytle Fire has been proposed for management as an Area of Critical Environmental Concern (ACEC) within the Draft Southeast Oregon Resource Management Plan / Environmental Impact Statement (USDI/BLM 1998). Oregon Trail ACEC-Keeney Pass Segment overlaps with the northern one mile of the fire boundary as noted earlier. Proposed rehabilitation actions would be within the proposed ACEC and will be visible from a number of locations within the ACEC including from the developed Keeney Pass interpretative site, approximately one mile northwest of the fire boundary.

#### K. Other Mandatory Elements

The following mandatory elements are either not present or would not be affected by the proposed action or alternatives:

1. Air Quality
2. Wild and Scenic Rivers
3. Native American Religious Concerns
4. Hazardous wastes
5. Prime or unique farmlands
6. Wilderness or Wilderness Study Areas
7. Wild Horse/Burro Management
8. Wetlands/Riparian/Flood Plains
9. Environmental Justice

### V. ENVIRONMENTAL CONSEQUENCES

#### A. Native Seeding Alternative

##### 1. Vegetation

Drilling of native seed on 220 acres of public land would provide an opportunity and seed source for a more stable perennial vegetative cover over much of the burned area, especially within areas recently dominated by annual species, on road shoulders and firelines impacted by suppression actions. With successful establishment of seedings, native perennials would replace more flammable annuals, somewhat reducing the frequency and severity of wildfire. Establishment of native perennial grasses would restore ecological function to the portions of Lincoln Bench Pasture which burned. Establishment of sagebrush, fourwing saltbush and/or bitterbrush would provide vegetative community diversity and restore structure to the

vegetative community that has been lost to the Lytle Fire and periodic wildfire in this area. Risk of poor establishment of native species in areas previously dominated by annual species, especially in the event of limited soil moisture in the spring of 2002, would be greater than the similar risk of planting more competitive nonnative species such as crested wheatgrass which is adapted to drier conditions and is tolerant of greater grazing impacts. Wildlife habitat values and species diversity would be greater with establishment of native species as compared to nonnative species resulting from rehabilitation actions.

Temporary exclusion of livestock from a portion of Lincoln Bench Pastures, including the burned area and areas seeded and/or planted, would allow recovery of residual desirable species and establishment of seeded species without impacts from sheep and cattle grazing. Private land portions of West Canal Pasture which burned would continue to receive light grazing in the next few years, providing limited opportunity for recovery of the little perennial species which were present prior to the fire.

## 2. Noxious weeds

Establishment of perennial species would help prevent the potential for spread and takeover of the site by noxious weeds, particularly rush skeletonweed, Scotch thistle, and whitetop. Establishment of a diverse shrub component would more fully occupy the soil profile with roots of desirable perennial species as compared to shallow rooted perennial grasses and forbs alone. Full occupation of the soil profile with roots of desirable species would provide additional competition to reduce dominance by deep rooted weedy species. Establishment of diverse perennial vegetation communities including grasses, forbs, and shrubs would help prevent or minimize the proliferation and invasion of noxious weed species within the burned area and adjacent to roads impacted by suppression actions. A reduction in the occurrence of weeds adjacent to roads would limit transport of seed to new sites within the burn area and offsite.

## 3. Livestock Grazing

Livestock would be excluded through at least two growing seasons and until seeded species are established from burned portions comprising less than 6 percent of Lincoln Bench Pasture. Scheduled grazing within Lincoln Bench Pasture, as defined in the allotment management plan with a deferred system, identifies an average annual use of 387 AUM's by cattle. This use represents approximately 55 percent of the combined authorized use of 709 AUM's in North Harper Allotment by Harry Smith and Gary Boor. Thus, the proportionate loss of forage productivity from the area burned represents less than 4 percent of these two operators authorization. Sheep use is less well defined with terms of the permit requiring that camps be moved at least every fifth day to prevent repeat grazing of any area. Although Lincoln Bench Pasture is one of four pastures used by sheep, it is anticipated that the loss of use of approximately 6 percent of this pasture would not affect Frank Shirt's authorized use of 400 AUM's in North Harper Allotment. Livestock grazing schedules would be adjusted short term within the flexibility of the allotment management plan to continue the authorization of livestock grazing in North Harper Allotment while continuing to meet management objectives.

In the long term, positive benefits would accrue to livestock operators due to the establishment of perennial vegetation. An increased and more stable forage base would be established,

allowing for increased livestock gains and more stable livestock operations over the long term.

#### 4. Soils/Watershed

Soil erosion would increase in the short term as a result of loss of vegetative cover from the fire. Soil erosion rates would decrease as the perennial species gain dominance of the site in years subsequent to seeding. The annual species which previously vegetated the area provide much less protection of the soil surface than would desirable perennial species. With implementation of this alternative and successful establishment of desired species, erosion rates would decrease further than under the no action alternative due to establishment of perennial species. Perennial vegetation would reduce soil erosion and down stream sedimentation by providing improved protection of the soil surface and by reducing the frequency of wildfire. Establishment of perennial vegetation would also be beneficial to reestablishing microbiotic crusts since dominance by exotic annual vegetation exclude these species.

#### 5. Wildlife

The proposed action would result in the reestablishment and maintenance of higher quality and greater quantity of year-long forage, browse and cover for mule deer and pronghorn antelope within the project area with the establishment of desirable herbaceous and shrub species. Structural habitat for sagebrush dependent species, including potentially sage grouse, would be restored in the long term with reestablishment of desirable shrub species. Foraging and habitat values provided by perennial herbaceous species would be improved.

#### 6. Recreation and Visual Resources

Impacts to dispersed recreation activities would be insignificant. In the event that rehabilitation activities occur during game hunting seasons, any game species close to the activities would be temporarily disturbed.

Visual resources within and adjacent to the proposed action would be enhanced with development of desirable perennial plant species and vegetation structure. Surface impacts of the proposed rehabilitation efforts do not exceed management objectives for visual resource Class III. Visual evidence of drilled seeding would remain evident long term, though would be obscured with development of sagebrush cover over time.

#### 7. Cultural Resources / Paleontology

A Class III cultural resources survey would be conducted prior to surface disturbing activities. Sites will be flagged, recorded and avoided as appropriate. A survey for paleo resources will be conducted prior to surface disturbing activities. If paleo resources are located, depending on the nature and extent of the fossil locality, the area will either be flagged and avoided during rehabilitation activities or the fossils will be recovered prior to rehabilitation activities.

Establishment of desirable perennial species would assist in obscuring cut firelines within the Oregon Trail National Historic District and the proposed ACEC. Establishment of shrubs through seeding and planting would further remove unnatural lines caused by the fire and

suppression actions.

## 8. T&E Plants

Special Status plant species would not be affected since no activity is planned within known or suspected habitats.

## B. Nonnative Seeding Alternative

### 1. Vegetation

Seeding of nonnative species would provide an opportunity and seed source for a more stable perennial vegetative cover over much of the burned area, especially within areas recently dominated by annual species, on road shoulders and fire-lines impacted by suppression actions. With successful establishment of seedings, nonnative perennials would replace more flammable annuals, somewhat reducing the frequency and severity of wildfire. Establishment of nonnative perennial grasses would partially restore ecological function to vegetation communities. Risk of poor establishment of nonnative species in areas previously dominated by annual species, especially in the event of limited soil moisture in the spring of 2002, would be less than the similar risk of planting native species such as cultivars of bluebunch wheatgrass which requires greater soil moisture during establishment and is less tolerant of grazing impacts. Wildlife habitat values and species diversity would be less with establishment of nonnative species as compared to native species resulting from rehabilitation actions.

The area of nonnative seedings in the immediate vicinity of Lytle Boulevard would increase with its introduction into Lincoln Bench Pasture. Previous nonnative seedings in this area include those in East Cow Hollow, East Page, West Page, Boulevard Seeding, and East North Harper, and West North Harper pastures.

Temporary exclusion of livestock from the burned areas of Lincoln Bench Pastures through temporary fencing, including areas seeded, would allow recovery of residual desirable species and establishment of seeded species without impacts from sheep and cattle grazing.

### 2. Noxious weeds

Benefits of establishing competitive perennial herbaceous vegetation within the burn area and adjacent to roads would generally be similar to those identified in the native seeding alternative. Lack of deep rooted shrub species which can compete with tap-rooted noxious weed species for deeper soil moisture would limit those benefits, especially concerning weed species which continue growth outside the active growing season of many of our native herbaceous species. With the improved likelihood of establishment of nonnative species as compared to native species, opportunities to preclude shallow rooted noxious weed spread would be enhanced.

### 3. Livestock Grazing

Impacts to authorized livestock grazing and associated commodity production would be similar

to those identified in the native seeding alternative, including the continuation of benefits of implementing current grazing schedules. Benefits of increased forage production long term from the establishment of nonnative species which are more tolerant of grazing impacts and limited establishment of shrub species would be greater than with implementation of the native seeding alternative.

#### 4. Soils/Watershed

Impacts to soil and watershed values would be similar to those identified in the proposed alternative. Limiting shrub establishment to natural regeneration would result in less effective binding of deep soils, especially in the absence of other deep rooted species.

#### 5. Wildlife

Habitat values provided by nonnative seedings and limited shrub reestablishment would be diminished for mule deer, pronghorn antelope, and sagebrush dependent species. Timing, season, and intensity of big game depredation on private crop lands adjacent to the burned area would be expected to change as animals chose forage sources as well as thermal and hiding cover.

Impacts to special status animal species would be similar to those identified in the native seeding alternative.

#### 6. Recreation and Visual Resources

Impacts to recreation and visual resources would be similar to those identified in the native seeding alternative, although visual lines between the nonnative seeding and adjacent vegetation communities would be less consistent with natural topographic features and aspect changes. A long term lack of sagebrush and other shrub species in the burned area would also be visually obvious.

#### 7. Cultural Resources / Paleontology

Impacts to cultural resources would be similar to those identified in the native seeding alternative although benefits of shrub seeding and planting to obscure visual lines caused by suppression actions within special designations would not be realized. Although a significant portion of the Oregon Trail corridor was seeded with nonnative grass species in the 1960s and 1970s, additional use of nonnative species would not be compatible with values of maintaining the historic Oregon Trail corridor in as natural a state as possible.

#### 8. T & E Plant Species

Special status plants would not be affected as identified in the native seeding alternative.

## C. Limited Rehabilitation Alternative

### 1. Vegetation

Much of the burned area dominated by annual species, in addition to those areas previously dominated by sagebrush with an annual species understory would revegetate with a herbaceous annual dominance. Vegetative structural and species diversity would remain low in many of these areas dominated by annual species. Annual species and noxious weed species would continue to dominate many sites within the burn with a mat of cheatgrass and other annual species seed. The potential for invasion of burned areas and other sites of soil disturbance opened to noxious weed seedling establishment would remain high. Potential for repeated wildfire and rapid spread would be high. The cumulative effects of past and future wildfire adjacent to this burn would cause a continued loss of vegetative diversity and structure which would accelerate over time as more of these low elevation ranges are converted to cheatgrass dominated grasslands.

Temporary exclusion of livestock from Lincoln Bench Pastures, including the burned area, would allow recovery of residual desirable perennial species without impacts from sheep and cattle grazing.

### 2. Noxious Weeds

Failure to seed desirable perennial herbaceous species over much of the areas previously dominated by annual species would perpetuate the spread and increased dominance of noxious and other weedy species, resulting in the need for increased control efforts in the future. Seed production of weeds and seed transport would be significant, limiting the success of natural recovery of remaining desirable perennial plants. The areas previously dominated by sagebrush and other desirable deep-rooted species would be susceptible to further invasion by noxious and weedy species. Lack of shrubs would leave the area susceptible to invasion by rush skeletonweed and other species dependent on mid summer and fall deep soil moisture. These areas dominated by annual vegetation would continue to decline in seral condition as they lose remaining native perennial vegetation, especially with more frequent fire return to these fire prone vegetation communities.

### 3. Livestock Grazing

Livestock would not be allowed to graze the burn area through two growing seasons as required by BLM policy. Short term exclusion of livestock from Lincoln Bench Pasture to provide opportunities for recovery of fire impacted vegetative species would result in the loss of an estimated 387 AUM's for cattle use and 100 AUM's for sheep use annually. Long term benefits to livestock production potential would not be realized as the density of desirable perennial vegetation would not increase and likely would continue to decline with more frequent fire.

### 4. Soils/Watershed

Soil erosion would increase in the short term as a result of loss of vegetation cover. Erosion rates would decrease as the annual species revegetate the site over a period of one to two years.

Soil erosion rates would remain elevated above those possible with dominance by desirable perennial vegetation. Increased dominance by exotic annual species would inhibit reestablishing microbiotic crusts.

#### 5. Wildlife

Wildlife habitat and forage quality would not improve. The loss of shrub habitat would negatively impact big game and sagebrush dependent species over the long term as Wyoming big sagebrush is slow to reestablish within the 10 inch precipitation zone following fire. Depredation of adjacent private crop-lands would increase and be redirected as travel corridors of animals change.

#### 6. Recreation and Visual Resources

The return of game species for hunting may be somewhat delayed. Increased dominance by undesirable annual and weed species would hinder efforts to improve game species habitat in the burned area.

Preferred perennial vegetation would not be restored in the short nor long term with the exception of those vegetation communities which would recover with protection from livestock grazing. There would be a significant delay in returning the area to an acceptable visual setting of some type of vegetative cover with structure similar to the natural setting.

#### 7. Cultural Resources

There would be no affect to cultural resources from mechanized equipment as a result of the limited rehabilitation alternative, however surface disturbance may be greater long term from livestock trampling and erosional factors without vegetation to provide surface stability. Similarly, there would be no affect to fossil resources as a result of rehabilitation actions, however unauthorized collection and surface disturbance may be greater from livestock trampling and erosional factors without vegetation to provide surface stability

#### 8. T & E Plant Species

No T & E or special status species or their habitat would be directly affected. However, as the area may be invaded by increasing numbers of noxious weeds, a much larger source of undesirable seed would be available for invasion into the nearby special status plant species habitat. Similarly, an increased dominance by annual species would increase fine fuel loading and the risk of larger future fires affecting nearby special status plant habitat.

### D. No Action

#### 1. Vegetation

Annual species and noxious weed species would continue to dominate many sites within the burn with a mat of cheatgrass and other annual species seed. The potential for invasion of these sites by noxious weeds would remain high. Potential for repeated wildfire spread would be high. The cumulative effects of past and future wildfire adjacent to this burn would cause a

continued loss of vegetative diversity and structure which would accelerate with no action.

Continued authorization of livestock grazing within Lincoln Bench Pastures would delay and in many instances preclude recovery of residual desirable perennial species with added impacts from sheep and cattle grazing.

## 2. Noxious weeds

Many sites would be susceptible to domination by noxious weeds found in and adjacent to the area burned. Medusahead is a competitive annual species with little forage value and the ability to further limit potential for successful seeding of desirable species once established. Scotch thistle, rush skeletonweed, and whitetop are aggressive and highly invasive species. With little competition from desirable perennial grasses and shrubs, these weeds may dominate the burn area and adjacent rangeland in the long term.

## 3. Livestock Grazing

Livestock would be allowed to continue to graze the burn area and benefit from a flush of growth resulting from the release of nutrients and moisture for herbaceous growth in the short term. As a result, short term positive impacts to livestock grazing would occur with additional forage produced. Long term negative impacts to forage production would result from grazing effects in addition to fire effects to desirable perennial herbaceous species. No long term benefits would occur as there would be no improvement of forage production or vegetative conditions. Livestock production may be further negatively impacted in the long term if noxious weed species increase in the burn area, further reducing forage production.

## 4. Soils/Watershed

Soil erosion would increase in the short term as a result of loss of vegetative cover. Erosion rates would decrease as the annual species revegetate the site over a period of one or two. Soil erosion rates would remain higher than under the proposed action or any of the alternatives including seeding of desirable perennial species due to the lack of perennial vegetative cover. Increased dominance by exotic annual species would inhibit reestablishing microbiotic crusts.

## 5. Wildlife

Wildlife habitat and forage quality would not improve. The loss of shrub habitat would negatively impact big game and sagebrush dependant species much as identified in the limited rehabilitation alternative.

## 6. Recreation and Visual Resources

The return of game species for hunting may be somewhat delayed. Increased dominance by undesirable annual and weed species would hinder efforts to improve game species habitat in the burned area.

Preferred perennial vegetation would not be restored in the short nor long term with the exception of those vegetation communities which would recover due to inaccessibility by

livestock grazing. There would be a significant delay in returning the area to an acceptable visual setting of some type of vegetative cover with structure similar to the natural setting.

#### 7. Cultural Resources / Paleontology

There would be no impact to cultural resources from mechanized equipment as a result of implementing the no action alternative, however surface disturbance may be greater from livestock trampling and erosional factors without vegetation to provide surface stability. Similarly, there would be no effect to fossil resources as a result of rehabilitation actions, however unauthorized collection and surface disturbance may be greater from livestock trampling and erosional factors without vegetation to provide surface stability.

Lines caused by the fire and suppression actions within the Oregon Trail National Historic District and proposed ACEC would remain visible, especially in years of limited growth of annual species. Those lines would not be obscured by diverse structure possible with the establishment of perennial vegetation including a shrub component.

#### 8. T&E Plant Species

No T&E or special status species would be directly affected. However, as the area may be invaded by increasing numbers of noxious weeds, a much larger source of undesirable seed would be available for invasion into the nearby special status plant species habitat. Similarly, an increased dominance by annual species would increase fine fuel loading and the risk of larger future fires affecting nearby special status plant habitat.

### VI. CONSULTATION AND COORDINATION

The Interagency Emergency Fire Stabilization and Rehabilitation Handbook (H-1742 version 1.0) recommends entering into cooperative efforts for rehabilitation where possible. Cooperators in the proposed rehabilitation effort resulting from the Cow Hollow Fire include private and government entities as follow:

- A. Oregon Department of Fish and Wildlife (ODF&W): ODF&W was contacted during plan development to ensure wildlife habitat needs were considered fully with proposed plans.
- B. Oregon Department of Agriculture (ODA): Long term cooperative efforts between ODA and BLM to inventory and control existing and new infestations of weeds on public land will be extended to the burned area. This cooperative effort will enhance the probability of effectively controlling the establishment and spread of target species.
- C. North Harper Allotment Permittees: Proposed rehabilitation actions were coordinated with grazing permittees. Permittees have agreed to maintain fences necessary to exclude livestock grazing from burned areas for two growing seasons, and any additional time determined necessary to ensure successful establishment of vegetation communities resulting from rehabilitation actions.
- D. Katie Fite; Committee for Idaho's High Desert, interested public.

E. Malheur County Commissioners

## VII. MONITORING

### A. Noxious weeds

Monitoring of the burned area for two years would be required to locate and control noxious weeds. Periodic ground surveys would be conducted monthly from May through October. Herbicide and mechanical treatment would be implemented as appropriate and consistent with existing coordinated weed control methods to control detected noxious and weedy species and to ensure success of rehabilitation actions.

### B. Vegetation

The burned area would be monitored for desirable perennial species, including ocular inspection, to determine degree and extent of establishment within seeded areas as well as vegetative recovery of non-seeded areas. Monitoring will be done in representative areas of seeding treatments and the untreated burned area in at least the first three years of the project. Monitoring will include measurements of vegetation attributes, photo plots, and techniques to determine species occurrence, composition and vigor.

### C. Livestock

Periodic use supervision will be conducted on the project area to ensure livestock are excluded during establishment and recovery of desirable vegetation on the burned area. Following two growing seasons of livestock exclusion, a determination will be made based on monitoring information when livestock grazing can be returned to the burned area and seedings.

## VIII. SUMMARY

The Lytle Fire burned an area of moderately erosive soils that support scattered stands of highly flammable annual vegetation. The history of wildfire in adjoining rangeland has reduced year-long habitat of big game and sagebrush dependent species. In the absence of the establishment of desirable perennial species, including shrub species, within the burned area, there is potential for increased erosion, invasion of noxious weeds, loss of soil and repeated wildfire. The proposed action would provide an opportunity to establish and enhance perennial vegetative cover that would protect the soil resource, reduce erosion, minimize noxious weed invasion, reduce sedimentation, enhance wildlife habitat, and reduce the threat of repeated wildfire.

IX. ANNUAL WORK PLAN SECTION

A cost/risk assessment is attached as Appendix 2. Listed below by fiscal year is a summary of ESR (2822) funding needs for the proposed action:

Lytle Fire (N 149)		FY		
Description	Item	2001	2002	2003
Plan / EA Preparation	2 WMs	\$8,000.		
Plan Administration	2 WMs		\$8,000.	
Seed Purchase			\$19,000.	
Cultural Survey	0.5 WM		\$2,000.	
Seed Preparation/Handling			\$1,000.	
Section Corner Location/Misc.	0.25 WM		\$1,000.	
Rangeland Drilling	Equipment/Misc.		\$2,500.	
	Labor		\$1,500.	
Broadcast Seeding	Equipment/Labor		\$1,500.	
	Cultipacking		\$1,500.	
Shrub Planting	Seedling Purchase		\$1,000.	\$1,000.
	Labor		\$3,000.	\$3,000.
Rehabilitation Monitoring	Labor		\$2,000.	\$2,000.
Weed Monitoring	Labor		\$2,000.	\$2,000.
Weed Treatment	Equipment/Labor		\$2,000.	\$2,000.
Temporary Fence Construction*	4 miles		\$2,000.	
Temporary Fence Removal	4 miles			\$2,000.
<b>Totals</b>		<b>\$8,000</b>	<b>\$50,000.</b>	<b>\$12,000.</b>

\* Materials are on hand from previous fire rehabilitation projects. Cost estimate is for construction only.

X. ESR PROJECT SUMMARY

Fire Name: Lytle Fire

Fire Number: N 149

Fire Control Date: 07/27/2001

Acres BLM Burned: 299

Start of Rehabilitation Project (Mo./Yr):09/2001

Completion of Rehabilitation Project (Mo./Yr): 09/2003

Miles of Temporary Fence: 4.0

Miles of Permanent Fence Rebuilt: 0

No. of Soil/Watershed Structures: 0

Acres Reforestation: 0

Acres of Revegetation<sup>1</sup>: 220 acres PD drilled, 299 acres PD broadcast.

Acres of Burned Area Protected for Natural Regeneration<sup>2</sup>: 299 PD

Total Acres Rehabilitated<sup>3</sup>: 299 PD

Estimated ESR Funding Current Year (FY2000): \$8,000.

Estimated ESR Funding Second Year (FY2001): \$50,000.

Estimated ESR Funding Third Year (FY2002): \$12,000.

Total Cost Rehabilitation Project: \$70,000.

## XI. LIST OF PREPARERS/REVIEWERS

Steve Christensen	Range Management Specialist
Bob Alward	Outdoor Recreation Planner
Jean Findley	Botanist
Diane Pritchard	Archaeologist
Shaney Rockefeller	Hydrologist/Soil Scientist
Al Bammann	Wildlife Biologist
Richard Martinez	Engineering Technician
Jerry Bourasa	Range Technician
Jerry Erstrom	Weed Coordinator/Fire Rehabilitation Coordinator
Lynne Silva	Range Technician, Weeds
Dave Evans	Force Account Work Leader
Jon Freeman	Multi Resources Staff Supervisor
Tom Dabbs	Field Manager, Malheur Resource Area

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<sup>1</sup>**Acres of Revegetation** refers to the acres of the burn that is drilled, aerial seeded, seedlings transplanted, etc. Acreage drilled and aerially seeded is not double counted.

<sup>2</sup>**Acres of Burned Area Protected for Natural Regeneration** refers to burned areas that will recover to satisfactory vegetation with exclusion of grazing and/or human uses.

<sup>3</sup>**Total Acres Rehabilitated** equals the acres of revegetation plus acres of burned area protected for natural regeneration.



## Appendix 1

### NATIVE/NONNATIVE PLANT WORKSHEET

#### Proposed Native Plants in Seed Mixture

1. Are the native plants proposed for seeding adapted to the ecological sites in the burned area?

Yes [X] No [ ] Rationale: Proposed native seed mix species are present in and adjacent to the project area and adapted to the sites proposed for the native seed mix.

2. Is seed or seedlings of native plants available in sufficient quantity for the proposed project?

Yes [X] No [ ] Rationale: Seed reserves are held in the Boise Seed Warehouse. Orders for those species not available from the warehouse have a high probability of being filled. In the event that sufficient native seed is not available to meet needs for proposed actions, other analyzed alternatives include the option to substitute other adapted perennial species consistent with either the native or nonnative mix.

3. Is the cost and/or quality of the native seed reasonable given the project size and Land Use and Rehabilitation Plan objectives and the guidance in BLM Manual 1745?

Yes [X] No [ ] Rationale: Although the native seed is more costly than comparable introduced species, its use is reasonable given the project size and direction in BLM Manual 1725 and 1745 on the use of native seed. Additionally, presence of Bureau sensitive plant species sandy soils adjacent to the burned area, though not planned for treatment, limits the use of competitive nonnative species in much of the area where seeding is proposed.

4. Will the native plants establish and survive given the environmental conditions and the current or future competition from other species in the seed mix or from exotic plants?

Yes [X] No [ ] Rationale: Native plants should have a reasonable chance for establishment and survival in those areas proposed for the native plant mix. In the event of seeding failure due to atypical climatic conditions or other unforeseen causes, sources of funding may be pursued to reseed using additional seedbed preparation as necessary to limit competition from annual species.

5. Will the current or proposed land management (livestock, recreation use, wildlife populations, etc.) after the seeding establishment period maintain the seeded native plants in the seed mixture?

Yes [X] No [ ] Rationale: Seeded plants should be able to be maintained on the project area under current uses and proposed uses. Planned protection from domestic animal grazing for two years and until seeded species become established should also benefit residual plants which survived the fire. Grazing

schedules have been established to limit growing season livestock use in Lincoln Bench Pasture to early spring annually with no use scheduled for the majority of the growing season.

### **Proposed Nonnative Plants in Seed Mixture**

1. Is the use of nonnative plants necessary to meet objectives, e.g., consistent with applicable land use/activity plans ?

Yes  No  Not applicable , no nonnative seeding is planned. Rationale: Should the nonnative alternative be implemented, nonnative perennials would have a high probability of successful establishment and maintenance, given the competition of annual invasive species. They would remain green longer into the growing season than most native species, thus performing better to reduce the continuity of highly flammable fuels.

2. Will nonnative plants meet the objective(s) for which they are planted without unacceptably diminishing diversity and disrupting ecological processes (nutrient cycling, water infiltration, energy flow, etc.) in the plant community?

Yes  No  Not applicable , no nonnative seeding is planned. Rationale: Should the nonnative alternative be implemented, the proposed seed mix would significantly improve vegetative diversity and ecological processes by establishing perennial vegetation in areas dominated by annual invasive species. The probability for maintenance of desirable perennial species in areas adjacent to an established nonnative seeding and a watering source for livestock, increased incidence of weed seed dispersal, and periodic soil disturbance will be improved by seeding more grazing tolerant and competitive nonnative species as proposed.

3. Will nonnative plants stay on the site they are seeded and not significantly displace or interbreed with native plants?

Yes  No  Not applicable , no nonnative seeding is planned. Rationale: Should the nonnative alternative be implemented, the proposed mix of nonnative plants are species that have not been shown to significantly displace or interbreed with native plants. Crested wheatgrass is present on adjacent rangeland without significant displacement or interbreeding with native plants. Habitat of a Bureau sensitive plant species is removed from sites where nonnative species are proposed for planting.

## Appendix 2.

### “Modified Cost - Risk Analysis”

<b>Treatment</b>	<b><u>Cost</u></b>
Revegetation .....	\$35,000.
Temporary Protective Fence.....	\$4,000.
Fence Reconstruction.....	\$-0-
Soil/Watershed Structures .....	\$ -0-
Monitoring.....	\$8,000.
All Other Costs (administrative, clearances, etc.)..	<u>\$23,000.</u>
<b>TOTAL</b>	<b>\$70,000.</b>

### Probability of Rehabilitation Treatments Successfully Meeting ESR Objectives

Treatments	Units	NA	%
Revegetation	299 acres		80
Native Drill Seeding	220 acres		70
Nonnative Drill Seeding		X	
Aerial Seeding	299 acres		50
Planting Seedlings	100 acres		85
Other		X	
Protective Fence to Exclude Grazing	4.0 miles		85
Fence Repair to Exclude Grazing		X	
Soil/Watershed Structures		X	
Retention dams/structures		X	
Ripping, contour furrows, etc.		X	
Matting, watersheds cover, etc.		X	
Other-Clean culverts		X	

**Risk of Resource Value Loss or Damage**

Identify the risk (high, medium, low, none or not applicable (NA)) of unacceptable impacts or loss of resources.

**No Action - Treatments Not Implemented (check one)**

Resource Value	NA	None	Low	Mid	High
Unacceptable Loss of Topsoil				X	
Weed Invasion					X
Unacceptable Loss of Vegetation Diversity					X
Unacceptable Loss of Vegetation Structure					X
Unacceptable Disruption of Ecological Processes				X	
Off-site Sediment Damage to Private Property			X		
Off-site Threats to Human Life		X			
Other - Loss Roads/Ways			X		

**Proposed Action - Treatments Successfully Implemented (check one)**

Resource Value	NA	None	Low	Mid	High
Unacceptable Loss of Topsoil			X		
Weed Invasion			X		
Unacceptable Loss of Vegetation Diversity			X		
Unacceptable Loss of Vegetation Structure			X		
Unacceptable Disruption of Ecological Processes			X		
Off-site Sediment Damage to Private Property			X		
Off-site Threats to Human Life		X			
Other - Loss Roads/Ways			X		

## SUMMARY

The costs of the project and probability of success of the proposed treatments are compared with the risks to resource values if: 1) no action is taken, and 2) the proposed action is successfully implemented. Alternatives may be included in this analysis to assist in the selection of the treatments that will cost effectively achieve the ESR objectives. Answer the following questions to determine which proposed ESR treatments should be selected and implemented.

1. Are the risks to natural resources and private property **acceptable** as a result of the fire if the following actions are taken?

**Native Seeding Alternative/Proposed Action** Yes  No  Rationale for answer: The threat of weed invasion will be reduced with successful seeding of native and planting as identified. Also, the potential for soil erosion will be reduced in addition to a moderate reduction in the threat of repeated large wildfire. The proposed action will result in more diverse perennial vegetation communities that will meet wildlife needs and rangeland health standards. Costs of seeding and temporary fence construction are acceptable, considering the potential for anticipated diverse communities with use of the identified seed mixture and current forage demand by livestock and wildlife. Land use plan objectives will be moderately met with implementation of the proposed action.

**Nonnative Seeding Alternative** Yes  No  Rationale for answer: The threat of weed invasion will be greatly reduced with a successful seeding. Also, the potential for soil erosion will be reduced. The threat of repeated wildfire will be reduced with perennial vegetation that will moderately meet wildlife needs and rangeland health standards. Seeding of nonnative species would limit success meeting land use plan objectives for wildlife habitat and vegetation diversity, when one considers the acreage of additional nonnative seeding in the vicinity of the burned area and potential competition with special status plant species. The cost of nonnative seeding and temporary fence construction are acceptable, considering seed mixtures and forage demand for livestock and wildlife.

**Limited Rehabilitation Alternative** Yes  No  Rationale for answer: The limited rehabilitation alternative would not reduce the threat of weed invasion, erosion, and repeated wildfire. Wildlife habitat objectives and Rangeland Health Standards would not be met in areas supporting a moderate to heavy component of annual weedy species.

**No Action** Yes  No  Rationale for answer: The threat of weed invasion, erosion, and repeated wildfire will be increased without treatment. Wildlife habitat objectives and Rangeland Health Standards will not be met.

2. Is there probability of success of the proposed action, alternatives or no action acceptable given their costs?

**Native Seeding Alternative/Proposed Action** Yes  No  Rationale for answer: Recent seedings of native species mixes on adjacent areas on similar soils and precipitation regimes have been successful under normal climatic conditions and protection from grazing for 2-3 growing seasons. In areas of heavy annual species competition, lower rates of success are anticipated. Protection of burned areas from livestock grazing damage utilizing temporary fences have proved to be moderately successful.

**Nonnative Seeding Alternative** Yes  No  Rationale for answer: Recent seedings of nonnative species mixes on adjacent areas on similar soils and precipitation regimes have been successful under normal climatic conditions and protection from grazing for 2-3 growing seasons. Protection of burned areas from livestock grazing damage utilizing temporary fences to limit areas temporarily removed from forage production have proved to be moderately successful.

**Limited Rehabilitation Alternative** Yes  No  Rationale for answer: Adjacent areas with similar soils and vegetation that have not been seeded following fire or brush control have become monocultures of annual species that do not meet wildlife habitat and Rangeland Health needs. Failing to seed select portions of the burned area to adapted perennial species would result in similar unacceptable annual species dominance. Protection of burned areas from livestock grazing damage utilizing existing fences closing grazing in large pastures has proved to be moderately to highly successful, though does impose additional impacts to current livestock grazing practices.

**No Action** Yes  No  Rationale for answer: Adjacent areas with similar soils and vegetation that have not been seeded following fire or brush control have become monocultures of annual species that do not meet wildlife and Rangeland Health needs. Fuel loading with fine fuels would increase, resulting in the potential for more rapid fire spread in the future. Failing to seed the burned area to adapted perennial species would result in similar unacceptable vegetation and increase the potential for increased frequency of fire return to this site. Failure to protect burned areas from livestock grazing in the short term would result in additional decline in diversity of native perennial species

3. Which approach will most cost-effectively and successfully attain the ESR objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Native Seeding Alternative/Proposed Action

Nonnative Seeding Alternative

Limited Rehabilitation Alternative

No Action

Comments: The proposed action best meets the need for reducing weed invasion and repeated wildfire by providing less flammable vegetation communities while meeting land use plan objectives and providing for wildlife and rangeland health needs. Seeding of nonnative perennial species would also similarly meet rehabilitation objectives in the event that native seed is not available in this year of high seed demand, although would pose additional risk extending the extent of dominance nonnative seedings with limited species and structural diversity in the immediate area.