

Birch & North Flat Fire
BURNED AREA REHABILITATION PLAN

BLM/BOISE DISTRICT/FOUR RIVERS FIELD OFFICE
IDAHO

FIRE BACKGROUND INFORMATION

Fire Name	Birch	North Flat
Fire Number	DL99	DNQ5
District/Field Office	Boise/Snake River Birds of Prey NCA	
Admin Number	ID111	
State	Idaho	
County(s)	Elmore	
Ignition Date/Cause	Birch 07-03-07/Human North Flat 07-06-07/Lightning	
Date Contained	Birch 07-04-07 North Flat 07-07-07	
Jurisdiction	<i>Acres</i>	
	<i>Birch</i>	<i>North Flat</i>
BLM	835	2,500
State	0	0
Private	45	95
Other	0	0
Total Acres	880	2595
Total BAR Plan Costs	\$113,000	\$347,000

Status of Plan Submission (check one box below)

X	Initial Submission
	Updating or Revising the Initial Submission
	Amendment

PART 1. REHABILITATION PLAN SUMMARY

BACKGROUND ON THE FIRE

The 2,500 acre North Flat Fire and the 835 acre Birch Fire burned in the Reverse Allotment. These fires burned together and comprise 32 % of the 10,538 acres of public land within the Allotment. The Allotment is grazed by cattle 11/10 to 2/28 and 3/1 to 5/31, with a total of 1,997 AUMs authorized.

Pre-fire vegetation on the northern extent of the fire was cheatgrass intermixed with patches of Sandberg's bluegrass. Pre-fire vegetation on the southern portion of the fire was characterized by fourwing saltbush with an understory of annual forbs and grasses. In the vicinity of agricultural areas, pre-fire vegetation was typified by stands of big sagebrush with an understory of annual forbs and grasses. Gentle rolling terrain areas, below the plateau rim and immediate to riparian and aquatic habitats were dominated by big sagebrush and fourwing saltbush with an understory of annual and perennial grasses. A set of related actions are necessary to stabilize and rehabilitate the burned area.

The tilled agricultural lands located both north and east of the burned area provide a buffer for the possible off-site spread of non-native seeded species.

The fires burned 1,396 acres identified as Potential LEPA Habitat. The rehabilitation project area was surveyed for the presence of slickspot peppergrass and its habitat, in July and August of 2007 following the fires. No slickspot peppergrass or slickspots were located during the course of these surveys. Based upon the field exam, no special status plants or their habitat exist within the project area and a Full Special Status Plant Species Clearance was given.

If funding for rehabilitation treatments proposed in this BAR is not granted, existing fences damaged by the fire, and noxious weed inventory and treatment will still need to be conducted.

Cost Summary Tables

DNQ5	North Flat								
Spec. #	Planned Action	Unit	# Units	Unit Cost	FY07	FY08	FY09	FY10	Spec. # Totals
R2	Ground Seeding	Acres	1,782	23	0	0	41,000	0	41,000
R2	Ground Seed Purchase	Acres	1,782	74	0	132,000	0	0	132,000
R2	Ground Seeding Cultural Clearance	Acres	1,782	17	0	30,000	0	0	30,000
R2	Herbicide Treatment	Acres	1,969	30	0	59,000	0	0	59,000
R3	Aerial Seeding	Acres	1,202	12	0	3,000	11,000	0	14,000
R3	Aerial Seed Purchase	Acres	1,202	19	0	23,000	0	0	23,000
R5	Noxious Weeds	Acres	2,500	4	0	3,000	3,000	3,000	9,000
R7	Fence Repair/Gate	Miles	7.1	3,380	0	24,000	0	0	24,000
R15	Closures	Acres	0		0	0	0	0	0
R16	Monitoring	Acres	2,500	6	0	5,000	5,000	5,000	15,000
	TOTAL COSTS		2,500	139	0	279,000	60,000	8,000	347,000

DL99 BIRCH CREEK

Spec. #	Planned Action	Unit	# Units	Unit Cost	FY07	FY08	FY09	FY10	Spec. # Totals
R2	Ground Seeding	Acres	561	29	0	0	16,000	0	16,000
R2	Ground Seed Purchase	Acres	561	73	0	41,000	0	0	41,000
R2	Ground Seeding Cultural Clearance	Acres	561	16	0	9,000	0	0	9,000
R2	Herbicide Treatment	Acres	561	32	0	18,000	0	0	18,000
R3	Aerial Seeding	Acres	367	16	0	4,000	2,000	0	6,000
R3	Aerial Seed Purchase	Acres	266	30	0	8,000	0	0	8,000
R5	Noxious Weeds	Acres	835	4	0	1,000	1,000	1,000	3,000
R7	New Protective Fence	Miles	0	10,000	0	1,000	0	0	1,000
R8	Cattle Guard	No.	1	5,000	0	5,000	0	0	5,000
R15	Closures	Acres	835	0	0	0	0	0	0
R16	Monitoring	Acres	835	7	0	2,000	2,000	2,000	6,000
	TOTAL COSTS		835	135	0	89,000	21,000	3,000	113,000

LAND USE PLAN CONSISTENCY

The 1995 Snake River Birds of Prey National Conservation Area (NCA) Management Plan is the primary plan governing management of resources within the NCA.

1. Pre-planting Chemical Fallowing (R2): Herbicide would be aerially applied to reduce competition from invasive annual grasses and forbs, and preparing the site for drill seeding. The first herbicide application would be conducted during the spring (March-April) 2008. A second

application would be applied as needed between May and July 2008 to control a second growth of invasive annuals and to maintain a fallow state. Chemical control of competitive annuals to improve the likelihood of success of aerial and ground seeding treatments is an acceptable treatment method consistent with the NCA Management Plan, “Use fire, biological, chemical, and mechanical controls, or a combination of these to reduce or eliminate weed competition and improve seedling establishment.”

2. Drill Seeding of Perennial Grasses and Shrubs (R2): A non-native perennial grass seed mixture would be drill seeded within the burned area during the fall 2008. Ground seeding is an acceptable treatment method consistent with the NCA Management Plan, “Reseed disturbed areas, including burns, unsuccessful fire rehabilitation projects, and old unrehabilitated projects with native species where possible to establish shrub and perennial grass components for high quality raptor and/or prey habitat.”

3. Aerial Seeding of Shrubs, Forbs, and Grasses (R3): A native grass/forb/shrub seed mix would be aerially broadcasted over the burned area in the winter 2007-2008 on terrain below the plateau rim bordering the Snake River and on plateau areas in the winter 2008-2009. Forage kochia would also be aerial applied in the winter of 2008-2009 in strips over the herbicide/ground seeding treatment areas. Aerial broadcast seeding is an acceptable treatment consistent with the NCA Management Plan, “Reseed disturbed areas, including burns, unsuccessful fire rehabilitation projects, and old unrehabilitated projects with native species where possible to establish shrub and perennial grass components for high quality raptor and/or prey habitat.

4. Noxious Weed Control (R5): The burned area would be surveyed for the presence of noxious species, and appropriate control measures would be initiated. Noxious weed treatment is consistent with NCA Management Plan goals.

5. Fence Repair/Gate (R7): To exclude livestock from treatment areas during the seeding establishment closure period, existing fence damaged by the fire would be repaired and/ or replaced and new temporary protective fence would be constructed. Fence repair and construction of protective fence are supported in the NCA Management Plan “Unless otherwise directed by the BLM authorized officer, fence reseeded or transplanted sites to exclude livestock grazing and/or military training activities for time periods sufficient to establish seedlings, but for at least two growing seasons.”

6. Cattle Guard (R8): Installation of a cattle guard to prevent livestock access to rehabilitation treatment areas is consistent with the NCA Management Plan “Unless otherwise directed by the BLM authorized officer, fence reseeded or transplanted sites to exclude livestock grazing and/or military training activities for time periods sufficient to establish seedlings, but for at least two growing seasons.”

7. Livestock Closure (R15): Livestock would 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. Closures are consistent with the NCA Management Plan, “Unless otherwise directed by the BLM authorized officer, fence reseeded or transplanted sites to exclude livestock grazing and/or military training activities for time periods sufficient to establish seedlings, but for at least two growing seasons.”

8. Monitoring of Effectiveness of Pre-Planting Chemical Fallowing, and Drill/Aerial Seeding Treatments (R16): Monitoring data would be collected to determine if site objective(s) have been met 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.

Prior to the Birch and North Flat Fires, the plateau areas were characterized by cheatgrass intermixed with patches of Sandberg's bluegrass, and saltbush with an understory of annual forbs and grasses. The pre-fire vegetation in the vicinity of agricultural land was typified by stands of big sagebrush with an understory of annual forbs and grasses. Gentle rolling terrain areas below the plateau rim and immediate to riparian and aquatic habitats were dominated by big sagebrush and saltbush with an understory of annual and perennial grasses. The aerial seeding and other BAR measures would restore shrub structure and inhibit the spread of invasive annuals.

2. Weed Treatments. Chemical 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. State and county laws mandate the control of noxious weeds.

Invasive and noxious weed (rush skeletonweed, diffuse knapweed, and perennial pepperweed) species are known to be present within and in the immediate vicinity of the burned area. Failure to locate and control existing noxious weed sites would lead to continued spreading of the undesirable species. In order to promote the establishment of seeded species and maximize success of the seeding, competition from invasive annual grasses and forbs needs to be controlled.

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.

Not Applicable.

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).

Fire damaged fence components would be repaired/replaced to provide a functional structure necessary for livestock grazing management. Construction of temporary protective fence and installation of a cattle guard are necessary to exclude livestock and provide for the establishment of seeded species

PART 3. - DESCRIPTION OF TREATMENTS

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

R2 - Pre-planting Chemical Fallowing

A. Treatment/Activity Description (Map 1): In the rehabilitation area, 1,969 acres in North Flat and 561 acres in Birch (total of 2,530 acres) would be treated with the herbicide formulation glyphosate, according to EPA labeled for the targeted species. The herbicide would be applied aerially on the burned area between March and July 2008; whenever competitive annuals germinate and are growing. A second treatment may be necessary to control later growing weeds. The maximum herbicide treatment rate for the target species would be first application 0.5 lbs. a.i./acre and second application 1.0 lbs. a.i./acre. From treatments completed in 2007 it was found that the first herbicide application effectively controlled annual grass but released the warm season annual weeds. A second application of herbicide is necessary to control the growth of these annuals and to reduce the competition for the desired seeded grasses. Tall annual weeds such as Russian thistle that were released after the first spray could clog up the disk areas in a rangeland drill and impede the progress of the seeding operation. The control of these annuals is necessary to reduce or eliminate competition for water, nutrients, and space with the seeded species. This is a dry site and control of competitive annuals is necessary and crucial for the successful establishment of seeded species.

B. How does the treatment relate to damage or changes caused by the fire? The goal is to control or eliminate competitive annuals in the rehabilitation area. Without the control of aggressive annuals, seeded species will not be able to successfully compete for water, nutrients and growing space. The herbicide treatment should prove to be 75-100% effective. Without the effective chemical fallowing of the treatment areas, the likelihood of successfully establishing aerial broadcast and drill seeded species would be severely reduced.

C. Why is the treatment/activity reasonable, within policy, and cost effective? Without the application of the herbicide to control cheatgrass and other competitive annuals, the likelihood of

success of the ground and aerial seedings would be low or nil. Effective herbicide application would reduce competition from annuals and greatly enhance the chance of successfully establishing the desired seeded species.

R2 - Ground Seeding

A. Treatment/Activity Description (Map 1): Drill Seed Mix 1: 1,782 acres in North Flat and 561 acres in Birch (total 2,343 acres) would be seeded with rangeland drills in the fall/winter of 2008-2009 with non-native grasses.

Drill Seed Mix 1- Fall/Winter 2008-2009

Variety	North Flat Acres	Birch Acres	PLS Lbs/Acre
crested wheatgrass (Hycrest)	1782	561	4.0
Russian wildrye (Bozoisky)	1782	561	4.5

B. How does the treatment relate to damage or changes caused by the fire? The goal is to establish non-native perennial bunchgrasses. The establishment and maintenance of perennial grasses would impede the post-fire spread of cheatgrass and other 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? The selected perennial species have been successfully established in previous seedings conducted in the Four Rivers Field Office, during average or favorable growing conditions. Drill seeding is the most cost effective method for establishing perennial grass/forb communities in these low precipitation habitats.

R3 - Aerial Seeding

A. Treatment/Activity Description (Map 1): Aerial Seed Mix 1: 280 acres in North Flat and 266 acres in Birch (total 546 acres) would be broadcast seeded in the winter of 2007-2008 on terrain that lies below the plateau rim and adjacent to riparian habitat bordering the Snake River. Aerial Seed Mix 2: 439 acres in North Flat and 0 acres in Birch (total 439 acres) would be broadcast seeded in the winter 2008-2009. Aerial Seed Mix 3: 483 acres in North Flat and 101 acres in Birch (total 584 acres) would be broadcast seeded in 600 foot wide strips in the winter 2008-2009.

Aerial Seed Mix 1- Fall/Winter 2007-2008

Variety	North Flat Acres	Birch Acres	PLS Lbs/Acre
Western Yarrow	280	266	0.05
Sandberg's bluegrass	280	266	0.5
Big Sagebrush WYOMING	280	266	0.1

Aerial Seed Mix 2 - Fall/Winter 2008-2009

Variety	North Flat Acres	Birch Acres	PLS Lbs/Acre
Western Yarrow	439	0	0.05

Sandberg's bluegrass	439	0	0.5
Big Sagebrush WYOMING	439	0	0.1

Aerial Seed Mix 3 - Fall/Winter 2008-2009

Variety	North Flat Acres	Birch Acres	PLS Lbs/Acre
Forage Kochia IMMIGRANT	483	101	0.25

B. Does the treatment relate to damage or changes caused by the fire? The goal is to reestablish the perennial grass, forb, and shrub components of the ecosystem. The establishment and maintenance of perennial species would impede the post-fire increased spread of cheatgrass and other invasive annuals, and contribute to the stabilization of the recovering ecosystem. The establishment of strips dominated by forage kochia, which is a more fire resistant plant, would facilitate the stabilization and recovery of the ecosystem. When compared to the random broadcast seeding of forage kochia, the creation of strips dominated by forage kochia would not significantly increase the cost of the aerial seeding treatment. 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 very small seeds. This method insures seed contact with the soil is evenly broadcast over the burned area at the desired seed 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 shrub and forbs are suitable to the site, and will compete with invasive annuals. Establishment of the selected perennials will protect watershed values, provide wildlife habitat and improve the functioning condition of the ecosystem.

R15 - Livestock Closure

A. Treatment/Activity Description: The 2,500 acre North Flat Fire and 835 acre Birch Fire would be 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 of untreated areas, and need or reason to continue closure. With the repair of fire damaged fence, construction of protective fence and installation of the cattle guard, the treatment areas would be closed to livestock grazing.

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

C. Why is the treatment/activity reasonable, within policy, and cost effective? Considering the significant cost of implementing the BAR, the livestock closure is a reasonable and cost effective method of facilitating establishment of desired seeded species and protecting this investment.

Issue 2. Weed Treatments

R5 - Noxious Weeds

A. Treatment/Activity Description: The 2,500 acre North Flat Fire and 835 acre Birch Fire would be surveyed for the presence of noxious species. Site inventory and noxious weed treatments would be conducted starting in the spring of 2008. Follow up surveys and monitoring/re-treatment of noxious weed sites would be conducted through FY 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, anticipate 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, 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: Not Applicable

Issue 4. Repair/Replace Fire Damage to Minor Facilities

R7 - Fence Repair/Gate

A. Treatment/Activity Description (Map 2): Repair/replace 7.1 miles of existing fence damaged by the fire in the North Flat Allotment and construct 0.1 miles of temporary protective fence in the Birch Allotment. Fence repairs and protective fence construction are needed to control livestock access and prevent grazing of seeding treatment areas during the establishment closure period. Goldsmith Road, a county road which crosses through Section 30 within the burned area, is bordered on both sides by fencing that was damaged by the fire. These fences which border both sides of the county road constitute exterior boundaries that need to be repaired in order to exclude livestock and protect seeding treatments. Repair of the existing fence would include replacing burned wooden brace structures with metal ones, and replacing damaged wire and steel posts as needed. The protective fence would be 3-strand barbed wire (bottom wire smooth twisted), designed to facilitate pronghorn passage. The protective fence ties into existing fencing, and would attach to the cattle guard proposed for installation. Repair of fire damaged fence and protective fence construction would start the fall/winter 2007.

B. How does the treatment relate to damage or changes caused by the fire? Repair of fire damaged fence, and installation of protective fence and cattle guard would provide for the effective

management of livestock and the protection of seeding treatment areas during the establishment period. Fire damaged fence components would be repaired/replaced to provide a functional structure necessary for livestock grazing management. These measures would be highly effective in controlling livestock distribution, and would provide for the achievement of livestock management and BAR objectives.

C. Why is the treatment/activity reasonable, within policy, and cost effective? Repair of fire damaged fence, and protective fence construction in combination with the cattle guard are reasonable and cost effective measures to implement within policy. There are no other alternative measures that are within policy that would be less costly or more cost effective.

R8 - Cattle Guard

A. Treatment/Activity Description: The burned area would be closed to livestock grazing by the installation of a cattle guard in the Birch Fire (Map 2), in conjunction with construction of protective fence. The cattle guard crosses a main thoroughfare utilized by recreationalists and would remain in place to exclude livestock from the treatment area until monitoring results show rehabilitation objectives have been met.

B. How does the treatment relate to damage or changes caused by the fire? Installation of the cattle guard would protect seeding treatments from livestock grazing and allow grazing permittees to utilize unburned areas. This measure would be highly effective in controlling livestock distribution, and would provide for the establishment of seeded species and achievement of BAR plan objectives.

C. Why is the treatment/activity reasonable, within policy, and cost effective? The cattle guard crosses a main thoroughfare utilized for recreationists and would remain in place to exclude livestock from the treatment area until monitoring results show rehabilitation objectives have been met. This cattle guard is more cost effective than the alternative of having to build many miles of protective fence.

PART 4. - INDIVIDUAL TREATMENT SPECIFICATIONS

BAR NORTH FLAT		FY07	FY08	FY09	FY10	Total Costs
R2	Ground Seeding					
	Labor	0	0	1,782	0	
	Travel/Vehicles	0	0	891	0	
	Equipment Rental	0	0	0	0	
	Supplies/Materials	0	0	891	0	
	Contract Range Land Drills	0	0	17,820	0	
	Contract No-Till Drills	0	0	0	0	
	Contract Administration	0	0	7,128	0	
	Drill FOR and Transportation	0	0	12,029	0	
	Total	0	0	41,000	0	41,000
R2	Ground Seed					
	Seed	0	129,195	0		
	Seed Mixing/Handling/Testing	0	2,940	0	0	

BAR NORTH FLAT		FY07	FY08	FY09	FY10	Total Costs
	Total	0	132,000	0	0	132,000
R2	Ground Seeding Cultural Clearance					
	Labor	0	1,782	0	0	
	Travel/Vehicles	0	446	0	0	
	Supplies/Materials	0	446	0	0	
	Contract	0	26,053	0	0	
	Contract Administration	0	891	0	0	
	Total	0	30,000	0	0	30,000
R2	Herbicide Application					
	Labor	0	0	0	0	
	Travel/Vehicles	0	492	0	0	
	Equipment Mobilization	0	0	0	0	
	Chemical Purchase	0	15,752	0	0	
	Clearances	0	492	0	0	
	Supplies/Materials	0	492	0	0	
	Contract	0	40,365	0	0	
	Contract Administration	0	985	0	0	
	Total	0	59,000	0	0	59,000
R3	Aerial Seeding					
	Labor	0	140	461	0	
	Travel/Vehicles	0	70	231	0	
	Equipment Mobilization	0	0	0	0	
	Supplies/Materials	0	42	138	0	
	Contract	0	2,800	9,220	0	
	Contract Administration	0	280	922	0	
	Total	0	3,000	11,000	0	14,000
R3	Aerial Seed					
	Seed Aerial Fall 2007		7,168			
	Seed Aerial Fall 2008		15,102			
	Seed Mixing/Handling/Testing	0	633	0	0	
	Total	0	23,000	0	0	23,000
R5	Noxious Weeds					
	Labor	0	1,913	1,875	1,875	
	Travel/Vehicles	0	765	750	750	
	Chemical Purchase	0	510	500	500	
	Supplies/Materials	0	0	0	0	
	Contract	0	0	0	0	
	Contract Administration	0	0	0	0	
	Total	0	3,000	3,000	3,000	9,000
R7	Protective Fence Repair/Gate					
	Labor	0	2,130	0	0	
	Travel/Vehicles	0	1,775	0	0	
	Clearances	0	0	0	0	
	Fence Material	0	7,100	0	0	

BAR NORTH FLAT		FY07	FY08	FY09	FY10	Total Costs
	Contract Fence Construction	0	10,650	0	0	
	Contract Administration	0	1,420	0	0	
	Supplies/Materials	0	710	0	0	
	Total	0	24,000	0	0	24,000
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	625	625	625	
	Travel/Vehicles	0	625	625	625	
	Supplies/Materials	0	250	250	250	
	Contract	0	2,500	2,500	2,500	
	Contract Administration	0	1,250	1,250	1,250	
	Total	0	5,000	5,000	5,000	15,000
	BURNED AREA REHABILITATION	0	279,000	60,000	8,000	347,000

BAR BIRCH CREEK		FY07	FY08	FY09	FY10	Total Costs
R2	Ground Seeding					
	Labor	0	0	1,122	0	
	Travel/Vehicles	0	0	561	0	
	Equipment Rental	0	0	0	0	
	Supplies/Materials	0	0	281	0	
	Contract Range Land Drills	0	0	8,415	0	
	Contract No-Till Drills	0	0	0	0	
	Contract Administration	0	0	2,244	0	
	Drill FOR and Transportation	0	0	3,787	0	
	Total	0	0	16,000	0	16,000
R2	Ground Seed					
	Seed	0	40,673	0		
	Seed Mixing	0	617	0	0	
	Total	0	41,000	0	0	41,000
R2	Ground Seeding Cultural Clearance					
	Labor	0	561	0	0	
	Travel/Vehicles	0	140	0	0	
	Supplies/Materials	0	140	0	0	
	Contract	0	8,202	0	0	
	Contract Administration	0	281	0	0	

BAR BIRCH CREEK		FY07	FY08	FY09	FY10	Total Costs
	Total	0	9,000	0	0	9,000
R2	Herbicide Application					
	Labor	0	0	0	0	
	Travel/Vehicles	0	561	0	0	
	Equipment Mobilization	0	0	0	0	
	Chemical Purchase	0	3,927	0	0	
	Clearances	0	561	0	0	
	Supplies/Materials	0	561	0	0	
	Contract	0	11,220	0	0	
	Contract Administration	0	982	0	0	
	Total	0	18,000	0	0	18,000
R3	Aerial Seeding					
	Labor	0	399	152	0	
	Travel/Vehicles	0	266	101	0	
	Equipment Mobilization	0	0	0	0	
	Supplies/Materials	0	133	51	0	
	Contract	0	2,660	1,010	0	
	Contract Administration	0	665	253	0	
	Total	0	4,000	2,000	0	6,000
R3	Aerial Seed					
	Seed Aerial Fall 2007		6,810			
	Seed Aerial Fall 2008		808			
	Seed Mixing/Handling/Testing	0	259	0	0	
	Total	0	8,000	0	0	8,000
R5	Noxious Weeds					
	Labor	0	626	626	626	
	Travel/Vehicles	0	251	251	251	
	Chemical Purchase	0	167	167	167	
	Supplies/Materials	0	42	42	42	
	Contract	0	0	0	0	
	Contract Administration	0	0	0	0	
	Total	0	1,000	1,000	1,000	3,000
R7	Protective New Fence/Gate 3 Wire Temp					
	Labor	0	35	0	0	
	Travel/Vehicles	0	25	0	0	
	Clearances	0	35	0	0	
	Fence Material	0	350	0	0	
	Contract Fence Construction	0	300	0	0	
	Contract Fence Removal	0	150	0	0	
	Contract Administration	0	35	0	0	
	Supplies/Materials	0	20	0	0	
	Total	0	1,000	0	0	1,000
R8	Cattleguard					

BAR BIRCH CREEK		FY07	FY08	FY09	FY10	Total Costs
	Labor	0	0	0	0	
	Travel/Vehicles	0	500	0	0	
	Clearances	0	0	0	0	
	Cattleguard	0	3,000	0	0	
	Supplies/Materials	0	500	0	0	
	Contract	0	1,000	0	0	
	Contract Administration	0	0	0	0	
	Total	0	5,000	0	0	5,000
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	209	209	209	
	Travel/Vehicles	0	209	209	209	
	Supplies/Materials	0	84	84	84	
	Contract	0	835	835	835	
	Contract Administration	0	418	418	418	
	Total	0	2,000	2,000	2,000	6,000
	BURNED AREA REHABILITATION	0	89,000	21,000	3,000	113,000

SEED LISTS

NORTH FLAT MIXES

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 \$
Drill Seed Mix 1 Fall/Winter 2008-2009													
Crested Wheatgrass, Hycrest	0.8075	1,782	5.0	4.0	200,000	161,500	1,000,000	807,500	18.5	7,195	8,910	\$2.50	\$22,275.00
Russian Wildrye, Bozoisky	0.7650	1,782	6.0	4.6	175,000	133,875	1,050,000	803,250	18.4	8,179	10,692	\$10.00	\$106,920.00
TOTAL		3,564	11.0	8.6			2,050,000	1,610,750	37.0	15,374	19,602		\$129,195.00
Aerial Seed Mix 1 Fall/Winter 2007-2008													
Sandberg's Bluegrass, Mtn Home	0.7200	280	0.7	0.5	950,000	684,000	665,000	478,800	11.0	141	196	\$12.00	\$2,352.00
White Western Yarrow	0.8100	280	0.06	0.05	2,700,000	2,187,000	162,000	131,220	3.0	14	17	\$20.00	\$336.00
Big Sagebrush, Wyoming	0.1600	280	1.0	0.16	2,500,000	400,000	2,500,000	400,000	9.2	45	280	\$16.00	\$4,480.00
TOTAL		840	1.8	0.7			3,327,000	1,010,020	23.2	200	493		\$7,168.00
Aerial Seed Mix 2 Fall/Winter 2008-2009													
Sandberg's Bluegrass, Mtn Home	0.7200	439	0.7	0.5	950,000	684,000	665,000	478,800	11.0	221	307	\$12.00	\$3,687.60
White Western Yarrow	0.8100	439	0.06	0.0	2,700,000	2,187,000	162,000	131,220	3.0	21	26	\$20.00	\$526.80
Big Sagebrush, Wyoming	0.1600	439	1.0	0.2	2,500,000	400,000	2,500,000	400,000	9.2	70	439	\$16.00	\$7,024.00
TOTAL		1,317	1.8	0.7			3,327,000	1,010,020	23.2	313	773		\$11,238.40
Aerial Seed Mix 3 Fall/Winter 2008-2009													
Forage Kochia, Immigrant	0.5100	483	0.5	0.3	115,000	58,650	57,500	29,325	0.7	123	242	\$16.00	\$3,864.00
TOTAL		483	0.5	0.3			57,500	29,325	0.7	123	242		\$3,864.00

BIRCH CREEK SEED MIXES													
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 \$
Drill Seed Mix 1 Fall/Winter 2008-2009													
Crested Wheatgrass, Hycrest	0.8075	561	5.0	4.0	200,000	161,500	1,000,000	807,500	18.5	2,265	2,805	\$2.50	\$7,012.50
Russian Wildrye, Bozoisky	0.7650	561	6.0	4.6	175,000	133,875	1,050,000	803,250	18.4	2,575	3,366	\$10.00	\$33,660.00
TOTAL		1,122	11.0	8.6			2,050,000	1,610,750	37.0	4,840	6,171		\$40,672.50
Aerial Seed Mix 1 Fall/Winter 2007-2008													
Sandberg's Bluegrass, Mtn Home	0.7200	266	0.7	0.5	950,000	684,000	665,000	478,800	11.0	134	186	\$12.00	\$2,234.40
White Western Yarrow	0.8100	266	0.06	0.05	2,700,000	2,187,000	162,000	131,220	3.0	13	16	\$20.00	\$319.20
Big Sagebrush, Wyoming	0.1600	266	1.0	0.16	2,500,000	400,000	2,500,000	400,000	9.2	43	266	\$16.00	\$4,256.00
TOTAL		1,064	1.8	0.7			3,327,000	1,010,020	23.2	190	468		\$6,809.60
Aerial Seed Mix 3 Fall/Winter 2008-2009													
Forage Kochia, Immigrant	0.5100	101	0.5	0.3	115,000	58,650	57,500	29,325	0.7	26	51	\$16.00	\$808.00
TOTAL		101	0.5	0.3			57,500	29,325	0.7	26	51		\$808.00

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 native seed proposed 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 will establish at this site with moisture falling at the appropriate time and in the appropriate amounts, as indicated by previous rehabilitation projects in the area.

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 area is grazed during the winter by livestock. Grazing during the plant dormant winter period will maintain seeded native species.

Proposed Non-native Plants in Seed Mixture

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 NCA Management Plan which provides for planting of exotics where soil, moisture, or other habitat conditions have changed to the point where non-native plants cannot be reestablished, or are not available or are too expensive. Use of site suitable non-natives is necessary in order to compete with invasive annuals and meet vegetation management goals.

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 [] Rationale: Establishment of perennial non-native species would increase diversity and improve the ecological process. The establishment of non-native perennials would compete with invasive annuals and allow for a more natural ecological process.

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

Yes [] No [] Rationale: The general area receives low precipitation and based on past experience there is little likelihood that non-native seeded species would interbreed with native plants or spread off-site.

PROPOSED SEEDED SPECIES – NATIVES AND NON-NATIVES

Non-native Plants	Native Plants
Forage Kochia (Immigrant)	Sandberg’s bluegrass
Russian Wildrye (Bozoisky)	Western Yarrow
Crested Wheatgrass (Hycrest)	Big Sagebrush, (Wyoming)

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
R2	Pre-planting Chemical Fallowing (Herbicide Application)	acres	2,350	77,000	75-100
R2	Ground Seeding: 2008 Mix 1	acres	2,343	269,000	50-80
R3	Aerial Seeding: 2007 Mix 1 2008 Mix 2 2008 Mix 3	acres	1,569	51,000	50-80
R5	Noxious Weeds	acres	3,335/ 3yrs	12,000	60-90
R7	New Protective Fence	Miles	0.1	1000	100
R7	Fence Repair/Gate Repair	Miles	7.1	24,000	100
R8	Cattle Guard	number	1	5000	99
R15	Livestock Closure	acres	3,335	0	100
R16	Monitoring	acres	3,335/ 3yrs	21,000	100
	TOTAL COSTS			460,000	

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 [] No [] Rationale: The proposed treatments (herbicide application, seeding, 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 [] Rationale: No action could result in eventual complete dominance of the burned area by cheatgrass and other invasive annuals, and a less stable ecosystem.

Alternative(s) Yes [] No [] Rationale: Although acceptable alternatives may exist, none have been identified that would pose less risk to the natural resources or private property 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 [] 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 [] Rationale: There would be no costs associated with no action, but no benefits would be realized.

Alternative(s) Yes [] No [] 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 [, **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 rehabilitation 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 ground seeding, aerial herbicide application(s), and aerial seeding would be monitored by collecting density, cover, and soil gap data from randomly located plots which diagonally traverse flight patterns and drill rows within the treatment areas.

1. Pre-planting Chemical Fallowing: The effectiveness of the aerial herbicide application would be monitored by measuring weed mortality. The treatment objective of the herbicide

application(s) would be achieved when data collected from 2 - 3 monitoring sites, with at least thirty (30) 0.25m² plots per site, show the mean density of live annual plants to be ≤ 10/m². Monitoring of the effectiveness of the herbicide treatment would take place between March and July 2008.

2. Ground Seeding: Effectiveness of the ground seeding would be monitored by measuring seedling density. The treatment objective would be achieved when data collected from 2-3 monitoring sites, with at least thirty (30) 0.25m² plots per site, indicate the mean density of mature established seeded perennial grasses is ≥ 5/m², the plants have developed root systems that are extensive enough to provide soil stabilization and prevent uprooting when grazed, especially when soils are moist, and 60% or more of those plants have produced seed heads. Monitoring of the drill seeding would take place during the summers of 2009-2010.

3. Aerial Seeding: Monitoring of 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) 0.125m² plots indicate mean establishment densities as follows:

Aerial Seed Mix 1 & 2	Forbs ≥ 1/m ²
	Sandberg's bluegrass ≥ 5/m ²
	Wyoming big sagebrush ≥ 1/9m ²
Aerial Seed Mix 3	Forage kochia ≥ 1/m ²

4. Noxious Weeds: BLM noxious weed specialists would inventory the 825 acre Birch and 2,500 acre North Flat burned areas for noxious weeds and take appropriate action. Species treated and GPS location would be recorded. Personnel would revisit treated sites to evaluate mortality and inventory for additional weed populations.

5. Protective Fence/Gate: The objective is to exclude livestock from treatment areas by restoring existing fences to pre-fire condition and constructing temporary protective fence. Fence repair and construction would be monitored by the BLM Contracting Officer's Representative to ensure that the work meets BLM specifications. The effectiveness of the fence repair and protective fence to control livestock grazing and provide for the establishment of the ground and aerial seedings would be monitored by Four Rivers Field Office Range Staff during routine allotment inspections. Routine site visits would be made by BLM personnel to monitor livestock grazing distribution and ensure effectiveness of the fences to maintain the area closure.

6. Cattle Guard: The objective is to install a cattle guard to prevent livestock access to treatment sites. The effectiveness of the cattle guard to control livestock grazing and provide for the establishment of the ground and aerial seedings would be monitored by Four Rivers Field Office Range Staff during routine allotment inspections. Routine site visits would be made by BLM personnel to monitor grazing distribution and ensure the effectiveness of the cattle guard to prevent livestock access to the treatment areas.

7. Livestock Closure: Livestock would 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. 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 2007 & 2008 and Chem-Fallow and Drill Seeding 2008
2. Fence Repair, Protective Fence & Cattle Guard

REVIEW, APPROVALS, AND PREPARERS

REHABILITATION PLAN TEAM MEMBERS

Position	Team Member (Agency/Office)	Initial and Date
Team Leader Rangeland Mgt Spec	Mike Barnum (BLM/ID110)	
Operations ESR Coordinator	Cindy Fritz (BLM/ID102)	
Botanist	Mark Steiger (BLM/ID110)	
Cultural Resources/Archeologist	Dean Shaw (BLM/ID110)	
Natural Resource Specialist	Jack LaRocco (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

/s/ Rosemary Thomas

9/6/2007

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: Birch (DL99) & North Flat (DNQ5) Aerial Seeding 2007 & 2008 and Chem-Fallow & Drill Seeding 2008

-  DL99_Birch Boundary
-  DNQ5_North Flat Boundary
-  Air Seed Mix-1, 2007
-  Air Seed Mix-2, 2008
-  Air Seed Mix-3, 2008
-  Chem-Fallow
-  Drill Seed Mix-1, 2008



