

**Nichol Fire**  
**BURNED AREA REHABILITATION PLAN**

BLM/BOISE DISTRICT/FOUR RIVERS FIELD OFFICE  
IDAHO

**FIRE BACKGROUND INFORMATION**

Fire Name	Nichol
Fire Number	DNP7
District/Field Office	Boise/Snake River Birds of Prey NCA
Admin Number	ID102
State	Idaho
County(s)	Elmore
Ignition Date/Cause	07-06-07/Lightning
Date Contained	07-07-07
Jurisdiction	<i>Acres</i>
BLM	4,660
<i>State</i>	500
<i>Private</i>	90
<i>Other</i>	0
Total Acres	5,250
Total BAR Plan Costs	\$564,000

**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 Nichol Fire burned 4,660 acres in the Air Base Allotment. The fire impacted approximately 18% of the Air Base Allotment, which contains 26,140 acres of public land. The Air Base Allotment is grazed by cattle 11/5 to 2/28, and the total authorized use is 3,352 AUMS.

Pre-fire vegetation on plateau areas was characterized by annual grasses and forbs (cheatgrass, mustards, and Russian thistle) intermixed with patches of Sandberg's bluegrass and occurrences of crested wheatgrass from previous seedings. Along the rim of the plateau, the pre-fire vegetation was primarily horsebrush and big sagebrush and scattered occurrences of winterfat. The understory was comprised of annual grasses and some perennials. Gentle rolling terrain areas, below the rim and immediate to riparian and aquatic habitats, were dominated by big sagebrush and saltbush with an understory of annual and perennial grasses. These areas are identified as severe hazard of wind erosion. A set of related actions are necessary to stabilize and rehabilitate the burned area. All actions are addressed in this BAR plan.

If funding for rehabilitation treatments proposed in this BAR is not granted, existing fences damaged by the fire, 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
R1	Planning	WM	0.13	7,692	0	1,000	0	0	1,000
R2	Ground Seeding	Acres	3,774	23	0	0	85,000	0	85,000
R2	Ground Seed Purchase	Acres	3,774	42	0	157,000	0	0	157,000
R2	Ground Seeding Cultural Clearance	Acres	3,774	17	0	63,000	0	0	63,000
R2	Herbicide Treatment	Acres	3,774	29	0	110,000	0	0	110,000
R3	Aerial Seeding	Acres	2,122	12	0	10,000	15,000	0	25,000
R3	Aerial Seed Purchase	Acres	2,122	16	0	35,000	0	0	35,000
R5	Noxious Weeds	Acres	4,660	3	0	6,000	6,000	4,000	16,000
R7	New Protective Fence	Miles	3.9	8,974	0	29,000	0	6,000	35,000
R7	Fence Repair/Gate	Miles	3.1	3,226	0	10,000	0	0	10,000
R15	Closures	Acres	0		0	0	0	0	0
R16	Monitoring	Acres	4,660	6	0	9,000	9,000	9,000	27,000
	TOTAL COSTS		4,660	121	0	430,000	115,000	19,000	564,000

### 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 prepare the site for drill seeding in the fall/winter 2008-2009. The first herbicide application would be conducted during the early spring (late March through April) 2008. Additional aerial follow-up applications would be applied as needed to control invasive annuals, and maintain a fallow state from May through October 2008. 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 (R2): A non-native perennial grass would be drill seeded within the burned area during the fall/winter 2008-2009. 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 (R3): A perennial seed mixture comprised of a native forb, grass, and shrub would be aerially broadcast over the burned area. The seed mixture would be aerially applied in the fall/winter 2007-2008 on terrain below the plateau rim that borders the Snake River. On the plateau, forage kochia would be aerial applied primarily in strips over the herbicide/ground seeding treatment areas in the fall/winter 2008-2009. 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): Existing fence damaged by the fire would be repaired and/or replaced and new temporary protective fence would be constructed to exclude livestock from the treatment area during the seeding establishment closure period. Fence repair and construction of temporary protective fence is 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. Livestock Closure (R15): Livestock are to be excluded from the treatment 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."
7. Monitoring of 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.

Prior to the Nichol Fire, the plateau area was characterized by annuals (cheatgrass, mustards, and Russian thistle) intermixed with patches of Sandberg's bluegrass and remnant occurrences of crested wheatgrass seedlings. Along the rim of the plateau, the pre-fire vegetation was primarily horsebrush and big sagebrush and scattered occurrences of winterfat. The understory was comprised of annual grasses and some perennials. Gentle rolling terrain areas, below the rim and immediate to riparian and aquatic habitats, were dominated by big sagebrush and saltbush with an understory of annual and perennial grasses. These lands are unlikely to recover naturally or return to a pre-fire ecosystem that exhibits a shrub structure or where invasive annuals have not become more dominant. Rehabilitation treatments would restore pre-fire shrub structure and inhibit the spread of invasive annuals.

**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. State and county laws mandate the control of noxious weeds.

Invasive and noxious weed (rush skeletonweed) 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 reduce the risk of failure, 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).

Fence repair and construction of temporary protective fence are necessary in order to exclude livestock from treatment areas. The proposed fencing would provide for the establishment of seeded species and foster recovery of the burned area, while allowing for grazing use of unburned portions of pastures and other allotments.

### **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: In the rehabilitation area 3,774 acres would be treated with the herbicide formulation glyphosate, according to EPA label for the targeted species (Map 1). 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 release tall warm season annual weeds (e.g. Russian thistle). A second application of herbicide is necessary to control the growth of these annuals weeds which can jam rangeland drill disks and severely impede the progress of the seeding operation. The control of annuals is necessary to reduce or eliminate competition for water, nutrients, and space with the desired 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 would not be able to successfully compete for water, nutrients and growing space. The herbicide treatment should prove to be 75-100% effective. The likelihood of successfully establishing aerial broadcast and drill seeded species would be severely reduced without the effective chemical fallowing of the treatment area.

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: Drill Seed Mix 1: 3,774 acres would be seeded with a non-native perennial grass in the fall/winter of 2008-2009 using rangeland drills (Map 1).

Drill Seed Mix 1- Fall/Winter of 2008-2009

Variety	Acres	PLS Lbs/Acre
Siberian wheatgrass (Vavilov)	3,774	8.0

B. How does the treatment relate to damage or changes caused by the fire? The goal is to establish a non-native perennial bunchgrass. The establishment and maintenance of the perennial grass 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 grass has 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: 880 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: 1,242 acres would be broadcast seeded primarily in 600 foot wide strips in the winter 2008-2009.

Aerial Seed Mix 1- Fall/Winter 2007-2008

Variety	Approximate Acres	PLS Lbs/Acre
Western yarrow (White)	880	0.05
Sandberg's bluegrass (Mtn Home)	880	0.5
Big sagebrush (Wyoming)	880	0.1

Aerial Seed Mix 2 - Fall/Winter 2008-2009

Variety	Approximate Acres	PLS Lbs/Acre
Forage kochia (Immigrant)	1,242	0.25

B. How 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. 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. 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 selected perennial shrubs and forbs are suitable to the site, and would compete with invasive annuals. Establishment of the selected perennials would protect watershed values, provide wildlife habitat and improve the functioning condition of the ecosystem.

#### **R15 - Livestock Closure**

A. Treatment/Activity Description: The 4,660 acre burned area 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 and construction of protective fence, the treatment areas would become closed to livestock.

B. How does the treatment relate to damage or changes caused by the fire? Closure of the area to livestock grazing would provide for 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, and protecting this investment.

#### **Issue 2. Weed Treatments**

##### **R5 - Noxious Weeds**

A. Treatment/Activity Description: The 4,660 acre burned area would be surveyed for the presence of noxious species. Site inventory and noxious weed control would be conducted in the spring of 2008. Follow up surveys and monitoring, and if necessary 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 1): Repair/replace 3.1 miles of existing fence that was damaged by the fire and construct 3.9 mile of temporary protective fence. This fencing is needed to control livestock access and prevent grazing of seeded treatment areas during the closure period. 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 temporary protective fence would be 3-strand barbed wire (bottom wire smooth twisted), designed to facilitate pronghorn passage. The temporary protective fence would remain in place to exclude livestock from the treatment area until monitoring results indicate rehabilitation objectives have been met.

B. How does the treatment relate to damage or changes caused by the fire? Fence repair and construction of temporary protective fence would protect seeding treatments from livestock grazing and allow grazing permittees to utilize unburned areas. These measures would be highly effective in controlling livestock distribution, and would provide for the establishment of seeded species and achievement of BAR objectives.

C. Why is the treatment/activity reasonable, within policy, and cost effective? Fence repair and protective fence construction would provide for the effective management of livestock and the protection of seeding treatment areas during the establishment period. Considering the significant cost of implementing the BAR, fence repair and protective fence construction are reasonable and cost effective methods of protecting this investment.

**PART 4. - INDIVIDUAL TREATMENT SPECIFICATIONS**

BAR		FY07	FY08	FY09	FY10	Total Costs
R1	Planning (plan pres/project Management)					
	Project Management Idaho State Office	0	0	0	0	
	Project Management Boise District Office	0	1,000	0	0	
	Plan Preparation	0	0	0	0	
	Total	0	1,000	0	0	1,000
R2	Ground Seeding					
	Labor	0	0	2,453	0	
	Travel/Vehicles	0	0	1,887	0	
	Equipment Rental	0	0	0	0	
	Supplies/Materials	0	0	1,887	0	
	Contract Range Land Drills	0	0	45,288	0	
	Contract No-Till Drills	0	0	0	0	
	Contract Administration	0	0	7,548	0	
	Drill FOR and Transportation	0	0	25,475	0	
	Total	0	0	85,000	0	85,000
R2	Ground Seed					
	Seed	0	151,000	0		
	Seed Mixing/Handling/Testing	0	5,663	0	0	
	Total	0	157,000	0	0	157,000
R2	Ground Seeding Cultural Clearance					
	Labor	0	3,774	0	0	
	Travel/Vehicles	0	944	0	0	
	Supplies/Materials	0	944	0	0	
	Contract	0	55,176	0	0	
	Contract Administration	0	1,887	0	0	
	Total	0	63,000	0	0	63,000
R2	Herbicide Application					
	Labor	0	0	0	0	
	Travel/Vehicles	0	944	0	0	
	Equipment Mobilization	0	0	0	0	
	Chemical Purchase	0	30,192	0	0	
	Clearances	0	944	0	0	
	Supplies/Materials	0	944	0	0	
	Contract	0	75,480	0	0	
	Contract Administration	0	1,887	0	0	
	Total	0	110,000	0	0	110,000
R3	Aerial Seeding					
	Labor	0	440	621	0	
	Travel/Vehicles	0	220	311	0	
	Equipment Mobilization	0	0	0	0	

BAR		FY07	FY08	FY09	FY10	Total Costs
	Supplies/Materials	0	132	186	0	
	Contract	0	8,800	12,420	0	
	Contract Administration	0	880	1,242	0	
	Total	0	10,000	15,000	0	25,000
R3	Aerial Seed					
	Seed Aerial Fall 2007		23,880			
	Seed Aerial Fall 2008		10,400			
	Seed Mixing	0	1,140	0	0	
	Total	0	35,000	0	0	35,000
R5	Noxious Weeds					
	Labor	0	3,495	3,495	2,272	
	Travel/Vehicles	0	1,398	1,398	909	
	Chemical Purchase	0	932	932	606	
	Supplies/Materials	0	0	0	0	
	Contract	0	0	0	0	
	Contract Administration	0	0	0	0	
	Total	0	6,000	6,000	4,000	16,000
R7	Protective New Fence/Gate 3 Wire Temp					
	Labor	0	1,365	0	0	
	Travel/Vehicles	0	975	0	0	
	Clearances	0	1,365	0	0	
	Fence Material	0	13,650	0	0	
	Contract Fence Construction	0	9,750	0	0	
	Contract Fence Removal	0	0	0	5,850	
	Contract Administration	0	1,365	0	0	
	Supplies/Materials	0	780	0	0	
	Total	0	29,000	0	6,000	35,000
R7	Protective Fence Repair/Gate					
	Labor	0	930	0	0	
	Travel/Vehicles	0	775	0	0	
	Clearances	0	0	0	0	
	Fence Material	0	3,100	0	0	
	Contract Fence Construction	0	4,650	0	0	
	Contract Administration	0	620	0	0	
	Supplies/Materials	0	310	0	0	
	Total	0	10,000	0	0	10,000
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

BAR		FY07	FY08	FY09	FY10	Total Costs
R16	Monitoring (implementation, effectiveness)					
	Labor	0	1,165	1,165	1,165	
	Travel/Vehicles	0	1,165	1,165	1,165	
	Supplies/Materials	0	466	466	466	
	Contract	0	4,660	4,660	4,660	
	Contract Administration	0	1,631	1,631	1,631	
	Total	0	9,000	9,000	9,000	27,000
	<b>BURNED AREA REHABILITATION</b>	<b>0</b>	<b>430,000</b>	<b>115,000</b>	<b>19,000</b>	<b>564,000</b>

## SEED LISTS

Drill 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
Siberian wheatgrass, (Vavilov)	0.8075	3,774	10.0	8.1	220,000	177,650	2,200,000	1,776,500	40.8	30,475	37,750	\$4.00	\$151,000.00
<b>TOTAL</b>		<b>3,774</b>	<b>10.0</b>	<b>8.1</b>			<b>2,200,000</b>	<b>1,776,500</b>	<b>40.8</b>	<b>30,475</b>	<b>37,750</b>		<b>\$151,000.00</b>

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
Sandberg's Bluegrass (Mtn Home)	0.7200	880	0.7	0.5	950,000	684,000	665,000	478,800	11.0	444	650	\$12.00	\$7,800.00
Western yarrow (White)	0.8100	880	0.07	0.06	2,700,000	2,187,000	189,000	153,090	3.5	50	100	\$20.00	\$2,000.00
Big sagebrush (Wyoming)	0.1600	880	1.0	0.16	2,500,000	400,000	2,500,000	400,000	9.2	141	880	\$16.00	\$14,080.00
<b>TOTAL</b>		<b>2,640</b>	<b>1.8</b>	<b>0.7</b>			<b>3,354,000</b>	<b>1,031,890</b>	<b>23.7</b>	<b>634</b>	<b>1,630</b>		<b>\$23,880.00</b>

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
Forage kochia, (Immigrant)	0.5100	1,242	0.5	0.3	115,000	58,650	57,500	29,325	0.7	317	650	\$16.00	\$10,400.00
<b>TOTAL</b>		<b>1,242</b>	<b>0.5</b>	<b>0.3</b>			<b>57,500</b>	<b>29,325</b>	<b>0.7</b>	<b>317</b>	<b>650</b>		<b>\$10,400.00</b>

## 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 established 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 (Mtn Home)
Siberian wheatgrass (Vavilov)	Western yarrow (White)
	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
R1	Planning	WM	.13	1000	100
R2	Pre-planting Chemical Fallowing	acres	3,774	110,000	75-100
R2	Ground Seeding: 2008 Mixture 1	acres	3,774	305,000	50-80
R3	Aerial Seeding : 2007 Mixture 1 2008 Mixture 2	acres	880 1,242	60,000	50-80
R5	Noxious Weeds	acres	4,660/ 3yrs	16,000	60-90
R7	New Protective Fence	miles	3.9	35,000	100
R7	Fence Repair/Gate: Repair	miles	3.1	10,000	100
R15	Livestock Closure	acres	4,660	0	100
R16	Monitoring	acres	4,660/ 3yrs	27,000	100
	TOTAL COSTS			564,000	

## 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 complete dominance of the burned area by cheatgrass and other invasive annuals, and a lower functioning 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 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 and cover 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) 0.25m<sup>2</sup> plots per site, show the mean density of live annual plants to be ≤ 10/m<sup>2</sup>. 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) 0.25m<sup>2</sup> plots per site, indicate the mean density of mature established seeded perennial grasses is ≥ 5/m<sup>2</sup>, 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) 0.125m<sup>2</sup> plots indicate mean establishment densities as follows:

Aerial Seed Mix 1	Western Yarrow ≥ 1/m <sup>2</sup>
	Sandberg's bluegrass ≥ 5/m <sup>2</sup>
	Wyoming big sagebrush ≥ 1/9m <sup>2</sup>
Aerial Seed Mix 2	Forage kochia ≥ 1/m <sup>2</sup>

**4. Noxious Weeds**

BLM noxious weed specialists would inventory the 4,660 acres for noxious weeds and take appropriate treatment action. Species identified, treatment and GPS location would be recorded. Personnel would revisit the treated sites to evaluate mortality and inventory for additional weed populations.

**5. Livestock Closure**

Livestock are to be excluded from the treatment 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. DNP7\_ Nichol Boundary, Chem-Fallow & Drill Seeding 2008, Air Seeding 2007, Air Seeding 2008, Protective Fence, Fence Repair

### 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.

# Boise District 2007 Wildfire: Nichol (DNP7) Aerial Seeding 2007 & 2008, Chem-Fallow & Drill Seeding 2008, & Protective Fence & Fence Repair

-  DNP7\_Nichol Boundary
-  Air Seeding 2007
-  Protective Fence
-  Chem-Fallow & Drill Seeding 2008
-  Air Seeding 2008
-  Fence Repair

