GRAY'S CREEK FIRE

BURNED AREA REHABILITATION PLAN

BLM/BOISE DISTRICT/FOUR RIVERS FIELD OFFICE
IDAHO

FIRE BACKGROUND INFORMATION

Fire Name	Gray's Creek
Fire Number	DY0D
District/Field Office	Boise/Four Rivers
Admin Number	ID 110
State	Idaho
County(s)	Adams
Ignition Date/Cause	08-30-07/Lightning
Date Contained	09-10-07
Jurisdiction	
BLM	1,385
State	756
Private	7,707
Forest Service	7,939
Total Acres	17,789
Total BAR Plan Costs	$ 153,000

Status of Plan Submission (check one box below)

✓	Initial Submission
	Updating or Revising the Initial Submission
	Amendment

PART 1. REHABILITATION PLAN SUMMARY

BACKGROUND ON THE FIRE

The Gray's Creek Fire burned public lands in the Ross Gulch, Indian Valley, Indian Mountain Common, A. Legg Individual, Thorn Creek, and North Fork FFR Allotments. Livestock grazing on the public lands (PL) within these Allotments, which are mostly comprised of private lands; are authorized as follows: Ross Gulch, 38% PL use 5/1-6/30 (43 AUMs); Indian Valley, 47% PL use 5/1-11/15 (578 AUMs); Indian Mountain, Common 80% PL use 5/15-6/30 (152 AUMs) and 10/1-10/31 (57 AUMs); A. Legg Individual, 3% PL use 4/1-5/31 (2 AUMs) and 10/1-10/31 (1 AUM); Thorn Creek, 4% PL use 4/21-5/31 (11 AUMs) and 10/16-11/15 (8 AUMs); and North Fork FFR, 30% PL use 4/21-5/31 (61 AUMs).

The lower, western extent of the fire was characterized by a pre-fire vegetation of xeric big sagebrush intermixed with antelope bitterbrush. The understory was dominated by bulbous bluegrass with the low to moderate occurrence of native species, primarily biscutroot, Sandberg's bluegrass and bottlebrush squirreltail. Other native and non-native species included western yarrow, common sunflower, agoseris, Japanese brome, cheatgrass, Nevada bluegrass, and gray rabbitbrush. Pre-fire vegetation on shallow soil areas was stiff sagebrush with bulbous bluegrass as the dominate understory species. Other common species on this site included annual grasses: Japanese brome, medusahead, and sixweeks fescue; perennial grasses: Sandberg's bluegrass, bottlebrush squirreltail, and Nevada bluegrass; and forbs: biscutroot, onion and deathcamas. The higher and more eastern extent of the burned area supported small aspen patches, and stands of ponderosa pine and Douglas fir. Mountain shrub pockets could be found with species including snowberry, rocky mountain maple, bittercherry, chokecherry, and serviceberry. These higher upland areas were mostly dominated by bulbous bluegrass with many of the understory species cited above in occurrence. Bluebunch wheatgrass was widespread in some areas and Idaho fescue was found commonly on north slopes. Riparian areas bordering ephemeral streams commonly support Woods rose, willow and hawthorn. The portion of North Fork Grays Creek which crosses public land is characterized by water birch and cottonwoods and other late seral species. Known noxious weed species include Dalmatian toadflax, houndstongue, Scotch thistle, and rush skeletonweed.

Ross Gulch and Telephone Creek had intermittent streams flows, and no fisheries were present. These streams were in proper functioning condition in the pre-fire state. Dominant vegetation was primarily arroyo willow, black hawthorn, and chokecherry. Arroyo willow responds to fire by vigorously re-sprouting in the first year and plant density and canopy cover often increases well beyond conditions in the pre-fire state within five years. Both of these streams are expected to recover naturally.

North Gray's Creek is a perennial stream with a healthy population of redband trout, a BLM Sensitive Species. This stream was in proper functioning condition in its pre-fire state. Predominant vegetation was a healthy and diverse assemblage of woody species representing the potential natural plant community. The woody vegetation species within the Gray's Creek riparian area are moderate to vigorous re-sprouters, and are expected to recover to good health within five years. In the interim, the roots of woody riparian vegetation remain intact and will

continue to provide stability in the stream banks. Much of the terrace and flood plain along Gray's Creek burned with moderate to high intensity. As a consequence, there are many areas devoid of ground cover and it is likely little remains in the "seed bank" to re-vegetate the area.

The entire fire is within designated crucial elk winter range and the southern third is within crucial mule deer winter range.

If funding for rehabilitation treatments proposed in this BAR is not granted, fence repair and noxious weed inventory and treatment would still need to be conducted.

COST SUMMARY TABLE

Spec. #	Planned Action	Unit	# Units	Unit Cost	FY07	FY08	FY09	FY10	Spec. # Totals
R3	Aerial Seeding	Acres	1,014	25	0	25,000	0	0	25,000
R3	Aerial Seed Purchase	Acres	1,014	48	0	49,000	0	0	49,000
R4	Seedling planting	Each	9,000	2.7	0	24,000	0	0	24,000
R5	Noxious Weeds	Acres	1,385	2.6	0	4,000	4,000	3,000	11,000
R7	Fence Repair/Gate	Miles	6.2	4,677	0	29,000	0	0	29,000
R15	Closures	Acres	0	0	0	0	0	0	0
R16	Monitoring	Acres	1,385	3.6	0	5,000	5,000	5,000	15,000
	TOTAL COSTS		1,385	110	0	136,000	9,000	8,000	153,000

LAND USE PLAN CONSISTENCY

Some of the proposed actions listed below are not directly addressed in the 1987 Cascade Resource Management Plan (RMP), but they are clearly consistent with LUP decisions (objectives, terms, and conditions).

1. Aerial Seeding (R3): A perennial seed mixtures comprised of a native or nonnative grass combined with a native forb and shrub would be aerial broadcast seeded. The Cascade RMP, Resource Management Guidelines, Wildlife Resources, states "Habitat to support viable populations of all native and exotic wildlife species present in the resource area will be maintained" and further stipulates under Sage Grouse that where applicable, seed mixtures for fire rehabilitation projects will include a mixture of grasses, forbs, and shrubs that benefit sage grouse. In addition, the RMP, Resource Management Guidelines, Fire Management, Rehabilitation, Greenstripping and Reductions Actions/Procedures (6.) state "Seedings will include appropriate seed mixtures to replace wildlife habitat that burned."
2. Shrub Seedling Planting (R4): To restore the shrub structure lost by the fire, bitterbrush seedlings would be hand planted. The Cascade RMP, Preferred Alternative E, Wildlife Resources, Objectives, cites "shrub plantings" as a way of improving wildlife habitat, and the RMP Resource Management Guidelines, Wildlife Resources, Mule Deer Habitat, acknowledges the use of bitterbrush plantings as a method for improving forage condition for mule deer.
3. Noxious Weeds (R5): The burned area would be surveyed for the presence of noxious species, and appropriate control measures would be initiated. The control of noxious weeds

is consistent with Cascade RMP, Resource Management Guidelines, Weeds (Control of Noxious), "BLM districts will work with respective County governments to monitor the location and spread of noxious weeds and to maintain up-to-date inventory records." BLM will control the spread of noxious weeds on public lands where possible, where economically feasible, and to the extent that funds are prioritized for that purpose." The control of noxious weeds is in compliance with State and county laws.

4. Fence Repair/Gate (R7): Fire damaged fence would be repaired/replaced to provide a functional structure that would allow for the control of livestock grazing distribution and recovery of the burned area. The repaired fence would be used to exclude livestock and foster recovery, while providing for the grazing use of unburned areas within pastures and allotments outside the fire perimeter. The repair of fire damaged fence, although not addressed in the Cascade RMP, is consistent with RMP Resource Management Guidelines to rest areas from livestock grazing and provide for recovery.
5. Livestock Closure (R15): Livestock are to be excluded from the burned area until monitoring results, documented in writing; show rehabilitation objectives have been met. In case of treatment failure, other factors may need to be considered, such as natural recovery of untreated areas, and need or reason to continue closure. The Cascade RMP, Resource Management Guidelines, Fire Management, Rehabilitation, Greenstripping and Reduction Actions/Procedures, (3.) states "All grazing licenses issued that include areas recently burned and/or seeded will include a statement concerning the amount of rest needed in the seedings or burned area. Normally two years of rest will be necessary to enable recovery of these areas."
6. Monitoring Effectiveness of Treatments (R16): Monitoring data would be collected from initiation of the proposed treatments through 2010.

PART 2. – REHABILITATION ISSUES

Objectives: 1) To evaluate actual and potential long-term post-fire impacts to critical cultural and natural resources and identify those areas unlikely to recover naturally from severe wildland fire damage; 2) To develop and implement cost-effective plans to emulate historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with approved land management plans, or if that is infeasible, then to restore or establish a healthy, stable ecosystem in which native species are well represented; and 3) To repair or replace minor facilities damaged by wildland fire. 620DM3.4

Priorities: 1) To repair or improve lands damaged directly by a wildland fire; and 2) To rehabilitate or establish healthy, stable ecosystems in the burned area. 620DM3.8

Rehabilitation Issues

1. **Lands Unlikely to Recover Naturally**. Repair or improve lands unlikely to recover naturally from wildland fire damage by emulating historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with existing land management plans.

The pre-fire vegetation within the burned area was representative of native perennial with a moderate to high dominance of a perennial introduced grass and annuals. The rehabilitation would inhibit the spread of invasive annuals and restore shrub structure.

2. **Weed Treatments.** Chemical, manual, and mechanical removal of invasive species, and planting of native and non-native species, restore or establish a healthy, stable ecosystem even if this ecosystem cannot fully emulate historical or pre-fire conditions.

   Noxious weeds are known to be present within and in the immediate vicinity of the burned area. Failure to locate and control possible existing noxious weed sites would lead to spreading of undesirable species.

3. **Tree Planting.** Tree planting to reestablish burned habitat, reestablish native tree species lost in fire, prevent establishment of invasive plants, and regenerating Indian trust commercial timberland as prescribed by a certified silviculturalist to not regenerate for ten years following the fire.

   Although ponderosa pine and Douglas fir were lost in the fire, tree planting to reestablish burned habitat is not being considered as a rehabilitation treatment. Many Douglas fir trees survived the fire, and natural regeneration will be relied upon to reestablish ponderosa pine.

   Bitterbrush was a major pre-fire vegetation component. Planting of bitterbrush seedlings would re-establish pre-fire shrub structure.

4. **Repair/Replace Fire Damage to Minor Facilities.** Repair or replace fire damage to minor operating facilities (e.g., campgrounds, interpretive signs and exhibits, shade shelters, fences, wildlife guzzlers, etc.) [Rehabilitation may not include the planning or replacement of major infrastructure, such as visitor centers, residential structures, administration offices, work centers and similar facilities. Rehabilitation does not include the construction of new facilities that did not exist before the fire, except for temporary and minor facilities necessary to implement burned area rehabilitation efforts.]

   Repair and/or replacement of existing fence is necessary to provide a functional structure for livestock grazing management. Repair of fire damaged fence would allow for the exclusion of livestock from the treatment area, providing for the establishment of desired seeded species and natural recovery. These fire damaged fences adjoin fences on private lands that would be repaired by grazing allotment permittees.

PART 3. - DESCRIPTION OF TREATMENTS

Issue 1. Actions to Repair/Improve Lands Unlikely to Recover Naturally

R3 - Aerial Seeding

A. Treatment/Activity Description (Map 1): Aerial broadcast seeding would be conducted in the fall/winter of 2007-2008. Aerial Seed Mix 1 (464 acres) and Aerial Seed Mix 2 (545 acres) would be aerial broadcast seeded over upland and forested areas damaged by the fire. Aerial Seed Mix 3 (5 acres) would be broadcast seeded over a length of riparian zone bordering North Fork Grays Creek, which was severely burned and vulnerable to the establishment of noxious weeds. The planting of a steril annual grass as a cover crop, mixed with a perennial grass and forbs would impede the spread of undesirable species. Because of the annual grass cover crop seed mix 3 needs to be seeded heavier to provide the competition and may exceed the desired seeding rate. This occurs only on the 5 acre seed mix.

Aerial Seed Mix 1

Variety	Approximate Acres	PLS lbs/acre
Western yarrow (White)	464	0.05
Intermediate wheatgrass (Rush)	464	5.0
Big sagebrush (Mountain)	464	0.1

Aerial Seed Mix 2

Variety	Approximate Acres	PLS lbs/acre
Western yarrow (White)	545	0.05
Sandberg's bluegrass (Mtn Home)	545	1.0
Big sagebrush (Mountain)	545	0.1

Aerial Seed Mix 3

Variety	Approximate Acres	PLS lbs/acre
Triticale (winter variety)	5.0	90
Mountain Brome (Bromar)	5.0	8.9
Clover (Alsike)	5.0	4.5
Small burnet (Delar)	5.0	3.8

B. How does the treatment relate to damage or changes caused by the fire? The goal is to restore shrub structure, and reestablish a perennial forb and grass component of the ecosystem. The establishment and maintenance of perennial species would impede the post-fire increased spread of invasive annuals, and contribute to the stabilization of the recovering ecosystem. The success of the seeding treatment is dependent upon spring moisture and could range in effectiveness from 50-80%.

C. Why is the treatment/activity reasonable, within policy, and cost effective? Specific costs of the aerial seeding are shown in the cost tables. Aerial broadcast seeding is the most efficient and effective way to plant a seed mixture comprised of small seeds. This method insures seed contact with the soil is evenly broadcast over the burned area, at the desired rate. Aerial seeding has been used to rehabilitate similar habitat types within the Four Rivers Field Office that have been burned by wildfire, with a fairly high rate of success during average or favorable growing

conditions. The selected perennial forbs and shrub are suitable to the site, and would compete with invasive annuals. Establishment of selected perennials would protect watershed values, restore wildlife habitat components, and improve the functioning condition of the ecosystem.

R15 - Livestock Closure

A. Treatment/Activity Description Map 1: The repair of pasture and allotment boundary fences damaged by the fire would provide for the exclusion of livestock and protection of the 1,385 acre public land burned area. The area would remain closed to livestock grazing until monitoring results, documented in writing; show rehabilitation objectives have been met. In case of treatment failure, other factors may need to be considered, such as natural recovery, and need or reason to continue closure.

B. How does the treatment relate to damage or changes caused by the fire? Closure of the area to livestock grazing would provide for natural recovery, the establishment of seeded species, and achievement of BAR objectives.

C. Why is the treatment/activity reasonable, within policy, and cost effective? Considering the significant cost of implementing the BAR, the exclusion of livestock grazing is a reasonable and cost effective method of facilitating the establishments of desired seeded species, protecting the rehabilitation investment, and providing for recovery.

Issue 2. Weed Treatments

R5 - Noxious Weeds

A. Treatment/Activity Description (Map 1): Starting in the spring of 2008, the 1,385 acre burned area would be surveyed for the presence of noxious species and appropriate control measures would be taken. Follow up surveys and monitoring/retreatment of noxious weed sites would be conducted through 2010.

B. How does the treatment relate to damage or changes caused by the fire? The potential for noxious weeds to spread is amplified after a wildland fire disturbance. Wildfires foster the spread of noxious weeds by the burning and removal of competitive vegetation. The application of appropriate treatments would control the spread of noxious weeds. The effectiveness of controlling noxious weeds is related to the size and configuration of the weed population. The smaller and more uniform the noxious weed population, the more effective the control with anticipated 60-90% effectiveness.

C. Why is the treatment/activity reasonable, within policy, and cost effective? Compliance with State and county laws requires the control of noxious weeds. The establishment and long-term maintenance of perennial seeded species could be jeopardized if noxious weeds are not controlled. Considering the significant cost of implementing the BAR plan, the treatment of noxious weeds is a reasonable and cost effective method of protecting this investment and complying with State and county laws.

Issue 3. Tree Planting

R4 - Shrub Seedling Planting

A. Treatment/Activity Description (Map 1): In the spring of 2008, bitterbrush seedlings would be hand planted. To maximize success, seedlings would be planted on a site selected for deep soils and mostly a northwest aspect. Where possible, seedlings would be planted next to fire-killed bitterbrush plants for shading, and a plastic tube guard would be used to provide additional protection from browsing. Bitterbrush seedlings would be planted over a 30 acre area at a density of approximately 300 plants/acre, for a total of 9,000 seedlings.

B. How does the treatment relate to damage or changes caused by the fire? Planting of bitterbrush seedlings would re-establish important elements of the fire-damaged ecosystem. The goal of the planting is to restore this species as a primary habitat component. The success of a seedling planting is dependent on growing conditions (e.g. spring moisture) and suitability of site. The seedling planting would be conducted in an area where bitterbrush occurred prior to the fire, and where moisture and growing conditions are favorable. The effectiveness of the seedling planting to meet objectives could range from 50-80%.

Why is the treatment/activity reasonable, within policy, and cost effective? Specific costs of the bitterbrush seedling planting are shown in the cost tables. The establishment of bitterbrush would foster the achievement of the objective to return the functioning condition of the ecosystem to pre-fire levels. To afford protection and foster establishment, seedlings would be planted next to fire-killed bitterbrush plants. Hand planting of bitterbrush seedlings has typically been used in similar situations, and is a much more successful way of establishing this shrub as compared to the planting of its seed. Perennial native shrub structure is an important component of wildlife habitat. The restoration of shrub structure to pre-fire conditions would provide for the habitat needs of big game and many other wildlife species.

Issue 4. Repair/Replace Fire Damage to Minor Facilities

R7 - Repair Fence/Gate

A. Treatment/Activity Description (Map 1): Approximately 6.2 miles of allotment management fence was damaged by the wildfire (see table below). These pasture and allotment boundary fences adjoin private fences and are in need of repair/replacement to control livestock grazing distribution and provide for natural recovery and/or establishment of desired seeded species. Fence repair on public land would conform to current BLM standards for fences located in deer habitat. Materials for a standard 3-strand barbed wire fence include: inline and corner brace structures, metal t-posts, 12-gauge barbed wire, twisted smooth wire, inline stays, and wire mesh for rock cribs.

Fence	RIPs Number	Location	Length (miles)
292 Boundary	5788	T15N R1E Sec. 18	0.3
West 293 Boundary	8541	T15N R1E Sec.20 & 29	0.8
South 293 Boundary	5786	T15N R1E Sec 29 & 30	2.0
Ross Gulch Fence	5787	T14N R1E Sec 04	2.5
Pasture 39 West Fence	0649	T14N R1E Sec 05	0.6
TOTAL			**6.2 miles**

B. How does the treatment relate to damage or changes caused by the fire? Fire damaged fence would be repaired/replaced to provide a functional structure that would allow for the control of livestock grazing distribution and recovery of the burned area. The repaired fence would be used to exclude livestock and foster recovery, while providing for the grazing use of unburned areas within pastures and allotments outside the fire perimeter. This measure would be highly effective in controlling livestock distribution, providing for natural recovery and/or establishment of desired seeded species, and achievement of BAR objectives.

C. Why is the treatment/activity reasonable, within policy, and cost effective? Fence repair would provide for effective management of livestock and protection of treatment areas. The cost of repairing fire damaged fence is substantially lower than construction of new fence. Considering the significant cost of implementing the other BAR plan treatments, fence repair is a reasonable and cost effective method of protecting this investment.

PART 4. - INDIVIDUAL TREATMENT SPECIFICATIONS

BAR		FY07	FY08	FY09	FY10	Total Costs
R3	Aerial Seeding					
	Labor	0	0	0	0	
	Travel/Vehicles	0	1,775	0	0	
	Equipment Mobilization	0	0	0	0	
	Supplies/Materials	0	152	0	0	
	Contract	0	20,280	0	0	
	Contract Administration	0	2,535	0	0	
	Total	0	25,000	0	0	25,000
R3	Aerial Seed					
	Seed Aerial Fall 2007 Mix 1		21,840			
	Seed Aerial Fall 2007 Mix 2		24,000			
	Seed Aerial Fall 2007 Mix 3		1,900			
	Seed Mixing/Handling/Testing	0	1,248	0	0	
	Total	0	49,000	0	0	49,000
R4	Seedling Planting (shrub/tree)					
	Labor	0	1,350	0	0	
	Travel/Vehicles	0	2,250	0	0	
	Supplies/Materials	0	450	0	0	
	Contract Seedling Purchase	0	7,650	0	0	
	Contract Seedling Planting	0	9,000	0	0	
	Contract Administration	0	3,150	0	0	
	Total	0	24,000	0	0	24,000
R5	Noxious Weeds					
	Labor	0	2,078	2,078	1,766	
	Travel/Vehicles	0	1,385	1,385	1,177	
	Chemical Purchase	0	277	277	235	
	Supplies/Materials	0	0	0	0	

BAR		FY07	FY08	FY09	FY10	Total Costs
	Contract	0	0	0	0	
	Contract Administration	0	0	0	0	
	Total	0	4,000	4,000	3,000	11,000
R7	Protective Fence Repair/Gate					
	Labor	0	2,170	0	0	
	Travel/Vehicles	0	3,100	0	0	
	Clearances	0	0	0	0	
	Fence Material	0	9,300	0	0	
	Contract Fence Construction	0	12,400	0	0	
	Contract Administration	0	1,240	0	0	
	Supplies/Materials	0	620	0	0	
	Total	0	29,000	0	0	29,000
R15	Closures (OHV/livestock/area)					
	Labor	0	0	0	0	
	Travel/Vehicles	0	0	0	0	
	Supplies/Materials	0	0	0	0	
	Contract	0	0	0	0	
	Contract Administration	0	0	0	0	
	Total	0	0	0	0	0
R16	Monitoring (implementation, effectiveness)					
	Labor	0	346	346	346	
	Travel/Vehicles	0	693	693	693	
	Supplies/Materials	0	139	139	139	
	Contract	0	2,078	2,078	2,078	
	Contract Administration	0	1,385	1,385	1,385	
	Total	0	5,000	5,000	5,000	15,000
	BURNED AREA REHABILITATION	0	136,000	9,000	8,000	153,000

SEED LISTS:

Aerial Seed Mix 1													
Seed Type/Variety	PLS Rating	Seeding Acres	Lbs/ Ac Bulk	Lbs/ Ac PLS	# Seeds/ Lb Bulk	# Seed Lb PLS	# Seed/ Ac Bulk	# Seed/ Ac PLS	# Seed/Sq Ft PLS	Total Lbs PLS	Total Lbs Bulk	Cost Per Lb	Total Cost
Intermediate Wheatgrass, Rush	0.8075	464	6.5	5.2	110,000	88,825	715,000	577,363	13.3	2,435	3,050	$4.00	$12,200.00
White Western Yarrow	0.8100	464	0.06	0.05	2,700,000	2,187,000	162,000	131,220	3.0	23	50	$20.00	$1,000.00
Big Sagebrush, Mountain	0.1600	464	1.0	0.16	2,250,000	360,000	2,250,000	360,000	8.3	74	480	$18.00	$8,640.00
TOTALS		1,392	7.6	5.5			3,127,000	1,068,583	24.5	2,532	3,580		$21,840.00

Aerial Seed Mix 2													
Seed Type/Variety	PLS Rating	Seeding Acres	Lbs/ Ac Bulk	Lbs/ Ac PLS	# Seeds/ Lb Bulk	# Seed Lb PLS	# Seed/ Ac Bulk	# Seed/ Ac PLS	# Seed/Sq Ft PLS	Total Lbs PLS	Total Lbs Bulk	Cost Per Lb	Total Cost
Sandberg's Bluegrass, Mtn Home	0.7200	545	1.4	1.0	950,000	684,000	1,330,000	957,600	22.0	549	800	$17.00	$13,600.00
White Western Yarrow	0.8100	545	0.06	0.05	2,700,000	2,187,000	162,000	131,220	3.0	26	50	$20.00	$1,000.00
Big Sagebrush, Mountain	0.1600	545	1.0	0.16	2,250,000	360,000	2,250,000	360,000	8.3	87	560	$18.00	$10,080.00
TOTALS		1,635	2.5	1.2			3,742,000	1,448,820	33.3	663	1,410		$24,680.00

Aerial Seed Mix 3													
Seed Type/Variety	PLS Rating	Seeding Acres	Lbs/ Ac Bulk	Lbs/ Ac PLS	# Seeds/ Lb Bulk	# Seed Lb PLS	# Seed/ Ac Bulk	# Seed/ Ac PLS	# Seed/Sq Ft PLS	Total Lbs PLS	Total Lbs Bulk	Cost Per Lb	Total Cost
Mountain Bromegrass, Bromar	0.7650	5	11.6	8.9	140,000	107,100	1,624,000	1,242,360	28.5	44	100	$7.00	$700.00
Triticale	0.8100	5	112.0	90.7	11,360	9,202	1,272,320	1,030,579	23.7	454	600	$1.00	$600.00
Small Burnet, Delar	0.7600	5	5.0	3.8	50,000	38,000	250,000	190,000	4.4	19	50	$7.00	$350.00
Clover, Alsike	0.8000	5	5.6	4.5	680,000	544,000	3,808,000	3,046,400	69.9	22	50	$5.00	$500.00
TOTALS		15	128.6	103.4			3,146,320	2,462,939	56.5	517	750		$1,900.00

SHRUB SEEDLING PLANTING					
Seedling Species	Acres of Seedlings Planted	# of Seedlings / Acre	Total # of Seedlings	Cost / Seedling	Total Cost
Antelope Bitterbrush	30	300	9,000	$0.85	$7,650

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: Native species being proposed for seeding are known to occur in the local area.

2. Is seed or seedlings of native plants available in sufficient quantity for the proposed project?
Yes [**X**] No [ ] Rationale: It is anticipated that sufficient quantities of the proposed native plant seeds would be available from the commercial market.

3. Is the cost and/or quality of the native seed reasonable given the project size and approved field unit management and Plan objectives?
Yes [**X**] No [ ] Rationale: The quantity and subsequent cost of proposed native seed is reasonable.

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: They would establish at this site under normal or average climatic conditions, as indicated by pre-fire vegetation and previous rehabilitation projects conducted in the Four Rivers Field Office.

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: The existing land management practices fostered the occurrence of the selected seeded native plants prior to the fire. There is no reason to believe that that these practices will not be continued and the seeded species would not be accordingly maintained.

<u>Proposed Non-native Plants in Seed Mixture</u>

1. Is the use of non-native plants necessary to meet objectives, e.g., consistent with applicable approved field unit management plans?
Yes [**X**] No [ ] Rationale: Use of non-native species is consistent with the Cascade RMP. Use of site suitable non-natives is necessary in order to compete with invasive species and restore the forb and grass vegetative components.

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 [ ] Rationale: Establishment of a perennial non-native forb and grasses would increase diversity and improve the ecological process. The established non-native perennials would inhibit the spread of invasive plants.

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 general area receives low precipitation and based on past experience there is little likelihood that non-native forb or grasses would interbreed with native plants or spread off-site.

PROPOSED SEED SPECIES

Non-native Plants	Native Plants
Triticale (winter variety)	Western yarrow (White)
Alsike clover	Sandberg's bluegrass (Mtn Home)
Intermediate wheatgrass (Rush)	Big sagebrush (Mountain)
Small burnet (Delar)	Antelope bitterbrush
	Mountain brome (Bromar)

PART 5. – COST-RISK ANALYSIS

Probability of Rehabilitation Treatments Successfully Meeting Objectives

Action/ Spec. #	Planned Action	Unit (acres, WMs, number)	# Units	Total Cost	% Probability of Success
R3	Aerial Seeding	acres	1,014	$74,000	50-70
R4	Shrub Seedling Planting	acres/ number	30/ 9,000	$ 24,000	50-80
R5	Noxious Weeds	acres	1,385/ 3yrs	$11,000	60-90
R7	Fence Repair/Gate Construct Protective Fence	miles	6.2	$29,000	100
R15	Livestock Closure	acres	1,385	0	100
R16	Monitoring	acres	1,385/ 3yrs	$ 15,000	100
	TOTAL			$153,000	

COST-RISK 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 rehabilitation objectives. Answer the following questions to determine which proposed 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: The proposed treatments (aerial seeding, shrub seedling planting, fence repair, and livestock closure) are related actions which maximize the probability of success and effectiveness of restoring ecosystem components, and achieving BAR objectives.
No Action: Yes [ ] No [**X**] Rationale: No action could result in the spread of invasive annuals, and lower forb diversity, shrub structure and functioning ecosystem.
Alternative(s): Yes [ ] No [**X**] Rationale: Although acceptable alternatives may exist, none have been identified that would pose less risk to the natural resources than the proposed treatments.

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

Proposed Action: Yes [**X**] No [ ] Rationale: The probability of the proposed treatments being successful are relatively high, and the costs is reasonable considering the benefits to be realized.
No Action: Yes [ ] No [**X**] Rationale: There would be no costs associated with no action, but no benefits would be realized and further degradation ecosystem components.
Alternative(s): Yes [ ] No [**X**] Rationale: No alternatives have been identified that would be more cost effective than the proposed treatments.

3. Which approach will most cost-effectively and successfully attain the rehabilitation objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?
Proposed Action [**X**], **Alternative(s)** [ ], or **No Action** [ ]

Comments: The proposed treatments are anticipated to be cost effective, and reduce vulnerability of the site to expansion of invasive annuals by restoring ecosystem components lost by the fire. The cost/risk is reasonable considering the benefits to the long-term health of the ecosystem.

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	N/A	None	Low	Medium	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 (check one)

Resource Value	N/A	None	Low	Medium	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 6. – MONITORING PLAN

Monitoring protocols for vegetation treatments within this plan are based primarily on those described in the Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems by Jeffery E. Herrick, Justin W. Van Zee, Kris M. Havstad, Laura M Burkett, and Water G. Whitford; published in 2005 by USDA-ARS Jornada Experimental Range, New Mexico State University.

The proposed treatments would be actively monitored and documented by personnel of the Boise District; Division of Operations and Four Rivers Field Office. Effectiveness of the aerial seeding and seedling planting would be monitored by collecting density, cover, and soil gap data from randomly located plots which diagonally traverse flight patterns within the treatment areas.

1. Aerial Seeding

Monitoring the success of the aerial seeding would take place during the summers of 2008-2010. Treatment objectives would be achieved when density data collected from not less than one hundred (100) 0.125m^2 plots indicate mean establishment densities as follows:

Aerial Seed Mix 1	Western yarrow ≥ 1/m^2
	Intermediate wheatgrass ≥ 5/m^2
	Mountain big sagebrush ≥ 1/9m^2
Aerial Seed Mix 2	Western yarrow ≥ 1/m^2
	Sandberg's bluegrass ≥ 5/m^2
	Mountain big sagebrush ≥ 1/9m^2
Aerial Seed Mix 3	*Triticale ≥ 15/m^2
	Alsike Clover ≥ 10/m^2
	Mountain brome ≥10/m^2
	Small burnet ≥5/m^2

* Triticale, an annual cereal grain, would be monitored only in summer 2008.

2. Shrub Seedling Planting

Monitoring the success of the shrub seedling planting would be conducted during the summers of 2008-2010. Treatment objectives would be achieved when data collected from at least one hundred (100) bitterbrush seedlings, randomly located within the planting site show a survival rate of 40-50%.

3. Noxious Weeds

Starting in 2008, BLM noxious weed specialists would inventory the 1,385 acre burn area for noxious weeds and take appropriate treatment action. Species identified, treatment and GPS location would be recorded. Personnel would revisit the treated sites 2009-2010 to evaluate mortality and inventory for additional weed populations.

4. Livestock Closure

Livestock are to be excluded from the 1,385 acre burned area until monitoring results, documented in writing; show rehabilitation objectives have been met. In case of treatment

failure, other factors may need to be considered, such as natural recovery, and need or reason to continue closure. Routine site visits would be made by BLM personnel to monitor for livestock trespass and ensure effectiveness of area closure.

PART 7 - MAPS

1. Aerial Seeding Mix-1, Aerial Seeding Mix-2, Aerial Seeding Mix-3, Seeding Planting, Fence Repair

REVIEW, APPROVALS, AND PREPARERS

REHABILITATION PLAN TEAM MEMBERS

Position	Team Member (Agency/Office)	Initial and Date
Team Leader	Allen Tarter (BLM/ID110)	
Rangeland Management Specialist	Mike Barnum (BLM/ID110)	
Rangeland Management Specialist	Mary Clark (BLM/ID110)	
Operations ESR Coordinator	Cindy Fritz (BLM/ID102)	
Forester	Frank Marsh (BLM/ID110)	
Botanist	Mark Steiger (BLM/ID110)	
Natural Resource Specialist	Jack LaRocco (BLM/ID110)	
Wildlife Biologist	Tim Carrigan (BLM-ID110)	

REHABILITATION PLAN APPROVAL

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

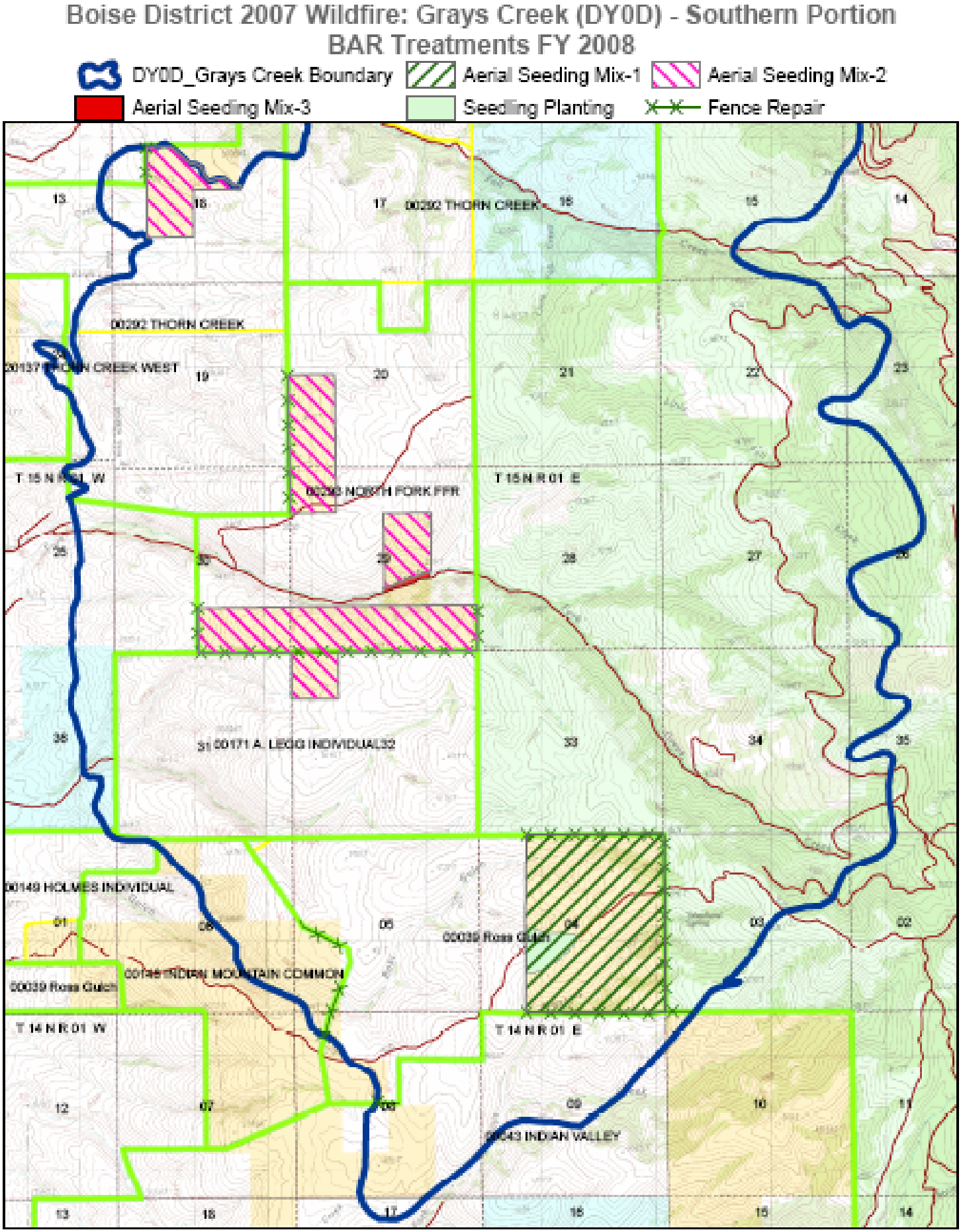
_____ _____

FIELD OFFICE MANAGER DATE

FUNDING APPROVAL

Rehabilitation plans are approved through the AWP, on a priority basis by the Interior BAER Coordinators. Funding for prior year fires is typically through the AWP the following year. If it becomes necessary to prioritize, this will be done by the IBAER coordinators based on relative values to be protected, commensurate with rehabilitation costs.

Map 1.


Boise District 2007 Wildfire: Grays Creek (DY0D) - Southern Portion
BAR Treatments FY 2008
DY0D_Grays Creek Boundary
Aerial Seeding Mix-1
Aerial Seeding Mix-2
Aerial Seeding Mix-3
Seedling Planting
Fence Repair
00292 THORN CREEK
00292 THORN CREEK
00137 THORN CREEK WEST
T 15 N R 01 W
T 15 N R 01 E
00290 NORTH FORK FPR
00171 A. LEGG INDIVIDUAL32
00149 HOLMES INDIVIDUAL
00039 Ross Gulch
00039 Ross Gulch
00146 INDIAN MOUNTAIN COMMON
T 14 N R 01 W
T 14 N R 01 E
00143 INDIAN VALLEY