BLM OREGON POST-FIRE RECOVERY PLAN

EMERGENCY STABILIZATION AND BURNED AREA REHABILITATION

PLAN TEMPLATE 2010

CURRY CANYON FIRE (HMY7)

BLM Vale District Office

OREGON STATE OFFICE

FIRE BACKGROUND INFORMATION

Fire Name	Curry Canyon
Fire Number	LFESHMY70000 / LFBRHMY70000
District/Field Office	Vale District Office
Admin Number	LLORV00000
State	OREGON
County(s)	MALHEUR
Ignition Date/Cause	07/01/2013 Lightning
Date Contained	07/02/2013
Jurisdiction	*Acres*
BLM	2513
Total Acres	2513
Total Costs	$551,000
Costs to LF2200000 (2822)	$111,000
Costs to LF3200000 (2881)	$440,000

Status of Plan Submission (check one box below)

	Initial Submission of Complete Plan
	Updating or Revising the Initial Submission
X	Amendment

PART 1 - PLAN SUMMARY

BACKGROUND INFORMATION ON FIRE.

The Curry Canyon Fire was ignited by lightning on the evening of June 30, 2013. Very dry fuel conditions and winds resulted in the fire escaping initial attack efforts on July 1. Fire growth was stopped on July 2 and full containment was achieved on July 2, 2013. The Curry Canyon fire burned a total of 2,575 acres (2,513 BLM acres and 62 private).

There are no areas classified as Preliminary Priority Habitat (PPH) or Preliminary General Habitat (GPH) for greater sage-grouse in the fire area, although sage-grouse have been observed to use the fire area. There are no known sage-grouse leks in the fire area. The entire fire area is both deer and elk winter range. There are no Wilderness Study Areas or Areas with Wilderness Characteristics in the fire area.

The Curry Canyon fire burned an area within the Juniper Reservoir fire (DP9H) which burned 28,333 acres in July of 2007. The vegetation community prior to the Juniper Reservoir fire consisted mainly of Wyoming big sagebrush, low sagebrush, western juniper, bitterbrush, with an understory of bluebunch wheatgrass, squirreltail, and some Sandberg's bluegrass. Medusahead was not common in the area prior to the Juniper Reservoir Fire. Annuals and medusahead had increased abundance and distribution the next year.

The vegetation communities found in the fire area consist of a mix of big sagebrush steppe and areas that were dominated by low sagebrush. Western juniper was also common in the fire area. Common understory plants are bluebunch wheatgrass, Idaho fescue, Sandberg's bluegrass, and scattered medusahead rye and cheatgrass. Other known noxious weed infestations in the fire area are whitetop and Scotch thistle. There is also potential for other noxious weeds that are documented in close proximity to the fire area to move into the fire area. The fire area is at risk for conversion to an annual dominated rangeland, which would greatly reduce the productivity of the site for wildlife and livestock, increase the potential for future erosion, and also increase the risk for more frequent and intense wildfires.

The fire had a mixed severity, with some areas having high severity where all vegetation was consumed by the fire. While other areas had a moderate burn severity, where the root crowns of the perennial grasses were still alive. The estimated burn severity is 45% Light, 40% Moderate, 15% High. Plant mortality on deep rooted perennial bunch grasses was estimated at 10-15%. There were some unburned pockets of vegetation mostly the low profile cheatgrass growing on rocky ridge tops.

The Curry Canyon fire burned portions of three allotments: 2067 acres (21%) of Whitley Canyon, 482 acres (19%) of Allotment # 6 and 24 acres (0.03%) of Black Butte. Portions of four pastures were burned in these three allotments. The fire affected an estimated 716 AUMs of the total 1,174 available AUMs in the West Juniper Pasture and an estimated 19 AUMs of the total 1,174 available AUMs in the Burnt Mountain Pasture. See attached document entitled: Curry Canyon AllotmentPasture Analysis Form for ESR 7_15_2013.docx

for tabular display of AUMs impacted by pasture and allotment. There are no ESR treatments planned for the small areas that were burned in the Juniper Gulch Pasture of the Allotment # 6 Allotment and the Black Butte Pasture of the Bentz FFR Allotment. Both of these allotments already have infestations of medusahead. Approximately four miles of the West Juniper Pasture boundary fence was damaged by the fire.

Soils that occur within the Curry Canyon Fire consist of 64% of Unit 76 and 34% of Unit 96. Unit 76 soils are shallow, clayey, very stony, well drained soils over basalt, rhyolite, or welded tuff. The vegetation of Soil Unit 76 are a mix of low and Wyoming big sagebrush. These are not lithosols with a restrictive hardpan layer. These soils occur on gently undulating to rolling lava plateaus and some very steep faulted and dissected terrain. Unit 96 is a miscellaneous land unit called Rock Land. It consists of rough, steeply sloping areas that are predominantly shallow, very stony soils interspersed with rock outcroppings. Steep Rock land occurs mainly as canyons and escarpments along margins and dissected portions of lava plateaus. These soils are susceptible to wind erosion in the short term until vegetation cover returns. Also these soil types are susceptible to water erosion during heavy precipitation and spring run-off events, specifically in areas where flow is concentrated due to topographic features. Slope within the fire perimeter varies between 0-30 percent. Unit 76 soils have a low to moderate erosion hazard rating on slopes under 20 percent. Slopes over 20 percent within the fire perimeter are comprised of coarse rock and rock outcroppings which have a low erosion hazard rating. Average annual precipitation in the area is 8-11 inches.

LAND USE PLAN CONSISTENCY

S5 - Noxious Weeds ES Issue 5

Noxious weed treatments would be consistent with the guidelines in the Burned Area Emergency Stabilization and Rehabilitation Handbook (H-1742-1, pages 34-35), the Southeastern Oregon Resource Management Plan and Record of Decision (2002), the Vale District Integrated Weed Control Plan Environmental Assessment and Finding of No Significant Impact (1989), and the standard operating procedures and mitigation measures identified in the Vegetation Treatments Using Herbicides on BLM Lands in Oregon Final Environmental Impact Statement and Record of Decision (2010). Pesticide Use Proposals (plans) would be prepared for weed treatments and comply with policy (BLM Manual 9011, H-9011, and 9015).

S7 - Fence/Gate/Cattleguard ES Issue 2

This activity has been reviewed and is in conformance with the Southeastern Oregon Resource Management Plan as detailed in the Documentation of NEPA Adequacy (DNA) that was prepared for this plan.

S12 - Closures (area, OHV, livestock) ES Issue 2

This activity has been reviewed and is in conformance with the Southeastern Oregon Resource Management Plan as detailed in the Documentation of NEPA Adequacy (DNA) that was prepared for this plan. The closure to livestock grazing is specifically provided for on page 40 of the SEORMP. The burned area would be rested for one full year and through a second growing season at a minimum, or until monitoring data or professional judgment

indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function.

S13 - Monitoring ES Issue 2
This activity has been reviewed and is in conformance with the Southeastern Oregon Resource Management Plan as detailed in the Documentation of NEPA Adequacy (DNA) that was prepared for this plan.

R3 - Aerial Seeding BAR Issue 1
Restoring the diversity and distribution of desirable vegetation communities including perennial native and desirable introduced plant species is specifically provided for on pages 39 - 40 of the Southeastern Oregon Resource Management Plan (SEORMP). Appropriate Management Response (AMR) will be implemented on wildland fires to meet vegetation management and other objectives. Following wildland fire, priority will be placed on the rehabilitation of rangeland vegetation communities held at risk due to dominance by annual and woody species.

COST SUMMARY TABLES

Emergency Stabilization (LF2200000)

Action/ Spec #	ES Issue #	Planned Action	Unit (Acres, WMs, Number)	# Units	Unit Cost (If Appl.)	FY 2013	FY 2014	FY 2015	FY 2016	Totals by Spec.
S1		Planning (Project Management)	Acres	2,513	$11.64	$9,000.00	$11,000.00	$5,000.00	$5,000.00	$30,000.00
S2										
S3										
S4										
S5	5	Noxious Weeds	Acres	2,513	$5.58	$0.00	$9,000.00	$6,000.00	$0.00	$15,000.00
S6										
S7	2	Fence/Gate/Cattleguard	Miles	4	$7,000.00	$0.00	$28,000.00	$0.00	$0.00	$28,000.00
S8										
S9										
S10										
S11										
S12	2	Closures (area, OHV, livestock)	Acres	2,513	$4.48	$0.00	$7,000.00	$2,000.00	$2,000.00	$11,000.00
S13	2	Monitoring	Acres	2,513	$10.74	$0.00	$9,000.00	$9,000.00	$9,000.00	$27,000.00
S14										
		TOTAL COSTS (LF2200000)				**$9,000**	**$64,000**	**$22,000**	**$16,000**	**$111,000**
OTHER FUND CODE TOTALS:										
		TOTAL COSTS (???)								
		TOTAL COSTS (???)								
		TOTAL COSTS (???)								

Burned Area Rehabilitation (LF3200000)

Action/ Spec #	BAR Issue #	Planned Action	Unit (Acres, WMs, Number)	# Units	Unit Cost (If Appl.)	FY 2013	FY 2014	FY 2015	FY 2016	Totals by Spec.
R1										
R2										
R3	1	Aerial Seeding	Acres	2,006	$219.42	$9,000.00	$431,000.00	$0.00	$0.00	$440,000.00
R4										
R5										
R6										
R7										
R8										
R9										
R10										
R11										
R12										
R13										
R14										
		TOTAL COSTS (LF3200000)				**$9,000**	**$431,000**	**$0**	**$0**	**$440,000**
OTHER FUND CODE TOTALS:										
		TOTAL COSTS (???)								
		TOTAL COSTS (???)								
		TOTAL COSTS (???)								

PART 2 - POST-FIRE RECOVERY ISSUES

EMERGENCY STABILIZATION ISSUES

1 - Human Life and Safety
N/A

2 - Soil/Water Stabilization
Soils within the fire boundary are generally shallow, rocky clay type soils with a large portion of visible rifts and bare lava flows. There are also some low areas of moderately deep loamy or silt soils that are susceptible to wind erosion in the short term until vegetation cover is restored. Similarly, these soil types are susceptible to water erosion during heavy precipitation events and during snow melt in the spring, until vegetation cover is restored; especially where overland flow is channeled by topographic features. Slope varies from 0 to 60 percent with the majority being moderately steep (7-20 percent slope). Erosion hazard ratings range from low to high.

3 - Habitat for Federal/State Listed, Proposed, or Candidate Species
N/A

4 - Critical Heritage Resources
N/A

5 - Invasive Plants and Weeds
Seeding in conjunction with protection from grazing would stabilize the site and prevent invasion of noxious weeds and nonnative annual grasses. The only known populations of noxious weeds within the burn area are medusahead, whitetop, and Scotch thistle. It is estimated that 25% of the fire area has some medusahead. In the absence of competition from perennial plants, the burn area would be extremely vulnerable to expansion of medusahead and/or invasion by other highly competitive noxious weeds. Seeding the burn area would help prevent invasive species from dominating the site.

BURNED AREA RECOVERY ISSUES

1 - Lands Unlikely to Recover Naturally
This portion of the sagebrush steppe provided important wildlife habitat for sagebrush obligate species, including sage-grouse, elk, and mule deer. Habitat fragmentation and conversion to an annual invasive grassland was one of the highest concerns in the area pre-burn. It is important to try to restore sagebrush within the burn area while limiting or preventing the conversion of sagebrush communities into marginal or non-habitat. Wildfire and juniper encroachment were identified as the two largest contributing factors causing sagebrush habitat loss in Oregon (Greater Sage-Grouse Conservation Assessment and Strategy for Oregon Department of Fish and Wildlife, 2011). Invasive annual grass infestation and subsequent conversion into an annual grassland post-fire were considered in

the design of the proposed treatments and is a concern of the Interdisciplinary Team (IDT). Most of the burned area is at a high risk of conversion to cheatgrass, medusahead rye, and Ventenata which have been observed within the burned area and along roads into the burned area, and are established on private land adjacent to the burn.

2 - Weed Treatments
N/A

3 - Tree Planting
N/A

4 - Repair/Replace Fire Damage to Minor Facilities
The fire burned approximately four miles of existing boundary livestock management fence (4 strand wire with metal braces, rock jacks and gates). These fences need to be repaired to facilitate livestock management by keeping livestock out of the West Juniper Pasture while it recovers and until livestock are reauthorized to graze this pasture. Approximately four miles of fence needs to be repaired in order to close the pasture and protect it from grazing while burned vegetation recovers and the seeding becomes established.

PART 3 - DESCRIPTION OF TREATMENTS

Issue 2 - Soil/Water Stabilization

S7 Fence/Gate/Cattleguard

A. Treatment/Activity Description

Approximately four miles of permanent fence will be repaired or replaced to protect the burned area from livestock grazing. It is crucial to implement the livestock closures to protect the seeding and to allow the vegetation on the site to recover.

B. How does the treatment relate to damage or changes caused by the fire?

This treatment will protect the burned area and allow for vegetative resources to recover without the impacts caused by livestock grazing.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Replacement of preexisting permanent fencing is a reasonable and cost effective treatment to protect burned areas from livestock grazing. This will also facilitate future livestock management. This treatment would be constructed according to policy and guidance in the Burned Area Emergency Stabilization and Rehabilitation Handbook H-1742-1 as discussed on pages 31 through 33.

S12 Closures (area, OHV, livestock)

A. Treatment/Activity Description

The BLM administered lands within the West Juniper pasture, where the bulk of the fire occurred, would be closed in whole to livestock grazing for a minimum of two full growing seasons. This treatment includes development of the livestock grazing closure decision or agreement and follow-up monitoring to ensure compliance with the livestock grazing closure decision or agreement.

As stated in the Southeast Oregon RMP and Record of Decision (September 2002) on page 40: "Areas burned by wildland fire, including those subsequently rehabilitated, will be rested from grazing for one full year and through a second growing season at a minimum, or until monitoring data or professional judgment indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function. Appropriate grazing use of healthy perennial vegetation communities, or areas dominated by annual species, prior to the two growing season limit may be allowed on a case-by-case basis, as consistent with objectives for improving or maintaining rangeland health and other objectives."

B. How does the treatment relate to damage or changes caused by the fire?

Closure of BLM administered lands within the West Juniper Pasture would allow for surviving vegetation to fully recover as well as provide increased soil stabilization through the accumulation of litter and biomass. This would reduce the potential for wind and water erosion and speed the recovery of sagebrush steppe habitats.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

This treatment/activity is reasonable in that it provides surviving plants the opportunity to reestablish healthy below and above ground biomass and allows seeded plants to become established. This activity/treatment would be implemented in accordance with policy and guidance in the Burned Area Emergency Stabilization and Rehabilitation BLM Handbook H-1742-1 as discussed on page 27, the SEORMP (2002), and 43 CFR 4100.

S13 Monitoring

A. Treatment/Activity Description

This activity is to monitor implementation and effectiveness of other treatments/activities identified in this plan.

B. How does the treatment relate to damage or changes caused by the fire?

Monitoring is integral to determine if recovery objectives are being achieved and if methods to promote recovery are effective.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Monitoring the implementation and effectiveness of the treatments/activities identified in this plan is required as documented in the Burned Area Emergency Stabilization and Rehabilitation Handbook H-1742-1 on page 58.

Issue 5 - Invasive Plants and Weeds

S5 Noxious Weeds

A. Treatment/Activity Description

This treatment/activity includes inventory and treatment of noxious weeds on BLM administered lands within the burn perimeter in FY 14 and FY 15. The primary noxious weeds of concern within the fire area are medusahead rye, whitetop, and Scotch thistle. Perennial pepperweed, Russian knapweed, and spotted knapweed were previously treated as part of the Juniper Reservoir ESR plan. Thus, there is potential for these noxious weed to be found in the Curry Canyon fire area. Treatments would be done by ground application utilizing ATV/UTV and backpack sprayers.

B. How does the treatment relate to damage or changes caused by the fire?

Noxious weed infestations provide unstable and poor quality habitat for sagebrush steppe obligate plant and wildlife species. Inventory and treatment of both known and new noxious weed infestations, within the fire perimeter, is necessary to ensure that noxious weeds do not increase in abundance. Disturbances caused by contingency dozer lines and heavily traveled routes outside the fire perimeter used for fire suppression are also vulnerable to noxious weed invasion.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Noxious weed treatments have been shown to limit further spread, and in most cases, decrease the presence/extent of noxious weed populations. Noxious weed treatments will be consistent with policy and guidance in the Burned Area Emergency Stabilization and Rehabilitation BLM Handbook (H-1742-1) as described on pages 34 and 35.

Issue 1 - Lands Unlikely to Recover Naturally

R3 Aerial Seeding

A. Treatment/Activity Description

Seeding the fire area is proposed to reduce the potential for the site to convert to annual rangelands. The fire area is at the threshold for conversion to an annual rangeland. The estimated surviving two deep rooted perennial grasses per square meter are not dense enough to prevent the encroachment of annual and noxious weeds in the fire area. The proposed treatment is to aerially apply seed to the treatment area. Approximately 20% of the seed would be obtained through the Regional Seed Warehouse. All Wyoming sagebrush seed will come from local collections on the Vale District, if the seed collection contractor is successful collecting it this fall. The remainder of the seed would be obtained through the Vale District's Native Plant Materials Program.

The seed will be agglomerated - seeds will be combined together with a binding agent that is also a moisture sink. Thus, multiple seeds will be bound together into a pellet with a compound to draw moisture to the seed pellet. Aerially seeding this heavier agglomerated seed pellet will make it easier to have the applied seed fall on the ground in the treatment area. There will be less chance for the wind to divert the seed out of the project area. Agglomerated seed has an increased ability to break through physical crusts that are commonly formed on burned soils. Recent research (see attached paper) has shown increased establishment of native agglomerated seed compared to native seed that is not agglomerated.

B. How does the treatment relate to damage or changes caused by the fire?

The fire has reduced the coverage of deep rooted perennial grasses to an estimated 2 plants per meter squared, leaving open areas for the expansion of nonnative annual grasses. These areas of reduced perennial vegetation are also more prone to erosion. Soils within the burn area are rocky and clayey and susceptible to wind erosion in the short term until vegetative cover is restored. The treatment would stabilize the site and also prevent the conversion of the fire area to annual nonnative species.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

The treatment is cost and resource effective, would stabilize the site and minimize erosion in the short and long term. Costs are detailed in part 4 of this document. Seeding within the burned area with a seed mix that includes sagebrush at a minimal cost would prevent the loss of this resource.The treatment area receives from 8 – 11” of precipitation annually. The success of the seeding will be dependent on the spring precipitation received.

PART 4 - DETAILED TREATMENT COST TABLE

Action / Spec #	Action Description	Unit Type	# Units	Unit Cost	FY13	FY14	FY15	FY16	Total Cost
S1	**Planning (Project Management)**								
1	Project planning	WM'S	4	$9,000.00	$9,000.00	$11,250.00	$4,500.00	$4,500.00	$29,250.00
	Total			**$9,000.00**	**$9,000.00**	**$11,000.00**	**$5,000.00**	**$5,000.00**	**$30,000.00**
S5	**Noxious Weeds** ES Issue 5								
1	Weed Treatment	Acres	30	$300.00	$0.00	$6,000.00	$3,000.00	$0.00	$9,000.00
2	Weed Inventory	Acres	5,026	$1.00	$0.00	$2,513.00	$2,513.00	$0.00	$5,026.00
	Total			**$301.00**	**$0.00**	**$9,000.00**	**$6,000.00**	**$0.00**	**$15,000.00**
S7	**Fence/Gate/Cattleguard** ES Issue 2								
1	Labor	Miles	4	$3,500.00	$0.00	$14,000.00	$0.00	$0.00	$14,000.00
2	Materials Purchase	Miles	4	$3,500.00	$0.00	$14,000.00	$0.00	$0.00	$14,000.00
	Total			**$7,000.00**	**$0.00**	**$28,000.00**	**$0.00**	**$0.00**	**$28,000.00**
S12	**Closures (area, OHV, livestock)** ES Issue 2								
1	Administration of closure	WM'S	1	$9,000.00	$0.00	$2,250.00	$2,250.00	$2,250.00	$6,750.00
2	Prepare Decision/Agreement	WM'S	1	$9,000.00	$0.00	$4,500.00	$0.00	$0.00	$4,500.00
	Total			**$18,000.00**	**$0.00**	**$7,000.00**	**$2,000.00**	**$2,000.00**	**$11,000.00**
S13	**Monitoring** ES Issue 2								
1	Monitoring	WM'S	3	$9,000.00	$0.00	$9,000.00	$9,000.00	$9,000.00	$27,000.00
	Total			**$9,000.00**	**$0.00**	**$9,000.00**	**$9,000.00**	**$9,000.00**	**$27,000.00**
ES	**Grand Total**			**$43,301.00**	**$9,000.00**	**$64,000.00**	**$22,000.00**	**$16,000.00**	**$111,000.00**
Action / Spec #	**Action Description**	**Unit Type**	**# Units**	**Unit Cost**	**FY13**	**FY14**	**FY15**	**FY16**	**Total Cost**
R3	**Aerial Seeding** BAR Issue 1								
1	PURCHASE SEED	LBS (Pounds)	26,379	$11.75	$0.00	$309,826.70	$0.00	$0.00	$309,826.70
2	FLIGHT TIME SEED APPLICATION	Acres	2,006	$16.00	$0.00	$32,096.00	$0.00	$0.00	$32,096.00
3	MIX SEED	LBS (Pounds)	32,096	$1.00	$0.00	$32,096.00	$0.00	$0.00	$32,096.00
4	WRITE AND ADMINISTER SEEDING CONTRACT	WM'S	2	$9,000.00	$9,000.00	$9,000.00	$0.00	$0.00	$18,000.00
5	AGLOMERATE SEED	LBS (Pounds)	32,096	$1.50	$0.00	$48,144.00	$0.00	$0.00	$48,144.00
	Total			**$9,030.25**	**$9,000.00**	**$431,000.00**	**$0.00**	**$0.00**	**$440,000.00**
BAR	**Grand Total**			**$9,030.25**	**$9,000.00**	**$431,000.00**	**$0.00**	**$0.00**	**$440,000.00**
Project	**Grand Total**			**$52,331.25**	**$18,000.00**	**$495,000.00**	**$22,000.00**	**$16,000.00**	**$551,000.00**

PART 5 - SEED LISTS

DRILL SEED

AERIAL SEED

Curry Canyon Aerial Seed Mix

Species	Scientific Name	PLS	PLS Seeds / sq. ft.	PLS Seeds / ac.	Seeds / lb (bulk)	Total Seeds / Acre (Bulk)	Aerial Seedings (Acre)	PLS Lbs / Acre	Total PLS Lbs	Total Bulk Lbs	Cost / Lb	Total Cost
Basalt Milkvetch	Astragalus filipes	0.4500	0.11	4,792	100,000	10,648	2,006.0	0.1	100.3	200.6	$ 105.00	$21,063.00
Lewis Flax	Linum lewisii	0.7600	0.27	11,761	295,000	15,475	2,006.0	0.0	80.2	100.3	$ 24.00	$2,407.20
Bluebunch Wheatgrass, Boardman	Pseudoroegneria spicata spp. spicata	0.7650	11.05	481,338	125,680	629,200	2,006.0	3.8	7,683.0	10,030.0	$ 9.80	$98,294.00
Great Basin Wildrye	Leymus cinereus	0.7650	2.46	107,158	139,000	140,075	2,006.0	0.8	1,544.6	2,006.0	$ 8.00	$16,048.00
Sandberg Bluegrass, Jordan Valley	Poa secunda	0.7200	17.31	754,024	1,046,960	1,047,255	2,006.0	0.7	1,444.3	2,006.0	$ 9.00	$18,054.00
Antelope Bitterbrush	Purshia tridentata	0.7650	0.17	7,405	19,000	9,680	2,006.0	0.4	762.3	1,003.0	$ 15.00	$15,045.00
Bottlebrush Squirreltail, Vale	Elymus elymoides	0.6750	8.95	389,862	192,000	577,573	2,006.0	2.0	4,072.2	6,018.0	$ 14.75	$88,765.50
Idaho Fescue	Festuca idahoensis	0.7650	15.81	688,684	450,000	900,240	2,006.0	1.5	3,069.2	4,012.0	$ 10.00	$40,120.00
Wyoming Big Sagebrush, Wyoming	Artemisia tridentata wyomingensis	0.1600	4.59	199,940	2,500,000	1,249,628	2,006.0	0.1	160.5	1,003.0	$ 10.00	$10,030.00
TOTALS:			60.72	2,644,963	4,867,640	4,579,774		9.4	18,916.6	26,378.9	$ 205.55	$309,826.70

SEEDLINGS

Seedling Species	Scientific Name	Acres of Seedlings planted.	# of Seedlings per Acre	Total # of Seedlings	Cost / Seedling	Total Cost
TOTALS:		0.0	0	0		$ 0.00

PART 6 - NATIVE/NON-NATIVE PLANT WORKSHEET

A. Proposed Native Plants in Seed Mixtures (Both ES & BAR Treatments)

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

Yes [X] No [ ] Rationale:

The native plants proposed for the seeding are adapted to the ecological sites in the burned area. Some have been grown out from locally collected seed sources. Thus, they will have the locally adapted genes to persist on the site.

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

Yes [X] No [ ] Rationale:

The species in the seed mix are widely available. There is enough of this seed available for the treatment.

3. Is the cost and/or quality of the native seed reasonable given the project size and approved fiel unit management and Plan objectives?

Yes [X] No [ ] Rationale:

The locally collected seed of bottlebrush squirreltail, Sandberg's bluegrass, Great Basin wildrye, and bluebunch wheatgrass have been grown out and increased through contracts with grass seed growers. This seed is available at lower cost than seed of the same species on the shelf at BLM's Seed Warehouse in Boise. Idaho fesuce has not been grown out and increased from locally collected seed. Thus, Idaho fescue seed would be obtained from the Boise Seed Warehouse.

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

Yes [X] No [ ] Rationale:

Seed germination and establishment is dependent on favorable environmental conditions which cannot be guaranteed since the site receives 8 - 11” of precipitation annually. Most of the proposed treatment areas are at the higher end of this range however competition from invasive annual grass species and noxious weeds continues to be a concern. Without treatment the chance of conversion to an annual rangeland site exists and was considered as part of the ES/BAR planning process.

Agglomerating the seed will increase the potential for the seeding treatment to be successful. Agglomerated native seed has been shown to have better establishment than native seed that has not been agglomerated.

5. Will the existing or proposed land management practices (e.g. wildlife populations, recreation use, livestock, etc.) maintain the seeded native plants in the seed mixture when the burned area is re-opened?

Yes [X] No [ ] Rationale:

Livestock grazing would be excluded for one full year and through a second growing season at a minimum, or until monitoring data or professional judgment indicate that the health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function. The minimum two growing season closure will be in effect until BLM personnel determine that residual perennial plant species have reached adequate levels of recovery to re-authorize livestock grazing use. Once grazing use is re-authorized within the treatment areas the affected pasture will be grazed using the current rest rotation grazing system. All grass species will be seeded where it was previously documented to occur. The impacts, both positive and negative, associated with livestock grazing will be the same as they were prior to the Curry Canyon fire.

B. Proposed Non-native Plants in Seed Mixtures (Both ES & BAR Treatments)

1. Is the use of non-native plants necessary to meet objectives, e.g., consistent with applicable approved field unit management plans?

Yes [ ] No [X] Rationale:

The use of nonnative plant species will not help to meet the objectives found in the Southeast Oregon Resource Management Plan (2002) for this area. These objectives include: that 75%A of acreage seeded receiving a native seed mix while 25% will receive a nonnative seed mix (Vol 1 page 429).

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 [ ] No [X] Rationale:

Planting nonnative plants would adversely compete with the native plants being planted and those that survived the fire. If nonnatives are planted they will reduce the diversity of the site and disrupt the ecological processes of the site.

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

Yes [ ] No [X] Rationale:

NA

C. Proposed Seed Species - Native & Non-Natives (Both ES & BAR Treatments)

Non-native Plants	Native Plants
	Antelope Bitterbrush (Purshia tridentata)
	Basalt Milkvetch (Astragalus filipes)
	Bluebunch Wheatgrass, Boardman (Pseudoroegneria spicata spp. spicata)
	Bottlebrush Squirreltail, Vale (Elymus elymoides)
	Great Basin Wildrye (Leymus cinereus)
	Idaho Fescue (Festuca idahoensis)
	Lewis Flax (Linum lewisii)
	Sandberg Bluegrass, Jordan Valley (Poa secunda)
	Wyoming Big Sagebrush, Wyoming (Artemisia tridentata wyomingensis)

PART 7 - COST-RISK ANALYSIS

A. Probability of Treatments Successfully Meeting Objectives

Action/ Spec #	ES Issue #	Planned ES Action (LF2200000)	Unit (acres, WMs, Number)	# Units	Total Cost	% Probability of Success
S5	5	Noxious Weeds	Acres	2513	$15,000.00	85%
S7	2	Fence/Gate/Cattleguard	Miles	4	$28,000.00	95%
S12	2	Closures (area, OHV, livestock)	Acres	2513	$11,000.00	95%
S13	2	Monitoring	Acres	2513	$27,000.00	100%
					$81,000.00	

Action/ Spec #	BAR Issue #	Planned BAR Action (LF3200000)	Unit (acres, WMs, Number)	# Units	Total Cost	% Probability of Success
R3	1	Aerial Seeding	Acres	2006	$440,000.00	80%
					$440,000.00	

B. Cost Risk Summary

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:

Implementation of temporary fencing, livestock grazing closure or agreement, and aerially seeding will minimize risks to natural resources and private property. These types of treatments/activities have proven over the years to be effective in achieving ESR Plan objectives as shown by monitoring of previous year ESR Plans that prescribed similar treatments/activities.

No Action Yes [ ] No [X] Rationale for Answer:

If the proposed treatments of temporary fencing, livestock grazing closure or agreement, and aerial seeding are not implemented there is an increased risk to natural resources within the burned area. Impacted vegetative resources would likely be targeted by livestock for grazing and would result in damage to viability of plants through a reduction in above ground biomass and the plants ability to establish root reserves for long term survival. There will also be a greater increase in the area occupied by nonnative annual grasses, which would increase the intensity and frequency of future wildfires.

Alternative(s) Yes [ ] No [X] Rationale for Answer:

NA

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

Proposed Action Yes [X] No [ ] Rationale for Answer:

The proposed aerial seeding treatment has an estimated probability of success of 80%. Without seeding there is an estimated 100% probability of increased annual grasses, decreased range condition, increased erosion, and increased future fire frequency and intensity.

The use of agglomerated seed will increase the probability for success. Recent research (Agglomerating seeds to enhance native seedling emergence and growth, Madsen et al, Journal of Applied Ecology, 2012, 49, 431-438) indicates that agglomerated seed has an increased ability to break through physical crusts that are commonly formed on burned soils. This research has shown there is an increased establishment of native agglomerated seed compared to native seed that is not agglomerated.

The proposed fence and closure treatment has an estimated probability of success of 95%. There is an estimated 100% probability that the seeding will fail, annual nonnative grasses will increase, and range condition will deteriorate without the fencing and closure treatments.

The proposed weed treatments have an estimated probability of success of 95%. There is an estimated 100% probability that weeds will increase in the fire area without the weeds treatment.

The treatment costs for seeding, fencing, closures, and weeds are acceptable given the high probability of loss of wildlife habitat, increased annual grass infestations, increased erosion, and increased fire frequency and intensity without treatment.

No Action Yes [ ] No [X] Rationale for Answer:

The probability of success of achieving desired objectives will be greatly reduced if identified treatments/activities are not implemented.

Alternative(s) Yes [ ] No [X] Rationale for Answer:

NA

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

Proposed Action [X]
Alternative(s) [ ]
No Action [ ]
Comments:
The treatments/activities in this plan are recommended for implementation for the following reasons: 1) Aerially seeding the area will reduce the potential expansion of nonnative annual grasses and also reduce the potential for soil erosion from the site and 2) vegetative resources will be allowed to recover naturally without the impacts associated with livestock grazing;

C. Risk of Resource Value Loss or Damage

No Action - Treatments not Implemented

Resource Value	N/A	None	Low	Med	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 Due to Plugged Culverts			X		

Proposed Action - Treatments Successfully Implemented

Resource Value	N/A	None	Low	Med	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 Due to Plugged Culverts			X		

PART 8 - MONITORING PLAN

S5 - Noxious Weeds - ES Issue 5

Identify the objective of the treatment:

The objectives of the treatment are to 1) inventory the burned area for existing and emerging noxious weed populations; and, 2) treat observed noxious weeds with approved herbicides. Specifically, the objective of the treatment is to ensure the extent of noxious weed populations does not increase within three years following the fire.

Describe how implementation will be monitored:

Implementation will be monitored by site visits to noxious weed infestations that have been treated.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Treatment effectiveness will be monitored annually by BLM personnel. The method to be used will either be 1) stem counts of noxious weed infestations; or, 2) presence or absence of noxious weed. The monitoring will be conducted at a time commensurate with the herbicide used for treatment. Weed treatments will also be tracked in NISMS.

S7 - Fence/Gate/Cattleguard - ES Issue 2

Identify the objective of the treatment:

The general objective of this treatment is to protect the burned area from the impacts of livestock grazing to allow for the natural recovery of vegetative resources and establishment of seeded species. Specifically, the objective is that livestock grazing will be allowed to resume when total ground cover is at least 70% of that of preburn conditions or on adjacent unburned area, and at least 50% of surviving and/or seeded deep-rooted perennial grasses have produced seed.

Describe how implementation will be monitored:

Implementation of this treatment would be conducted by BLM personnel to ensure specific implementation requirements are achieved.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Effectiveness will be monitored by installation of monitoring plots designed to measure seed head production of surviving deep-rooted perennial grass species. Methods to be utilized include line point intercept, basal gap intercept, and or density.

S12 - Closures (area, OHV, livestock) - ES Issue 2

Identify the objective of the treatment:

The general objective of this treatment is to protect the burned area from the impacts of livestock grazing to allow for the natural recovery of vegetative resources and establishment of seeded species. Specifically, the objective is that livestock grazing would be allowed to resume when total ground cover is at least 70% of that of preburn conditions or on adjacent unburned area, and at least 50% of surviving deep-rooted perennial grasses have produced seed.

Describe how implementation will be monitored:

Implementation of this treatment would be monitored through periodic field visits to ensure compliance with the closure.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Effectiveness will be monitored annually for up to three years by installation of monitoring plots designed to measure total cover and seed head production of surviving deep-rooted perennial grass species. Methods to be utilized include line point intercept, basal gap intercept, and or density.

S13 - Monitoring - ES Issue 2

Identify the objective of the treatment:

The objective is 1) determine if implementation of treatments/activities in this plan were achieved and to document any deviations and rationale for deviation from what was planned; and, 2) determine the effectiveness of treatments/activities in meeting the specific objectives for each treatment/activity as discussed above.

Describe how implementation will be monitored:

See specifics for each treatment/activity above.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

See specifics for each treatment/activity above. A monitoring summary report will be compiled annually that will document results of monitoring efforts specific to each treatment identified within this plan.

R3 - Aerial Seeding - BAR Issue 1

Identify the objective of the treatment:

The objectives of the aerial seeding are to prevent erosion by reducing bare ground, prevent the conversion of the site to annual rangelands, and establish desirable perennial vegetation. The specific monitoring objective for the seeding is to have a density of at least 3.5 deep rooted perennial plants per square meter of soil at the end of three growing seasons. The surviving deep rooted perennial plants will count towards meeting the treatment objective.The unsuitable portions of the quadrat for seedling establishment (surface rock) would be subtracted from the quadrat area to determine seeding success.

Describe how implementation will be monitored:

Implementation would be monitored by site visits of treated areas to ensure treatments are applied as specified in this plan. Project Inspectors would be present during implementation to ensure treatments are applied as specified in the contract.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Effectiveness would be monitored annually at the appropriate time to measure seed production, percent bare ground, and perennial plant frequency through site visits using a variety of methods, including but not limited to vegetation monitoring protocols (FIREMON, USGS protocols, etc.). The study plots consist of three separate 50 meter transects radiating from a central hub. Each transect would consist of 50 points (at one meter intervals) in which plant cover is sampled using a vertically placed pin. Density of desirable perennial grasses, shrubs, and forbs would be gathered using a one meter by one meter frame spaced at five meter intervals along each transect. Ten total plots would be read along each transect.

PART 10 - REVIEW, APPROVALS, and PREPARERS

TEAM MEMBERS

Position	Team Member (Agency/Office	Initial	Date
Team Leader	Roger Ferriel (BLM Vale)	Initialed	07/18/2013
Rangeland Mgt. Specialist	Kevin Eldredge (BLM Vale)	Initialed	
Soil Scientist	Todd Allai (BLM Vale)		

PLAN APPROVAL

The Agency Administrator is responsible for developing, implementing, and evaluating emergency stabilizations and rehabilitation plans, treatments and activities. 620 DM 3.5C

8/14/2013

FIELD OFFICE MANAGER DATE

FUNDING APPROVAL

The funding of ES treatments is approved through the appropriate administrative approval level in coordination with the National Office Budget Shop. As funding is available, ES funding requested within a plan that totals below $100,000 may be approved by the State Director, while ES funding of $100,000 and above must be approved by the WO. If the ES funding cap is reached, all ES funding will be approved through the National Office in coordination with State ES&R Coordinators to determine highest priority projects. Funding of all BAR treatments is accomplished through a scoring process and is dependent on accurate entries into NFPORS. All funding is approved and allocated on a year-by-year basis.