Vale District Bureau of Land Management
Kern Fire Rehabilitation Plan N057
Environmental Assessment
EA No. OR-030-00-015

I. PURPOSE AND NEED

A. Background

A lightening storm ignited the Kern Fire (N 057) in T.22S., R.44E., W.M. Section 18 during the evening of August 4, 2000 (figure 1). The fire burned a total of 12,068 acres of which 54 acres is private, 31 acres is under withdrawal to the Bureau of Reclamation, and 11,983 acres is public domain in the Malheur Resource Area of the Vale Bureau of Land Management District. Containment was achieved at 1030 on August 7 with control at 2000 on August 7. Two dozers, a grader, a number of engines, two helicopters, three water tenders, and air tankers were used during suppression activities. Approximately 6 miles of new fireline and 20 miles of improved road were used for control lines. The firelines and roads used for control were reshaped and smoothed to the extent possible before equipment left the fire. An additional 30 miles of road between Vale, Oregon and the fire was impacted by heavy equipment traffic accessing the fire. Due to dry soil conditions, there is a need to delay seeding of roads and bladed line used for fire suppression activities and rehabilitation work on access roads until sufficient moisture is available during the fall of 2000 or spring of 2001.

Though much of the area burned was dominated by native sagebrush/bunchgrass vegetation communities prior to the fire, areas adjacent to livestock water sources and other areas of previous disturbance were dominated by annual herbaceous species. Native communities contained Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*), rabbitbrush (*Chrysothamnus sp.*), bluebunch wheatgrass (*Pseudorogneria spicata*), Thurber's needlegrass (*Stipa thurberiana*), and Sandberg bluegrass (*Poa secunda*). Cheatgrass (*Bromus tectorum*) was dispersed through most vegetation communities with a number of nearly pure stands of medusahead (*Taeniatherum caput-medusae*) on clay soils. 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, sage grouse, and other sagebrush dependent species.

B. Purpose and Need

BLM manual 1742 provides for emergency fire rehabilitation where fire has an adverse

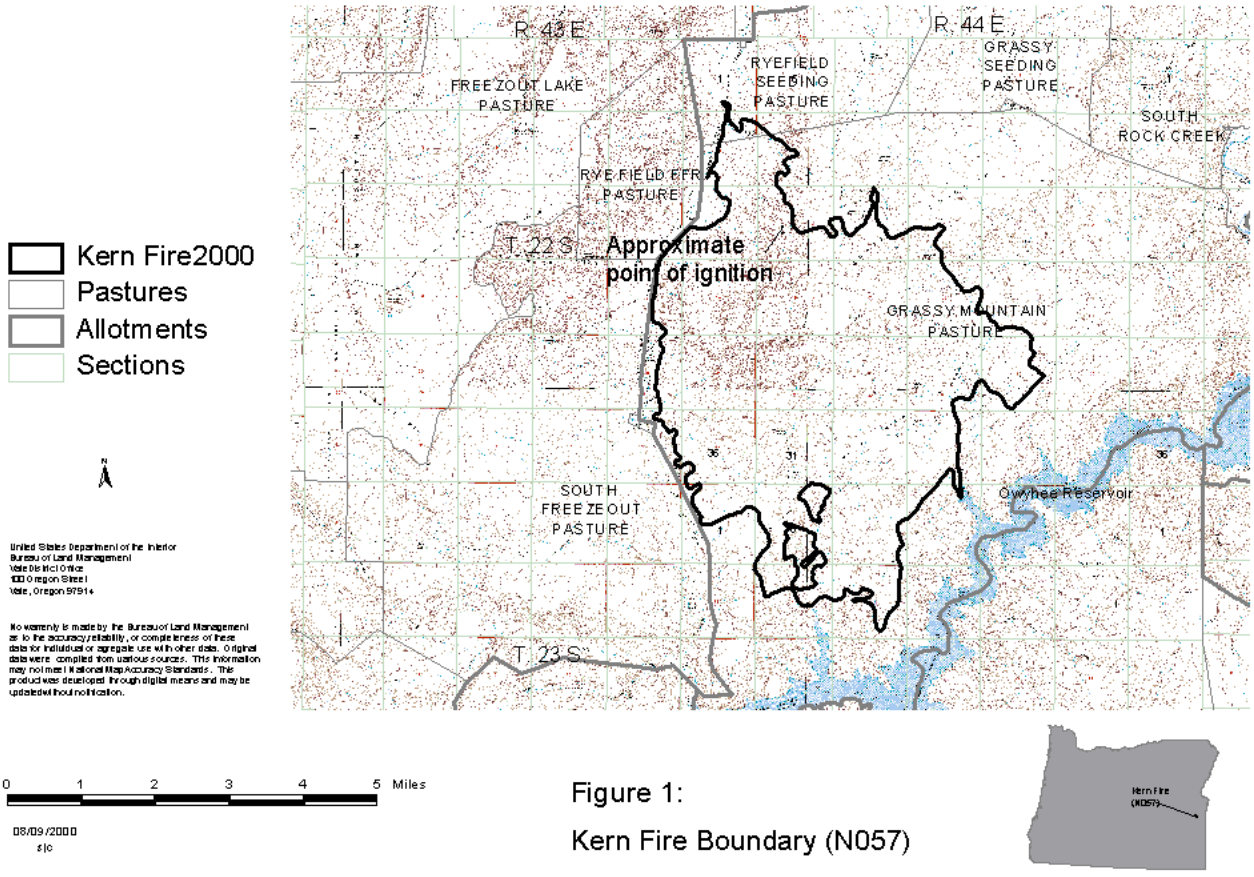

Figure 1:

Kern Fire Boundary (N057)

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 Kern Fire is in need of rehabilitation to minimize soil loss, preserve on-site productivity, reduce the invasion and increased dominance of undesirable flammable annual plants and reduce the potential for noxious weed invasion. 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 in annual vegetation communities. This environmental assessment analyzes the benefits and risks of implementing rehabilitation actions to establish native perennial vegetation cover as compared to establishment of desirable non-native 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 Fire 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.

The Nyssa Allotment Management Plan implemented in 1999 does not provide management direction for seeding and establishment of shrub species though does identify management objectives to improve or maintain upland ecological conditions within native pastures.

Fence reconstruction and temporary fencing to ensure temporary 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 PROPOSED ACTION AND ALTERNATIVES

Alternatives considered and analyzed include the proposed action, a non-native seeding alternative, a native seeding alternative, a limited rehabilitation alternative, and a no action alternative. A summary of treatments by alternative is presented in table 1.

Table 1: Summarized treatments by alternative

Action \ Alternative	Proposed Action	Non-native Seeding	Native Seeding	Limited Rehab	No Action
Native seeding (acres)*	1800	0	2160	0	0
Non-native seeding (acres)*	360	2160	0	0	0
Seedling shrub planting (acres)*	400	0	400	0	0
Sagebrush seeding (acres)*	3,000	0	3,000	0	0
Fence reconstruction*	2 rock cribs	2 rock cribs	2 rock cribs	2 rock cribs	0
Temporary fencing (miles)*	0	7	0	0	0
Temporary livestock exclusion (acres)	30,369	20,000	30,369	30,369	No
Road Repairs (miles)	30	30	30	0	0
Fire Line Seeding (miles)	26	26	26	0	0
Monitoring	Yes	Yes	Yes	Yes	No

* Proposed actions for which Emergency Fire Rehabilitation funding is requested.

A. Proposed Action

The proposed action would be to seed approximately 2,160 acres of public land in the burn area using rangeland drills during the fall of 2000 or spring of 2001. An estimated 1800 acres of public land within Oxbow Basin previously dominated by Wyoming big sagebrush and with an understory of sparse native bunchgrasses would be seeded to a native perennial seed mixture (Seeding Area B, Figure 2). An additional 360 acres of public land south of Grassy Reservoir and of similar vegetation type prior to the fire, though more heavily dominated by medusahead and adjacent to an existing seeding of created wheatgrass, would be seeded to a non-native perennial seed mixture (Seeding Area A, Figure 2). Proposed seed mixes are presented in Table 2. The mixes may be

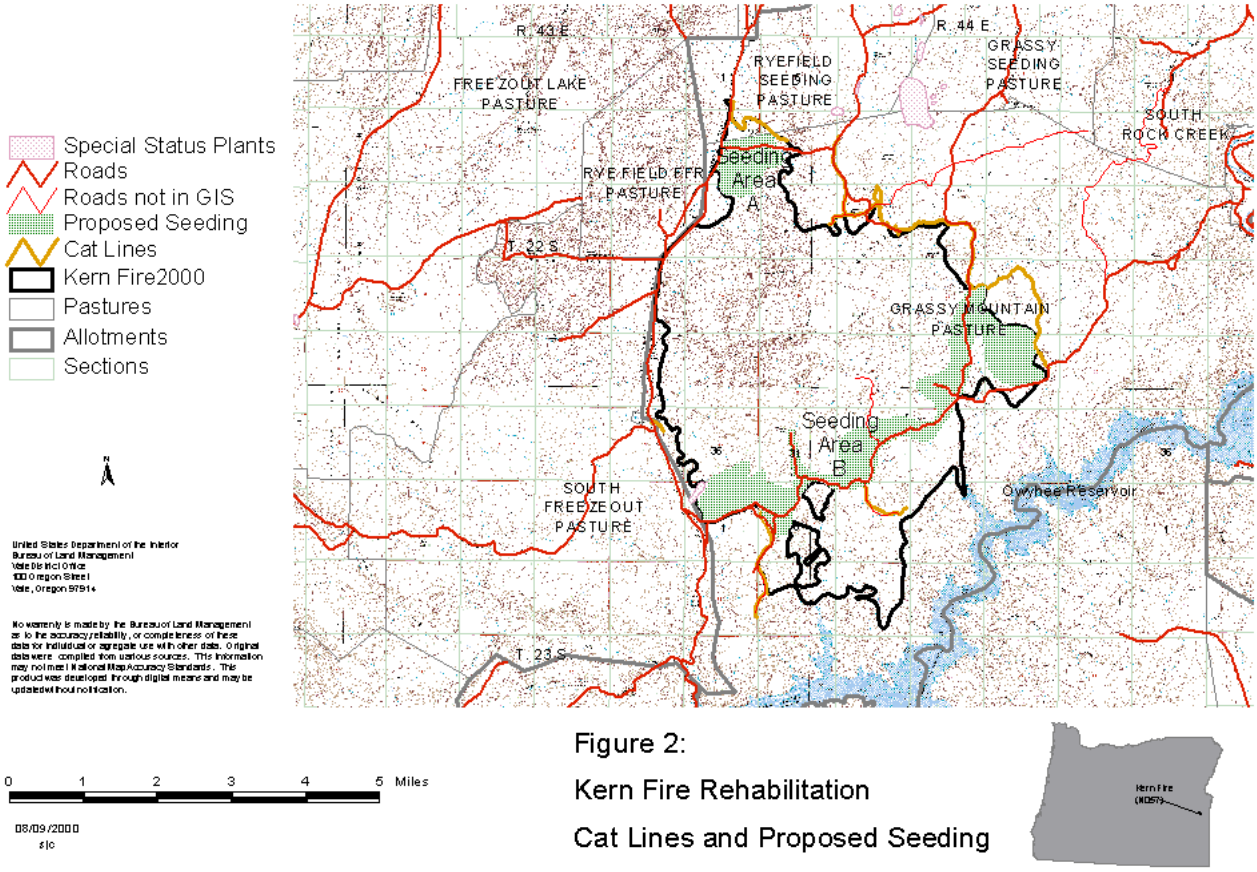

Figure 2:

Kern Fire Rehabilitation

Cat Lines and Proposed Seeding

altered slightly depending upon seed availability and /or soil types on site. For instance, compatible forbs or shrubs such as globemallow (*Sphaeralcea spp.*), lupine (*Lupinus spp.*), four-wing saltbush (*Atriplex canescens*), bitterbrush (*Purshia tridentata),* or scadscale (*Atriplex confertifolia*) may be substituted. Similarly, other varieties of bluebunch wheatgrass or crested wheatgrass may be substituted as available. All seed when mixed would be treated with organic seed coating to enhance germination success and seedling survival. The remaining 9,908 acres of public and private land within the fire boundary would not be seeded due to steepness of slopes or its location within islands which did not burn (Figure 2). Approximately one-quarter of the 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 pound pure live seed (pls) per acre. Accessible portions of the sagebrush seeding would be cultipacked to better ensure seed contact with the soil during germination.

Approximately 400 acres of the burned area would be planted with 1-0 seedlings of additional shrub species including bitterbrush, four-wing saltbush, shadscale, 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 50 seedlings per acre as available in the spring of 2001 utilizing emergency fire rehabilitation funds and in later years as other

funding sources are found.

A native/non-native worksheet assessing the seed mixes is attached as Appendix 1. The proposed seed mixes are listed in Table 2.

Due to the location of the 12,068 acre fire almost entirely within the 30,369 acre Grassy Mountain Pasture of Nyssa Allotment (10403), no temporary fencing would be proposed to exclude livestock grazing from fire impacted vegetation communities. Livestock would be excluded from all except 95 acres of lightly burned crested wheatgrass seeding in the southwest portion of Ryefield Seeding Pasture by closing Grassy Mountain Pasture to grazing through July 15, 2002 and until monitoring indicates that desired vegetation has recovered to levels that are adequate to support and protect upland function.

Two wooden brace posts within the exterior fence of Grassy Mountain pasture would be replaced with rock-crib brace points to reestablish the integrity of the boundary fence protecting the burned area from livestock grazing.

Approximately 30 miles of road, impacted by traffic to and from the fire during suppression actions, would be repaired to restore a road-base which will support use during extremes of wet and dry conditions. An additional estimated 26 miles of fireline and bladed roads in and adjacent to the fire, disturbed by dozers and the grader during suppression actions, including portions not used as a fire break, would receive any additional shaping necessary to minimize erosion and be seeded to a perennial seed mixture as consistent with adjacent vegetation composition. Roads and grader line rehabilitation that was not completed immediately following control of the fire due to lack of soil moisture as well as seeding of soils disturbed during suppression actions, would be completed while equipment is on site to do the rehabilitation seedings. This work would be done using funds other than emergency fire rehabilitation.

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 Kern Fire Rehabilitation Plan (Proposed Action)

Species	Pounds Per Acre	Total Pounds	Approx Cost Per Pound	Total Cost
Native Mix - 1800 acres				
Secar Bluebunch Wheatgrass	2.25	4,050	$8.00	$32,400
Goldar Bluebunch Wheatgrass	2.25	4,050	$9.00	$36,450.
Magnar Basin Wildrye	1.0	1,800	$9.50	$17,100.
Sand Dropseed	1.0	1,800	$3.00	$5,400.
Arriba Western Wheatgrass	1.0	1,800	$4.50	$8,100
Ladak Alfalfa	1.0	1,800	$2.00	$3,600.
Apar Lewis Flax	0.25	450	$8.50	$7,650.
Yarrow	0.25	450	$9.50	$8,550.
Total	9.0			
			Subtotal	**$119,250.**
Non-native Mix - 360 acres				
Fairway Crested Wheatgrass	6.5	2350	$1.50	$3,525.
Magnar Basin Wildrye	1.0	400	$9.50	$3,800.
Ladak Alfalfa	1.0	350	$2.00	$700.
Apar Lewis Flax	0.25	100	$8.50	$850.
Yarrow	0.25	100	$9.00	$850.
Total	9.0			
			Subtotal	**$9,725.**
Shrub Species - 3,000 acres				
Wyoming Big Sagebrush	1 lb bulk (0.1 lbs pls)	3,000 lbs bulk	$8.50	$25,500.
			Subtotal	**$25,500.**
			Total	**$154,475.**

B. Non-native Seeding Alternative

The proposed action would be to seed approximately 2,160 acres of public land in the burn area using rangeland drills during the fall of 2000 or spring of 2001. An estimated 1800 acres of public land within Oxbow Basin previously dominated by Wyoming big sagebrush and with an understory of sparse native bunchgrasses would be seeded to a non-native perennial seed mixture (Seeding Area B, Figure 2). An additional 360 acres of public land south of Grassy Reservoir and of similar vegetation type prior to the fire, though more heavily dominated by medusahead and adjacent to an existing seeding of

created wheatgrass would also be seeded to a non-native perennial seed mixture (Seeding Area A, Figure 2). The proposed seed mix is presented in Table 2. The mix may be altered slightly depending upon seed availability and /or soil types on site. For instance, compatible forbs such as globemallow or lupine may be substituted. Similarly, other varieties of crested wheatgrass may be substituted as available. All seed when mixed would be treated with organic seed coating to enhance germination success and seedling survival.

The remaining 9,908 acres of public and private land within the fire boundary would not be seeded due to steepness of slopes or its location within islands which did not burn (Map 2).

A native/non-native worksheet assessing the seed mixes is attached as Appendix 1. The proposed seed mix is listed in Table 3.

Livestock grazing would be excluded from the burned and the seeded areas through at least two growing seasons and until seeded species have become established. Livestock would be excluded by construction of 7 miles of temporary electric fence (Figure 3). Construction of the fence would exclude livestock from an estimated 20,000 acres (2/3 of the pasture) within the western portion of Grassy Mountain Pasture of Nyssa Allotment.

Two wooden brace posts within the exterior fence of Grassy Mountain pasture would be replaced with rock-crib brace points to reestablish the integrity of the boundary fence protecting the burned area from livestock grazing.

Roads and grader line rehabilitation would be the same as identified in the proposed action alternative, though more non-native species would be used on fire lines.

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 as identified in the proposed action alternative.

Table 3: Proposed seed mix for the Kern Fire Rehabilitation Plan (Non-native Seeding Alternative)

Species	Pounds Per Acre	Total Pounds	Approx Cost Per Pound	Total Cost
Non-native Mix - 2,160 acres				
Fairway Crested Wheatgrass	7.0	15,150	$1.50	$22,725.
Magnar Basin Wildrye	0.5	1,100	$9.50	$10,450.
Ladak Alfalfa	1.0	2,200	$2.00	$4,400.
Apar Lewis Flax	0.25	550	$8.50	$4,675.
Yarrow	0.25	550	$9.00	$4,950.
Total	9.0			
			Total	**$47,200.**

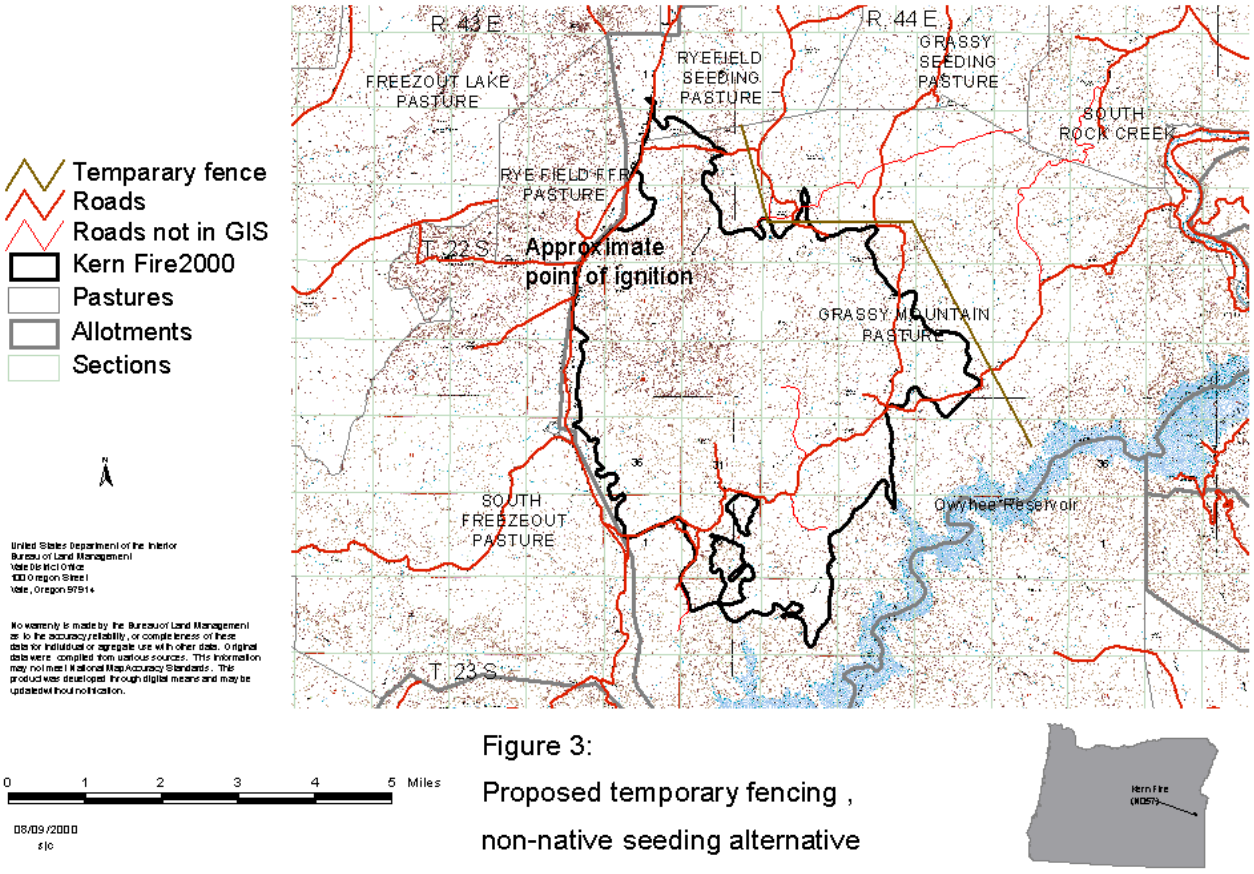

Figure 3:

Proposed temporary fencing ,

non-native seeding alternative

C. Native Seeding Alternative

The proposed action would be to seed approximately 2,160 acres of public land in the burn area using rangeland drills during the fall of 2000 or spring of 2001. An estimated 1800 acres of public land within Oxbow Basin previously dominated by Wyoming big sagebrush and with an understory of sparse native bunchgrasses would be seeded to a native perennial seed mixture (Seeding Area B, Figure 2). An additional 360 acres of public land south of Grassy Reservoir and of similar vegetation type prior to the fire would also be seeded to a native perennial seed mixture (Seeding Area A, Figure 2). The proposed seed mix is presented in Table 4. The mix may be altered slightly depending upon seed availability and /or soil types on site. For instance, compatible forbs or shrubs such as globemallow, lupine, four-wing saltbush, bitterbrush, or scadscale may be substituted. Similarly, other varieties of bluebunch wheatgrass may be substituted as available. All seed when mixed would be treated with organic seed coating to enhance germination success and seedling survival.

The remaining 9,908 acres of public and private land within the fire boundary would not be seeded due to steepness of slopes or its location within islands which did not burn

(Map 2). Approximately one-quarter of the 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 pound pure live seed (pls) per acre. Accessible portions of the sagebrush seeding would be cultipacked to better ensure seed contact with the soil during germination.

Approximately 400 acres of the burned area would be planted with 1-0 seedlings of additional shrub species including bitterbrush, four-wing saltbush, shadscale, 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 50 seedlings per acre as available in the spring of 2001 utilizing emergency fire rehabilitation funds and in later years as other funding sources are found.

A native/non-native worksheet assessing the seed mixes is attached as Appendix 1. The proposed seed mixes are listed in Table 4.

Due to the location of the 12,068 acre fire almost entirely within the 30,369 acre Grassy Mountain Pasture of Nyssa Allotment (10403), no temporary fencing would be proposed to exclude livestock grazing from impacted vegetation communities. Livestock would be excluded from all except 95 acres of lightly burned crested wheatgrass seeding in the southwest portion of Ryefield Seeding Pasture by closing Grassy Mountain Pasture to grazing through July 15, 2002 and until monitoring indicates that desired vegetation has recovered to levels that are adequate to support and protect upland function.

Two wooden brace posts within the exterior fence of Grassy Mountain pasture would be replaced with rock-crib brace points to reestablish the integrity of the boundary fence protecting the burned area from livestock grazing.

Roads and grader line rehabilitation and seeding would be the same as identified in the proposed action alternative, though more native species would be used on fire lines.

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 as identified in the proposed action alternative.

Table 4: Proposed seed mixes for the Kern Fire Rehabilitation Plan (Native Seeding Alternative)

Species	Pounds Per Acre	Total Pounds	Approx Cost Per Pound	Total Cost
Native Mix - 2,160 acres				
Secar Bluebunch Wheatgrass	2.25	4,900	$8.00	$39,200.
Goldar Bluebunch Wheatgrass	2.25	4,900	$9.00	$44,100.
Magnar Basin Wildrye	1.0	2,200	$9.50	$20,900.
Sand Dropseed	1.0	2,200	$3.00	$6,600.
Arriba Western Wheatgrass	1.0	2,200	$4.50	$9,900
Ladak Alfalfa	1.0	2,200	$2.00	$4,400.
Apar Lewis Flax	0.25	550	$8.50	$4,675.
Yarrow	0.25	550	$9.50	$5,225.
Total	9.0			
			Subtotal	**$135,000.**
Shrub Species - 3,000 acres				
Wyoming Big Sagebrush	1 lb bulk (0.1 lbs pls)	3,000 lbs bulk	$8.50	$25,500.
			Subtotal	**$25,500.**
			Total	**$154,475.**

D. Limited Rehabilitation Alternative

Emergency rehabilitation would be limited to the reconstruction of two boundary fencing brace structures and the exclusion of livestock grazing from the burned area through two growing seasons. Revegetation of the burned area would be allowed to occur from seed and plant material which remains on site and in the soil.

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

E. 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 Grassy Mountain Pasture.

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 and other areas of previous disturbance were dominated by annual herbaceous. Cheatgrass was dispersed through most vegetation communities with a number of nearly localized pure stands of medusahead on clay soils. 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.

Approximately 5000 acres of rangeland within Ryefield Seeding and Grassy Seeding pastures, immediately to the north of Kern Fire, was seeded to crested wheatgrass with varying levels of reinvasion by Wyoming big sagebrush as a result of past efforts to rehabilitate depleted rangeland.

B. Noxious Weeds

Scotch thistle, an aggressive biennial, is present as scattered individuals throughout the burned area. Medusahead, an aggressive annual grass, is present on clay soils located on level to moderately sloping sites. A site of Russian knapweed, located approximately three mile east of the east boundary of the fire, was recently controlled with treatment. Whitetop or hoary cress (*Cardia spp.*), though not known to be present within the area burned, is present throughout the region.

C. Livestock Grazing

The burn area is entirely within the Grassy Mountain Pasture of Nyssa Allotment (10403) with the exception of 95 acres of burned crested wheatgrass seeding in Ryefield Seeding Pasture. Five permittees are authorized to graze livestock in the community allotment, though only two currently use Grassy Mountain and Rye Field Seeding pastures in their grazing rotation. Active AUMs within the 76,955 acre allotment are listed below:

Permittees who currently use Grassy Mountain and Rye Field Seeding pastures

Frank Shirts Jr. (sheep)	534 AUM's
Gary Cleaver (cattle)	2191 AUM's

Permittees who currently do not use Grassy Mountain and Rye Field Seeding pastures

Jeff Hess	1617 AUM's
Christian and Ann Bennight	1120 AUM's
Vernon and Velma Widmer	350 AUM's

Adah Schweizer is authorized to graze 70 AUM's within a custodial pasture of Nyssa 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 include Xeric Haplocambids (Warden and Royal series) , Xeric Haplodurids (Taunton and Gravden series), and Xeric Torriorthents (Kennewick and Wahluke series). Basalt rock is present on the soils surface throughout the burned area, especially on steeper slopes.

Portions of the burned area more distant from areas of livestock concentration supported 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 southern portion of the fire drains south into Owyhee Reservoir, including the Dry Creek Arm while the northern portion drains north into Negro Rock Canyon and Malheur River. Perennial water sources which lie within the proposed treatment area include Whiskey Spring, Oxyoke Spring, and Oxbow Spring, all developed to provide livestock water. Perennial surface flow in drainages beyond these springs is not present.

E. Wildlife

The proposed treatment area is within year-long range or winter habitat for a number of wildlife species including mule deer and pronghorn antelope, upland game species, sage grouse, 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.

F. Recreation and Visual Resources

Dispersed outdoor recreation in the proposed fire rehabilitation area consists primarily of off highway vehicle usage and hunting of upland birds and big game animals. Some dispersed general sightseeing occurs. Though proposed actions are not visible from Owyhee Reservoir, portions of the fire were back-fired to two small arms of the reservoir. The burn includes areas within visual resource management (VRM) Class II, III, and IV. All of the proposed seeding area "A" and the majority of the proposed seeding area "B"are within a VRM class IV area. The western quarter of proposed seeding area "B" is

within a VRM Class III. No actions are proposed within the portion of the burned area within a VRM Class II, those portions visible from Owyhee Reservoir.

The objective of Class III is to primarily retain the existing character of the landscape with a moderate level of change acceptable. Changes should conform to the basic elements of the predominant natural features of the characteristic landscape.

The objective of Class IV is to provide for management activities that require major modification of the landscape. These management activities may dominate the view and become the focus of viewer attention. However, every effort should be made to minimize the impact of these projects by carefully locating activities, minimizing disturbance, and designing the projects to conform to the characteristic landscape.

G. Cultural Resources / Paleontology

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. Native American use of this area would have been associated with the seasonal round as family groups followed the resources from lower elevations in the spring to higher elevations in summer. Travel from the Malheur River to the Owyhee River or vis-versa occurred along the western boundary of the fire on the now existing dirt road through Negro Rock Canyon past Twin Springs and Burnt Mountain. This area is dotted with springs that would have been utilized by big game species, upland game species and humans.

Historic use of the area is evident by the presence of solder top cans, ranching artifacts and oral history. Twin Springs has both a prehistoric and historic component as demonstrated by the presence of an extensive lithic scatter with flakes, groundstone and projectile points present, as well as metal artifacts, such as hinges, bolts, associated with early 1930s to present ranching and farming.

Surveys for fossil resources have located plant, animal and fish fossils, as well as petrified wood. Fish fossils are located in the lacustrine sediments dated to the Miocene and associated with the Deer Butte and Grassy Mountain Formations, and noted for diversity and abundance. Large mammal remains have been reported. One rhinocerous skull was recovered from sediments to the west of the burn and dated to 8 million years ago. Camel, horse, turtle, and sloth are among the species that may be located in sediments within the burn area as well as later species such as mammoth, mastodon, and bison.

H. Threatened and Endangered (T&E) Plants

Special status plant surveys within much of the area affected by Kern Fire were completed in in the early 1980's in association with the Grassy Mountain mineral exploration work. No plant species listed under the Endangered Species Act of 1973 are known to be present within the area burned. A small stand of Cusick's chaenactis (*Chaenactus cusickii*), a BLM sensitive species, has been identified on white to gray ash clay soil in the southwest portion of the fire. No actions are proposed within this plant's habitat. Biddle's lupine (*Lupinus biddlei*), another BLM

sensitive species, is found in a number of loam sites immediately north of the fire boundary. No sites were known for this species within the burned perimeters. No other special status plant species are known or suspected within the immediate area.

I. Climate/Topography

Kern Fire occurred in rolling hills and rocky ridges associated with Grassy Mountain where the elevation above sea level ranges from 2800 feet to 4200 feet. Semi desert shrub steppe vegetation communities result from cold winters and hot dry summers. The long term average annual precipitation measured at Owyhee Dam, Oregon (5 miles east of the fire boundary) is nine inches (National Oceanic and Atmospheric Administration Climatological Data Annual Summary; Oregon 1997). Precipitation occurs primarily as snow fall during the winter with occasional mid summer thunder storms.

J. Wild and Scenic Rivers

Two stream segments, Dry Creek two miles southwest of the fire boundary and Owyhee River below Owyhee Dam five miles east of the fire boundary, have been identified as administratively suitable for designation under the Wild and Scenic Rivers Act of 1968 within the Draft Southeast Oregon Resource Management Plan / Environmental Impact Statement (USDI/BLM 1998). Proposed rehabilitation actions are outside identified boundaries of both steam segments.

K. Wilderness Study Areas

Dry Creek Wilderness Study Area (WSA) is located immediately southwest of the fire boundary across a dirt maintained road. Dry Creek Buttes WSA is located immediately south of the fire boundary across the Dry Creek Arm of Owyhee Reservoir. Proposed rehabilitation actions are outside both WSA's.

L. Areas of Critical Environmental Concern

Three areas adjacent to the Kern Fire have been proposed for management as Areas of Critical Environmental Concern (ACEC) within the Draft Southeast Oregon Resource Management Plan / Environmental Impact Statement (USDI/BLM 1998). Dry Creek Gorge ACEC is located two miles southwest of the fire boundary, Owyhee below the Dam ACEC is located two miles east of the fire boundary, and Owyhee Views ACEC overlaps the fire boudary in those areas visible from Owyhee Reservoir. Proposed rehabilitation actions are outside all three proposed ACEC's.

M. 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. Native American Religious Concerns
3. Hazardous wastes
4. Prime or unique farmlands
5. Wild Horse/Burro Management
6. Wetlands/Riparian, Flood Plains
7. Environmental Justice

V. ENVIRONMENTAL CONSEQUENCES

A. Proposed Action

1. Vegetation

Seeding would provide an opportunity and seed source for a more stable perennial vegetative cover, especially on road shoulders and fire-lines impacted by suppression actions. With successful establishment of seedings, perennials would replace more flammable annuals, reducing the frequency of wildfire. Establishment of native perennial species adjacent to five mile of the Oxbow Road would tend to form a moderate break in highly flammable vegetation, reducing future spread of wildfire. The area of contiguous non-native seedings in Ryefield Seeding would increase to approximately 3,760 acres. Establishment of native perennial grasses would restore ecological function to the portions of Oxbow Basin adjacent to the east-west road. Establishment of sagebrush, fourwing saltbush and bitterbrush would provide vegetative community diversity and restore structure to the vegetative community that has been lost to the Kern Fire and periodic wildfire in this area. Risk of poor establishment of native species in seeding area "B", especially in the event of limited soil moisture in the spring of 2001, would be greater than the similar risk of planting crested wheatgrass or other non-native species which are 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 non-native species resulting from rehabilitation actions.

Temporary exclusion of livestock from 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.

2. Noxious weeds

Establishment of perennial species would help prevent the potential for spread and takeover of the site by noxious weeds, particularly Medusahead, 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 from Grassy Mountain Pasture including the majority of the burned area and all areas proposed for seeding and planting through at least two growing seasons and until seeded species are established. Scheduled grazing within Grassy Mountain Pasture, as defined in the allotment management plan with an alternate year rotation, identifies an average annual use of 850 AUM's by cattle. This use represents approximately 39 percent of Gary Cleaver's authorized use of 2191 AUM's in Nyssa Allotment. 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. It is estimated that approximately 50 percent of Frank Shirt's authorized use of 534 AUM's in Nyssa Allotment comes from Grassy Mountain Pasture. As a result of closing Grassy Mountain Pasture to livestock grazing, 850 AUM's of cattle use and 267 AUM's of sheep use would be forgone annually. Livestock grazing schedules would be adjusted short term to continue the authorization of livestock grazing in Nyssa Allotment while continuing to meet management objectives in the absence of use of Grassy Mountain Pasture.

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.

Repair of roads would re-establish the road prism and provide a running surface resistant to future heavy truck and fire pumper traffic. Water run-off would be controlled reducing soil movement and additional localized widening of roads as traffic attempts to avoid bad spots.

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. Structural habitat for sagebrush dependent species, including 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 II or III. Visual evidence of drilled seeding would remain evident long term, especially in non-native seedings.

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.

8. T&E Plants

Special Status plant species would not be affected since no activity is planned within known or suspected habitats. Use of native species adjacent to the known site of Cusick’s chaenactis would better limit weed invasion of the special status plant site.

B. Non-native Seeding Alternative

1. Vegetation

Seeding of non-native species in seeding areas “A” and “B” would result in positive and negative impacts to vegetation resources similar to those identified in analysis of the proposed alternative, though risk associated with establishment of non-native perennial species, primarily crested wheatgrass, within the 1800 acre seeding area “B” as compared to risk of unsuccessful establishment of native species would be reduced. Vegetative community diversity and structure resulting from implementation of this alternative would be less than the proposed alternative due to the lack of reintroduction of sagebrush and other shrub species to the burned area. The area of non-native seedings in Nyssa Allotment would increase with its introduction into Oxbow Basin, an area immediately adjacent to a number of areas proposed as special management areas in the Draft Southeast Oregon Resource Management Plan. Risk of movement of these non-native species to within special management would be slightly increased long term. within this low elevation allotment surrounded by crop land.

Establishment of non-native perennial species adjacent to five miles of the Oxbow Road would tend to enhance the green-strip break in highly flammable vegetation, reducing future spread of wildfire.

Temporary exclusion of livestock from 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.

2. Noxious weeds

Benefits of establishing competitive perennial herbaceous vegetation within the burn area and adjacent to roads would be similar to those identified in the proposed alternative. With the improved likelihood of establishment of non-native species as compared to native species in seeding area “B”, opportunities to preclude noxious weed spread would be enhanced. Competition with undesirable weed species for late season deep soil moisture wouldddecrease in the absence of sagebrush and other shrub reestablishment within the burned vegetation communities.

3. Livestock Grazing

Impacts to authorized livestock grazing and associated commodity production would be similar to those identified in the proposed alternative. Fewer AUM’s would be lost by livestock operators with construction of an estimated 7 miles of temporary fence and retention of 1/3 of Grassy Mountain Pasture available for grazing through the next two growing seasons and longer if necessary. It is estimated that 567 AUM’s would be lost short term by Gary Cleaver, the operator authorized to graze cattle. Frank Shirts, the sheep operator, would loose an estimated 178 AUM’s short term. Livestock grazing schedules would be adjusted short term to continue the authorization of livestock grazing

in Nyssa Allotment while continuing to meet management objectives in the absence of use of 2/3 of Grassy Mountain Pasture. Benefits of increased forage production long term from the establishment of non-native species which are more tolerant of grazing impacts and limited establishment of shrub species would be greater than with implementation of the proposed action.

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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 non-native seedings and limited shrub reintroduction 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 proposed action.

6. Recreation and Visual Resources

Impacts to recreation and visual resources would be similar to those identified in the propose action, though visual lines between the non-native 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 proposed alternative.

8. T & E Plant Species

Special status plants would not be affected. Use of non-native species adjacent to the known site of Cusick's chaenactis would increase the likelihood of long term movement of plants into that special status plant site.

C. Native Seeding Alternative

1. Vegetation

Seeding of native species in seeding areas “A” and “B” would result in positive and negative impacts to vegetation resources similar to those identified in analysis of the proposed alternative. Risk associated with establishment of native species within the 360 acre seeding area “A” as compared to risk of unsuccessful establishment of non-native species would be increased. Cheatgrass and Medusahead at this site would provide significant competition hindering the establishment of desirable perennial species.

Temporary exclusion of livestock from 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.

2. Noxious Weeds

Benefits of establishing competitive perennial herbaceous vegetation within the burn area and adjacent to roads would be similar to those identified in the proposed alternative. With the reduced likelihood of establishment of native species as compared to native species in seeding area “B”, opportunities to preclude noxious weed spread would be reduced. Competition with undesirable weed species for late season deep soil moisture would be provided with the establishment and maintenance of sagebrush and other shrub reintroduction to the site.

3. Livestock Grazing

Short term exclusion of livestock from Grassy Mountain Pasture to provide for the establishment of seeded species and recovery of fire impacted vegetative species would result in impacts similar to those identified in the proposed action alternative.

4. Soils/Watershed

Impacts to soil and watershed values would be similar to those identified in the proposed alternative.

5. Wildlife

Impacts to wildlife habitat values would be similar to those identified in the proposed action alternative. Successful establishment of native species in seeding area “A”, though less likely than establishment of non-native species as identified in the proposed action alternative, would better provide desired habitat values for big game and sagebrush dependent species.

6. Recreation and Visual Resources

Impacts to recreation and visual resources would be similar to those identified in the propose action, though visual lines between the native seeding in area "A" and adjacent non-native seeded communities in Ryefield Seeding would remain inconsistent with natural topographic features and aspect changes.

7. Cultural Resources

Impacts to cultural resources would be similar to those identified in the proposed alternative.

8. T & E Plant Species

Special status plants would not be affected as identified in the proposed action alternative.

D. Limited Rehabilitation

1. Vegetation

Annual species and noxious weed species would continue to dominate sites within the burn with a mat of cheatgrass and Medusahead seed. The potential for invasion of these sites and other sites opened to seedling establishment 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.

Temporary exclusion of livestock from Grassy Mountain Pasture would allow recovery of residual desirable species without 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 areas 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 and whitetop are aggressive and highly invasive species. With little competition from perennial grasses and shrubs, these weeds may dominate the burn area and adjacent rangeland in the long term.

3. Livestock Grazing

Livestock would not be allowed to graze the burn area through two growing seasons as required by BLM policy. Livestock would have to be removed from the entire Grassy Mountain Pasture for at least two growing seasons as there would be no temporary fencing to keep cattle off of the burn area. As a result, impacts to livestock grazing

would be similar to those identified in the proposed action alternative. No long term benefits would occur as there would be limited long term 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.

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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 once again vegetate the site over a period of a year 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.

5. Wildlife

Wildlife habitat and forage quality would improve little. The loss of shrub habitat would negatively affect big game and sagebrush dependant species long term until shrubs once again colonize the interior of the burn area.

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 / Paleontology

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 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.

E. No Action

1. Vegetation

Annual species and noxious weed species would continue to dominate sites within the burn with a mat of cheatgrass and Medusahead 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 caused a continued loss of vegetative diversity and structure which would accelerate with no action.

Continued authorization of livestock grazing within Grassy Mountain Pasture would delay and in many instances preclude recovery of residual desirable 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 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 to 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.

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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 a year 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.

5. Wildlife

Wildlife habitat and forage quality would not improve. The loss of shrub habitat would negatively affect big game and sagebrush dependant species.

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 / Paleontology

There would be no affect to cultural resources from mechanized equipment as a result of 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 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 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 Emergency Fire Rehabilitation Handbook (H-1742) recommends entering into cooperative efforts for rehabilitation where possible. Cooperators in the proposed rehabilitation effort resulting from the Kern Fire include private and government entities as follow:

A. Oregon Department of Fish and Wildlife (ODF&W): During plan development, ODF&W was contacted concerning the possibility that they provide bitterbrush seed to

be included in the seed mix with native species. The availability of 20,000 bitter brush seedlings, grown under contract by ODF&W in a local Forest Service nursery for planting during the spring of 2001, remains a possibility source of plant material for rehabilitation efforts following the Kern Fire.

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. Nyssa Allotment Permittees: Proposed rehabilitation actions were coordinated closely with grazing permittees. Both permittees have agreed to exclude livestock grazing for two growing seasons, and any additional time determined necessary to ensure successful establishment of vegetation communities resulting from rehabilitation actions.

D. Idaho Watersheds Project: A copy of this EA/Plan will be provided to this group based on their status as an interested public in the management of Nyssa Allotment.

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 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 Kern 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 EFR (2822) funding needs for the proposed action:

Kern Fire (N 057)		**FY**		
Description	**Item**	**2000**	**2001**	**2002**
Plan / EA Preparation	2 WMs	$8,000.		
Plan Administration	2 WMs		$8,000.	
Seed Purchase		$154,500.		
Seed Preparation			$7,500.	
Section Corner Location	1 WM		$4,000.	
Cultural Survey	1 WM		$4,000.	
Rangeland Drilling	Equipment/Misc.		$25,000.	
	Labor		$21,500.	
Broadcast Seeding	Equipment		$20,000.	
	Labor		$14,000.	
Shrub Planting	Seedling Purchase		$6,000.	
	Labor		$24,000.	
Rehabilitation Monitoring	Labor		$4,000.	$4,000.
Weed Monitoring	Labor		$4,000.	$4,000.
Weed Treatment	Equipment/Labor		$5,000.	$5,000.
Boundary Fence Reconstruction	2 Brace Structures		$500.	
	Totals	**$162,500.**	**$147,500.**	**$13,000.**

X. EFR PROJECT SUMMARY

Fire Name: Kern Fire
Fire Number: N 057
Fire Control Date: 08/07/2000
Acres BLM Burned: 11,983
Start of Rehabilitation Project (Mo./Yr):08/2000
Completion of Rehabilitation Project (Mo./Yr): 09/2002
Miles of Temporary Fence: 0.0
Miles of Permanent Fence Rebuilt: 0.0 (2 fence brace structures)(FY 01)
No. of Soil/Watershed Structures: 0
Acres Reforestation: 0
Acres of Revegetation[1]: 2,160 acres PD drilled, 3,000 acres PD broadcast.
Acres of Burned Area Protected for Natural Regeneration[2]: 9,813
Total Acres Rehabilitated[3]: 11,973
Estimated EFR Funding Current Year (FY2000): $162,500.
Estimated EFR Funding Second Year (FY2001): $147,500.
Estimated EFR Funding Third Year (FY2002): $13,000.
Total Cost Rehabilitation Project: $323,000.

[1]**Acres of Revegetation** refers to the acres of the burn that is drilled, arial seeded, seedlings transplanted, etc. Acreage drilled and aerially seeded is not double counted.

[2]**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.

[3]**Total Acres Rehabilitated** equals the acres of revegetation plus acres of burned area protected for natural regeneration.

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
Lynne Silva	Range Technician
Barb Masinton	Fire Ecologist
Dave Evans	Force Account Work Leader
Tom Dabbs	Multi Resources Staff Supervisor
Roy Masinton	Field Manager, Malheur Resource Area

XII. CITATIONS

USDI/BLM. 1994. EA and Decision Record for the Noxious Weed Control Program 1994-1998 (EA OR-030-89-19. Vale District Bureau of Land Management. Vale, Oregon.

USDI/BLM 1998. Draft Southeast Oregon Resource Management Plan / Environmental Impact Statement. Vale District Bureau of Land Management. Vale, Oregon.

XIII. ENVIRONMENTAL ASSESSMENT DECISION REPORT

Finding of No Significant Impact / Decision Record

On the basis of the information contained in this Environmental Assessment and all other information available, it is my determination that the proposed action and all alternatives are in conformance with the land use plan for Malheur Resource Area. The proposed action and all alternatives do not constitute a major federal action significantly affecting the quality of the human environment and therefore an environmental impact statement (EIS) is not required. It is my decision to implement the proposed action described in this EA (OR-030-00-015). In the event that seed availability is limited following extensive fire throughout the western United States this year and precludes the drilling of native species within the 1800 acre Oxbow Basin parcel, use of non-native species as identified in the non-native alternative will be implemented.

/s/ Roy Masinton — 08/29/2000

Authorized Official — Date

Appendix 1

NATIVE/NON-NATIVE 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: Though seed reserves held in the Boise Seed Warehouse are allocated at this time, orders have been developed to meet native seed needs for this and other wildland fire rehabilitation efforts. In the event that sufficient native seed is not available to meet needs for proposed actions, other analized alternatives include the option to seed adapted perennial non-native species.

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.

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.

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. Grazing schedules have been established to limit growing season livestock use in Grassy Mountain Pasture until after seed set annually.

Proposed Non-native Plants in Seed Mixture

1. Is the use of non-native plants necessary to meet objectives, e.g., consistent with applicable land use/activity plans ?
Yes [X] No [ ] Rationale: The area identified for the non-native seed mix is dominated with cheatgrass and Medusahead and is adjacent to a crested wheatgrass seeding established in 1966. Non-native perennials would have a significantly improved chance of successful establishment and maintenance in these areas, given the intense competition of these annual invasive species.

2. Will non-native 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 [X] No [X] Rationale: 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 non-native 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 non-native species as proposed.

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

Yes [X] No [ ] Rationale: The proposed mix of non-native 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.

Appendix 2.

"Modified Cost - Risk Analysis"

Treatment	**Cost**
Revegetation	$272,500.00
Temporary Protective Fence	$ -0-
Fence Reconstruction	$ 500.00
Soil/Watershed Structures	$ -0-
All Other Costs (administrative, clearances, etc.)	$ 50,000.00
TOTAL	$323,000.00

Probability of Rehabilitation Treatments **Successfully Meeting EFR Objectives**

Treatments	Units	NA	%
Revegetation	2,160acres		8
- Native Drill Seeding	1,800acres		75
- Non-native Drill Seeding	360 acres		85
- Aerial Seeding	3,000 acres		50
- Planting Seedlings	400 acres		75
- Other		x	
Protective Fence to Exclude Grazing		x	
Fence Repair to Exclude Grazing	2 brace structures		95
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 of Access Road			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 of Access Road			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 EFR objectives. Answer the following questions to determine which proposed EFR 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?

Proposed Action Yes |_x| No |__| Rationale for answer: The threat of weed invasion will be reduced with successful seeding and planting. Also, the potential for soil erosion will be reduced. The threat of repeated wildfire will be reduced with a more diverse perennial vegetation that will meet wildlife needs and rangeland health standards. Seeding and very minimal fencing repair costs are satisfactory considering seed mixtures and demand. Land use plan objectives will be best met.

Non-native Seeding Alternative Yes |_x| 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 non-native species would limit success meeting land use plan objectives for wildlife habitat and vegetation diversity, when one considers the acreage of additional non-native seeding in the vicinity of the burned area. Seeding and very minimal fencing costs are acceptable, considering seed mixtures and demand.

Limited Rehabilitation Alternative Yes |__| No |x_| 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.

No Action Yes |__| No |x_| 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?

Proposed Action Yes |x_| No |__| Rationale for answer: Recent seedings 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. Sites previously dominated by Wyoming sagebrush and limited annual species in the understory, have been successfully seeded to similar native species mixes, while those areas previously dominated by annual vegetation have been most successfully seeded to non-native species.

Non-native Seeding Alternative Yes |_x| No |__| Rationale for answer: Recent seedings of non-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.

Limited Rehabilitation Alternative Yes |__| No |_x| 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 vegetation.

No Action Yes |__| No |x_| 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.

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

Proposed Action |x_|,
Non-native Seeding Alternative |__|,
Limited Rehabilitation Alternative |__|,
No Action |__|

Comments: The proposed action best meets the need for reducing weed invasion and repeated wildfire while meeting land use plan objectives and providing for wildlife and rangeland health needs. Seeding of non-native perennial species would similarly meet rehabilitation objectives in the event that native seed is not available in this year of high seed demand.