# Bruneau Arm Complex/Stuck Fire

## BURNED AREA REHABILITATION PLAN

**BLM/BOISE/FOUR RIVERS/SNAKE RIVER BIRDS OF PREY NCA**
**IDAHO STATE OFFICE**

**FIRE BACKGROUND INFORMATION**

| | | |
|---|---|---|
| Fire Name | Bruneau Arm | Stuck |
| Fire Number | DNQ4 | DNN8 |
| District/Field Office | Boise/Birds of Prey NCA | |
| Admin Number | ID111 | |
| State | Idaho | |
| County(s) | Owyhee | |
| Ignition Date/Cause | 07-06-07/ Lightning (Both Fires) | |
| Date Contained | 07-07-07 (Both Fires) | |
| Jurisdiction | *Acres* | |
| | *Bruneau Arm* | *Stuck* |
| BLM | 2,809 | 418 |
| *State* | 153 | 0 |
| *Private* | 537 | 22 |
| *Other* | 0 | 0 |
| Total Acres | 3,499 | 440 |
| Total BAR Plan Costs | $ 285,000 | $ 65,000 |

**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 Bruneau Arm Complex/Stuck Fire burned 3,227 acres of public land in the Bruneau Arm Allotment, which is grazed by livestock 11/1- 2/28. All of the public land that burned on the west portion of the Bruneau Arm Complex supported Wyoming big sagebrush with an understory of cheatgrass and Sandberg's bluegrass. The east portion of the Bruneau Arm Complex was mostly cheatgrass with some shrub cover on the north side of the burn. The Stuck portion of the project area had cheatgrass/crested wheatgrass on the north end, and native shrub/grass and forbs with cheatgrass on the south end. The Stuck portion of the project area parallels State Highway 51/78 and borders C. J. Strike Reservoir. A set of related actions are necessary to stabilize and rehabilitate the burned area.

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 TABLE

DNQ4 BRUNEAU ARM

| Spec. # | Planned Action | Unit | # Units | Unit Cost | FY07 | FY08 | FY09 | FY10 | Spec. # Totals |
|---|---|---|---|---|---|---|---|---|---|
| R2 | Ground Seeding | Acres | 1,469 | 22 | 0 | 0 | 33,000 | 0 | 33,000 |
| R2 | Ground Seed Purchase | Acres | 1,469 | 35 | 0 | 52,000 | 0 | 0 | 52,000 |
| R2 | Ground Seeding Cultural Clearance | Acres | 1,469 | 16 | 0 | 24,000 | 0 | 0 | 24,000 |
| R2 | Herbicide Treatment | Acres | 1,748 | 30 | 0 | 52,000 | 0 | 0 | 52,000 |
| R3 | Aerial Seeding | Acres | 2,246 | 8 | 0 | 2,000 | 17,000 | 0 | 19,000 |
| R3 | Aerial Seed Purchase | Acres | 2,246 | 24 | 0 | 54,000 | 0 | 0 | 54,000 |
| R5 | Noxious Weeds | Acres | 2,809 | 3 | 0 | 3,000 | 3,000 | 2,000 | 8,000 |
| R6 | Soil Stabilization | No. | 10 | 1,300 | 0 | 13,000 | 0 | 0 | 13,000 |
| R7 | Fence Repair/Gate | MIles | 5 | 3,333 | 0 | 15,000 | 0 | 0 | 15,000 |
| R15 | Closures | Acres | 0 | | 0 | 0 | 0 | 0 | 0 |
| R16 | Monitoring | Acres | 2,809 | 2 | 0 | 5,000 | 5,000 | 5,000 | 15,000 |
| | TOTAL COSTS | | 2,809 | 101 | 0 | 220,000 | 58,000 | 7,000 | 285,000 |

DNN8 STUCK

| Spec. # | Planned Action | Unit | # Units | Unit Cost | FY07 | FY08 | FY09 | FY10 | Spec. # Totals |
|---|---|---|---|---|---|---|---|---|---|
| R2 | Ground Seeding | Acres | 217 | 23 | 0 | 0 | 5,000 | 0 | 5,000 |
| R2 | Ground Seed Purchase | Acres | 1,686 | 11 | 0 | 18,000 | 0 | 0 | 18,000 |
| R2 | Ground Seeding Cultural Clearance | Acres | 217 | 18 | 0 | 4,000 | 0 | 0 | 4,000 |
| R2 | Herbicide Treatment | Acres | 217 | 28 | 0 | 6,000 | 0 | 0 | 6,000 |
| R3 | Aerial Seeding | Acres | 214 | 28 | 0 | 3,000 | 3,000 | 0 | 6,000 |

DNN8 STUCK

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| R3 | Aerial Seed Purchase | Acres | 214 | 61 | 0 | 13,000 | 0 | 0 | 13,000 |
| Spec. # | Planned Action | Unit | # Units | Unit Cost | FY07 | FY08 | FY09 | FY10 | Spec. # Totals |
| R5 | Noxious Weeds | Acres | 418 | 7 | 0 | 1,000 | 1,000 | 1,000 | 3,000 |
| R7 | Fence Repair/Gate | Miles | 1 | 4,000 | 0 | 4,000 | 0 | 0 | 4,000 |
| R15 | Closures | Acres | 0 | | 0 | 0 | 0 | 0 | 0 |
| R16 | Monitoring | Acres | 418 | 5 | 0 | 2,000 | 2,000 | 2,000 | 6,000 |
| | TOTAL COSTS | | 418 | 156 | 0 | 51,000 | 11,000 | 3,000 | 65,000 |

**LAND USE PLAN CONSISTENCY**

The 1995 Snake River Birds of Prey National Conservation Area (NCA) Management Plan is the primary land management plan governing resources within the NCA. The NCA Management Plan reflects and is consistent with all other management plans which may influence the management within the NCA.

1. Pre-planting Chemical Fallowing (R2): Herbicide would be aerially applied to reduce competition from invasive annual grasses and forbs, and to prepare the site for seeding in the fall of 2008. 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 of Perennial Grasses and Shrubs (R2): Native and non-native perennial grass species would be drill seeded within the burned area during the fall of 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 perennial shrub, and a native grass and shrub perennial seed mix would be aerial broadcast in the fall of 2007 over selected sites within the burn area. The perennial seed mix comprised of a native grass and shrub would be aerially broadcast in the fall of 2008 over the drill seeding area. In the fall of 2008 forage kochia seed would be aerial applied over two 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. Soil Stabilization (R6): Straw wattles would be placed in a major drainage to slow runoff and trap sediment. These sediment traps would impede sediment transport into C. J. Strike Reservoir during severe rainstorms or heavy spring runoff. NCA Management Plan [Page 51] - Special Status Wildlife Species Management - 24) support the improvement of water quality in the Snake River.

6. Repair/Replacement of fire damaged fence components (R7): Fire damaged fence components would be repaired and/or replaced. Fence repair 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."

7. 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."

8. Monitoring of Effectiveness of Drill/Aerial Seeding 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 Bruneau Arm Complex/Stuck Fire the public land on the west portion of the Bruneau Arm Complex was Wyoming big sagebrush with an understory of cheatgrass and Sandberg's bluegrass. The east portion of the Bruneau Arm Complex was mostly cheatgrass with some shrub cover on the north side of the burn. The Stuck fire area had cheatgrass/crested wheatgrass on the north end and native shrub/grass and forbs with cheatgrass on the south end. 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 dominate. Rehabilitation treatments would restore pre-fire shrub structure and inhibit the spread of invasive annuals.

The burned area contains unconsolidated light soils that are easily eroded and transported by wind or water. Soils in Sections 23, 24, 25, and 26 could be carried directly into C. J. Strike Reservoir by runoff from a hard rain or heavy snow melt.

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.

   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. N/A**

4. **Repair/Replace Fire Damage to Minor Facilities.** Repair or replace minor operating facilities (e.g., campgrounds, interpretive signs and exhibits, shade shelters, fences, wildlife guzzlers, etc.) damaged by the fire.

   Fence repair is necessary in order to have a functional structure for the effective control of livestock grazing distribution. Fence repair would provide the exclusion of livestock from treatment areas and the establishment of desired seeded species, 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 (Map 1): In the burned area, 1,748 acres in the Bruneau Arm

and 217 acres in Stuck (total 1,965 acres) would be treated with the herbicide formulation glyphosate, according to EPA labeled for the targeted species. The herbicide would be applied aerially between March and July 2008; whenever competitive annuals germinate and are growing. A second aerial 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 would 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: 1,469 acres in Bruneau Arm and Drill Seed Mix 2: 217 acres in Stuck (total 1,686 acres) would be seeded with rangeland drills in the fall/winter of 2008-2009 with perennial grasses.

Drill Seed Mix 1- Fall/Winter 2008-2009

| Variety | Bruneau Arm Acres | PLS Lbs/Acre |
|---|---|---|
| Siberian wheatgrass (Vavilov) | 1,469 | 7.0 |

Drill Seed Mix 2- Fall/Winter 2008-2009

| Variety | Stuck Acres | PLS Lbs/Acre |
|---|---|---|
| Crested wheatgrass (Hycrest) | 217 | 3.25 |
| Russian wildrye (Bozoisky) | 217 | 4.0 |
| Indian ricegrass (Nezpar) | 217 | 1.5 |

**B.** How does the treatment relate to damage or changes caused by the fire? The goal is to

establish native and 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: 191 acres in Bruneau Arm and 70 acres in Stuck (total 261 acres) would be broadcast seeded with a perennial native grass and shrub in the winter of 2007-2008. Aerial Seed Mix 2: 144 acres in Stuck would be broadcast seeded with a perennial native shrub in the winter 2007-2008. Aerial Seed Mix 3: 1,469 acres drill seeded in Bruneau Arm and Stuck 190 acres (total 1,659) would be broadcast seeded over with a perennial native grass and shrub in the winter 2008-2009. Aerial Seed Mix 4: 586 acres in Bruneau Arm, and 27 acres (previously drill seeded) in Stuck, (total 613 acres) would be broadcast seeded with a non-native shrub in the winter 2008-2009.

**B.**

Aerial Seed Mix 1- Fall/Winter 2007-2008

| Variety | Bruneau Arm Acres | Stuck Acres | PLS Lbs/Acre |
|---|---|---|---|
| Sandberg's bluegrass (Mtn Home) | 191 | 70 | 0.5 |
| Big sagebrush (Wyoming) | 191 | 70 | 0.1 |

Aerial Seed Mix 2- Fall/Winter 2007-2008

| Variety | Stuck Acres | PLS Lbs/Acre |
|---|---|---|
| Rubber Rabbitbrush | 144 | 0.15 |

Aerial Seed Mix 3- Fall/Winter 2008-2009

| Variety | Bruneau Arm Acres | Stuck Acres | PLS Lbs/Acre |
|---|---|---|---|
| Sandberg's bluegrass (Mtn Home) | 1,469 | 190 | 0.5 |
| Big sagebrush (Wyoming) | 1,469 | 190 | 0.1 |

Aerial Seed Mix 4 - Fall/Winter 2008-2009

| Variety | Bruneau Arm Acres | Stuck Acres | PLS Lbs/Acre |
|---|---|---|---|
| Forage kochia (Immigrant) | 586 | 27 | 0.25 |

**C.** 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 success of the seeding treatment is dependent upon spring moisture and could range in effectiveness from 30-70%.

**D.** 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 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.

**R6 – Soil Stabilization**

**A.** Treatment/Activity Description (Map 2): The fire burned ephemeral drainages that feed into a main tributary which terminates in CJ Strike Reservoir. Straw wattles would be used to capture and retain fine sediments which would not mobilize during precipitation or runoff events; further destabilizing the flow channel. Ten (10) structures would be constructed in the Bruneau Arm Fire; each would consist of approximately three straw wattles placed perpendicular to the drainage and would be anchored in place with wooden stakes. These structures would remain in place until the unstable soils have revegetated and stabilized.

**B.** How does the treatment relate to damage or changes caused by the fire? The fire removed annual and perennial vegetation from the project area. The soil is made up of lakebed sediments or wind deposited soil. The burned area is more susceptible to erosion and this would increase fine sediment transport into the CJ Strike Reservoir (Bruneau River). By placing the sediment trapping structures across the drainage, much of the sediment would be filtered and immobilized. The potential harm to aquatic wildlife would be mitigated by the sediment traps. Straw wattles were rated at about 80% effective in filtering sediments (Robichaud P.R., J. L. Beyer, and D. G. Neary. 2000. Evaluating the effectiveness of post fire rehabilitation treatments. Gen. Tech. Rep.RMRS-GR-63. Fort Collins: U.S. Dept. of Agriculture, Forest Service, Rocky Mountain Research Station. 85 pp.)

**C.** Why is the treatment/activity reasonable, within policy, and cost effective? The treatment would be highly effective in trapping and immobilizing sediment. It is a reasonable mitigation measure considering the potential impacts to aquatic wildlife that could result from sediment transport into CJ Strike Reservoir. Weighing treatment cost against unmitigated potential impacts, implementation of the treatment appears to be a cost effective and prudent measure.

**R15 - Livestock Closure**

**A.** Treatment/Activity Description: The treatment areas 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 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 3,227 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 herbicide would control the spread of noxious weeds. The effectiveness of controlling noxious weeds with herbicides 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 - Repair Fence/Gate**
**A.** Treatment/Activity Description (Map 2): Fence repair and/or replacement would be conducted on existing allotment boundary fence; 4.5 miles in the Bruneau Arm Complex and 1.0 mile in the Stuck. Repairing the existing fences would include replacing the wooden brace structures with metal ones, and replacing damaged wire and steel posts as needed.

**B.** How does the treatment relate to damage or changes caused by the fire? Fence repair is necessary in order to have a functional structure for the effective control of livestock grazing distribution. Fence repair would provide for the exclusion of livestock from treatment areas and the establishment of desired seeded species, while allowing for grazing use of unburned portions of pastures and other allotments.

**C.** Why is the treatment/activity reasonable, within policy, and cost effective? Fence repair and 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 is a reasonable and cost effective method of protecting this investment.

## PART 4. - INDIVIDUAL TREATMENT SPECIFICATIONS

| BAR BRUNEAU ARM | | FY07 | FY08 | FY09 | FY10 | Total Costs |
|---|---|---|---|---|---|---|
| R2 | Ground Seeding | | | | | |
| | Labor | 0 | 0 | 1,469 | 0 | |
| | Travel/Vehicles | 0 | 0 | 735 | 0 | |
| | Equipment Rental | 0 | 0 | 0 | 0 | |
| | Supplies/Materials | 0 | 0 | 735 | 0 | |
| | Contract Range Land Drills | 0 | 0 | 14,690 | 0 | |
| | Contract No-Till Drills | 0 | 0 | 0 | 0 | |
| | Contract Administration | 0 | 0 | 5,876 | 0 | |
| | Drill FOR and Transportation | 0 | 0 | 9,916 | 0 | |
| | Total | 0 | 0 | 33,000 | 0 | 33,000 |
| R2 | Ground Seed | | | | | |
| | SEED MIX 1 | | 51,200 | | | |
| | SEED MIX 2 | | 0 | | | |
| | Seed Mixing/Testing/Handling | | 1,280 | | 0 | |
| | Total | 0 | 52,000 | 0 | 0 | 52,000 |
| R2 | Ground Seeding Cultural Clearance | | | | | |
| | Labor | 0 | 1,469 | 0 | 0 | |
| | Travel/Vehicles | 0 | 367 | 0 | 0 | |
| | Supplies/Materials | 0 | 367 | 0 | 0 | |
| | Contract | 0 | 21,477 | 0 | 0 | |
| | Contract Administration | 0 | 735 | 0 | 0 | |
| | Total | 0 | 24,000 | 0 | 0 | 24,000 |
| R2 | Herbicide Application | | | | | |
| | Labor | 0 | 0 | 0 | 0 | |
| | Travel/Vehicles | 0 | 874 | 0 | 0 | |
| | Equipment Mobilization | 0 | 0 | 0 | 0 | |
| | Chemical Purchase | 0 | 13,984 | 0 | 0 | |
| | Clearances | 0 | 437 | 0 | 0 | |
| | Supplies/Materials | 0 | 437 | 0 | 0 | |
| | Contract | 0 | 34,960 | 0 | 0 | |
| | Contract Administration | 0 | 874 | 0 | 0 | |
| | Total | 0 | 52,000 | 0 | 0 | 52,000 |
| R3 | Aerial Seeding | | | | | |
| | Labor | 0 | 96 | 735 | 0 | |
| | Travel/Vehicles | 0 | 48 | 367 | 0 | |
| | Equipment Mobilization | 0 | 0 | 0 | 0 | |
| | Supplies/Materials | 0 | 29 | 220 | 0 | |
| | Contract | 0 | 1,910 | 14,690 | 0 | |
| | Contract Administration | 0 | 191 | 1,469 | 0 | |
| | Total | 0 | 2,000 | 17,000 | 0 | 19,000 |
| R3 | Aerial Seed | | | | | |
| | Seed Mix 1 | | 5,850 | | | |
| | Seed Mix 2 | | 0 | | | |

| BAR BRUNEAU ARM | | FY07 | FY08 | FY09 | FY10 | Total Costs |
|---|---|---|---|---|---|---|
| | Seed Mix 3 | | 42,390 | | | |
| | Seed Mix 4 | | 5,400 | | | |
| | Seed Mixing/Testing/Handling | 0 | 477 | 0 | 0 | |
| | Total | 0 | 54,000 | 0 | 0 | 54,000 |
| R5 | Noxious Weeds | | | | | |
| | Labor | 0 | 1,405 | 1,405 | 1,194 | |
| | Travel/Vehicles | 0 | 702 | 702 | 702 | |
| | Chemical Purchase | 0 | 562 | 562 | 562 | |
| | Supplies/Materials | 0 | 0 | 0 | 0 | |
| | Contract | 0 | 0 | 0 | 0 | |
| | Contract Administration | 0 | 0 | 0 | 0 | |
| | Total | 0 | 3,000 | 3,000 | 2,000 | 8,000 |
| R6 | Soil Stabilization (other than seeding/planting) | | | | | |
| | Labor | 0 | 0 | 0 | 0 | |
| | Travel/Vehicles | 0 | 1,000 | 0 | 0 | |
| | Mobilization | 0 | 1,500 | 0 | 0 | |
| | Supplies/Materials | 0 | 5,000 | 0 | 0 | |
| | Contract | 0 | 4,000 | 0 | 0 | |
| | Contract Administration | 0 | 1,000 | 0 | 0 | |
| | Total | 0 | 13,000 | 0 | 0 | 13,000 |
| R7 | Protective Fence Repair/Gate | | | | | |
| | Labor | 0 | 1,575 | 0 | 0 | |
| | Travel/Vehicles | 0 | 900 | 0 | 0 | |
| | Clearances | 0 | 0 | 0 | 0 | |
| | Fence Material | 0 | 3,600 | 0 | 0 | |
| | Contract Fence Construction | 0 | 5,400 | 0 | 0 | |
| | Contract Administration | 0 | 2,250 | 0 | 0 | |
| | Supplies/Materials | 0 | 1,125 | 0 | 0 | |
| | Total | 0 | 15,000 | 0 | 0 | 15,000 |
| 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 | 0 | 0 | 0 | |
| | Travel/Vehicles | 0 | 702 | 702 | 702 | |
| | Supplies/Materials | 0 | 281 | 281 | 281 | |
| | Contract | 0 | 2,809 | 2,809 | 2,809 | |
| | Contract Administration | 0 | 1,405 | 1,405 | 1,405 | |

| BAR BRUNEAU ARM | | FY07 | FY08 | FY09 | FY10 | Total Costs |
|---|---|---|---|---|---|---|
| | Total | 0 | 5,000 | 5,000 | 5,000 | 15,000 |
| | BURNED AREA REHABILITATION | 0 | 220,000 | 58,000 | 7,000 | 285,000 |

| BAR STUCK | | FY07 | FY08 | FY09 | FY10 | Total Costs |
|---|---|---|---|---|---|---|
| R2 | Ground Seeding | | | | | |
| | Labor | 0 | 0 | 217 | 0 | |
| | Travel/Vehicles | 0 | 0 | 109 | 0 | |
| | Equipment Rental | 0 | 0 | 0 | 0 | |
| | Supplies/Materials | 0 | 0 | 109 | 0 | |
| | Contract Range Land Drills | 0 | 0 | 2,170 | 0 | |
| | Contract No-Till Drills | 0 | 0 | 0 | 0 | |
| | Contract Administration | 0 | 0 | 868 | 0 | |
| | Drill FOR and Transportation | 0 | 0 | 1,465 | 0 | |
| | Total | 0 | 0 | 5,000 | 0 | 5,000 |
| R2 | Ground Seed | | | | | |
| | SEED MIX 1 | | 0 | | | |
| | SEED MIX 2 | | 17,800 | | | |
| | Seed Mixing | | 500 | | 0 | |
| | Total | 0 | 18,000 | 0 | 0 | 18,000 |
| R2 | Ground Seeding Cultural Clearance | | | | | |
| | Labor | 0 | 217 | 0 | 0 | |
| | Travel/Vehicles | 0 | 54 | 0 | 0 | |
| | Supplies/Materials | 0 | 54 | 0 | 0 | |
| | Contract | 0 | 3,173 | 0 | 0 | |
| | Contract Administration | 0 | 109 | 0 | 0 | |
| | Total | 0 | 4,000 | 0 | 0 | 4,000 |
| R2 | Herbicide Application | | | | | |
| | Labor | 0 | 0 | 0 | 0 | |
| | Travel/Vehicles | 0 | 54 | 0 | 0 | |
| | Equipment Mobilization | 0 | 0 | 0 | 0 | |
| | Chemical Purchase | 0 | 1,519 | 0 | 0 | |
| | Clearances | 0 | 54 | 0 | 0 | |
| | Supplies/Materials | 0 | 54 | 0 | 0 | |
| | Contract | 0 | 4,340 | 0 | 0 | |
| | Contract Administration | 0 | 109 | 0 | 0 | |
| | Total | 0 | 6,000 | 0 | 0 | 6,000 |
| R3 | Aerial Seeding | | | | | |
| | Labor | 0 | 107 | 109 | 0 | |
| | Travel/Vehicles | 0 | 54 | 54 | 0 | |
| | Equipment Mobilization | 0 | 0 | 0 | 0 | |
| | Supplies/Materials | 0 | 32 | 33 | 0 | |
| | Contract | 0 | 2,140 | 2,170 | 0 | |

| BAR STUCK | | FY07 | FY08 | FY09 | FY10 | Total Costs |
|---|---|---|---|---|---|---|
| | Contract Administration | 0 | 214 | 217 | 0 | |
| | Total | 0 | 3,000 | 3,000 | 0 | 6,000 |
| R3 | Aerial Seed | | | | | |
| | Seed Mix 1 | | 2,190 | | | |
| | Seed Mix 2 | | 3,000 | | | |
| | Seed Mix 3 | | 5,850 | | | |
| | Seed Mix 4 | | 900 | | | |
| | Seed Mixing/Testing/Handling | 0 | 810 | 0 | 0 | |
| | Total | 0 | 13,000 | 0 | 0 | 13,000 |
| R5 | Noxious Weeds | | | | | |
| | Labor | 0 | 500 | 500 | 500 | |
| | Travel/Vehicles | 0 | 105 | 105 | 105 | |
| | Chemical Purchase | 0 | 84 | 84 | 84 | |
| | Supplies/Materials | 0 | 0 | 0 | 0 | |
| | Contract | 0 | 0 | 0 | 0 | |
| | Contract Administration | 0 | 0 | 0 | 0 | |
| | Total | 0 | 1,000 | 1,000 | 1,000 | 3,000 |
| R7 | Fence Repair/Gate | | | | | |
| | Labor | 0 | 350 | 0 | 0 | |
| | Travel/Vehicles | 0 | 200 | 0 | 0 | |
| | Clearances | 0 | 0 | 0 | 0 | |
| | Fence Material | 0 | 1,000 | 0 | 0 | |
| | Contract Fence Construction | 0 | 1,200 | 0 | 0 | |
| | Contract Administration | 0 | 500 | 0 | 0 | |
| | Supplies/Materials | 0 | 250 | 0 | 0 | |
| | Total | 0 | 4,000 | 0 | 0 | 4,000 |
| 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 | 0 | 0 | 0 | |
| | Travel/Vehicles | 0 | 418 | 418 | 418 | |
| | Supplies/Materials | 0 | 42 | 42 | 42 | |
| | Contract | 0 | 836 | 836 | 836 | |
| | Contract Administration | 0 | 627 | 627 | 627 | |
| | Total | 0 | 2,000 | 2,000 | 2,000 | 6,000 |
| | BURNED AREA REHABILITATION | 0 | 51,000 | 11,000 | 3,000 | 65,000 |

## SEED LISTS - Bruneau Arm

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

| 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 | 1,469 | 8.7 | 7.0 | 220,000 | 177,650 | 1,914,000 | 1,545,555 | 35.5 | 10,320 | 12,800 | $4.00 | $51,200.00 |
| TOTAL | | 1,469 | 8.7 | 7.0 | | | 1,914,000 | 1,545,555 | 35.5 | 10,320 | 12,800 | | $51,200.00 |

### Aerial Seed Mix 1 Fall/Winter 2007-2008

| 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 | 191 | 0.7 | 0.5 | 950,000 | 684,000 | 665,000 | 478,800 | 11.0 | 96 | 150 | $15.00 | $2,250.00 |
| Big Sagebrush (Wyoming) | 0.1600 | 191 | 1.0 | 0.16 | 2,500,000 | 400,000 | 2,500,000 | 400,000 | 9.2 | 31 | 200 | $18.00 | $3,600.00 |
| TOTAL | | 382 | 1.7 | 0.7 | | | 3,165,000 | 878,800 | 20.2 | 127 | 350 | | $5,850.00 |

### Aerial Seed Mix 3 Fall/Winter 2008-2009

| 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 | 1,659 | 0.7 | 0.5 | 950,000 | 684,000 | 665,000 | 478,800 | 11.0 | 836 | 1,200 | $15.00 | $18,000.00 |
| Big Sagebrush (Wyoming) | 0.1600 | 1,659 | 1.0 | 0.16 | 2,500,000 | 400,000 | 2,500,000 | 400,000 | 9.2 | 265 | 1,680 | $18.00 | $30,240.00 |
| TOTAL | | 3,318 | 1.7 | 0.7 | | | 3,165,000 | 878,800 | 20.2 | 1,102 | 2,880 | | $48,240.00 |

### Aerial Seed Mix 4 Fall/Winter 2008-2009

| 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 | 586 | 0.5 | 0.26 | 407,000 | 207,570 | 203,500 | 103,785 | 2.4 | 149 | 300 | $18.00 | $5,400.00 |
| TOTAL | | 586 | 0.5 | 0.3 | | | 203,500 | 103,785 | 2.4 | 149 | 300 | | $5,400.00 |

## SEED LISTS – Stuck

### Drill Seed Mix 2 Fall/Winter 2008-2009

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crested Wheatgrass, (Hycrest) | 0.8075 | 217 | 4.1 | 3.3 | 200,000 | 161,500 | 820,000 | 662,150 | 15.2 | 718 | 900 | $2.50 | $2,250.00 |
| Russian Wildrye, (Bozoisky) | 0.7650 | 217 | 5.2 | 4.0 | 175,000 | 133,875 | 910,000 | 696,150 | 16.0 | 863 | 1,150 | $10.00 | $11,500.00 |
| Indian Ricegrass, (Nezpar) | 0.7600 | 217 | 2.0 | 1.5 | 205,000 | 155,800 | 410,000 | 311,600 | 7.2 | 330 | 450 | $9.00 | $4,050.00 |
| TOTAL | | 217 | 11.3 | 8.8 | | | 2,140,000 | 1,669,900 | 38.4 | 1,911 | 2,500 | | $17,800.00 |

### Aerial Seed Mix 1 Fall/Winter 2007-2008

| 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 | 70 | 0.7 | 0.5 | 950,000 | 684,000 | 665,000 | 478,800 | 11.0 | 35 | 50 | $15.00 | $750.00 |
| Big Sagebrush (Wyoming) | 0.1600 | 70 | 1.0 | 0.16 | 2,500,000 | 400,000 | 2,500,000 | 400,000 | 9.2 | 11 | 80 | $18.00 | $1,440.00 |
| TOTAL | | 140 | 1.7 | 0.7 | | | 3,165,000 | 878,800 | 20.2 | 46 | 130 | | $2,190.00 |

### Aerial Seed Mix 2 Fall/Winter 2007-2008

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rubber Rabbitbrush | 0.2000 | 144 | 0.8 | 0.16 | 695,000 | 139,000 | 556,000 | 111,200 | 2.6 | 23 | 150 | $20.00 | $3,000.00 |
| TOTAL | | 526 | 2.5 | 0.8 | | | 3,721,000 | 990,000 | 22.7 | 150 | 500 | | $8,850.00 |

### Aerial Seed Mix 3 Fall/Winter 2008-2009

| 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 | 190 | 0.7 | 0.5 | 950,000 | 684,000 | 665,000 | 478,800 | 11.0 | 96 | 150 | $15.00 | $2,250.00 |
| Big Sagebrush | 0.1600 | 190 | 1.0 | 0.16 | 2,500,000 | 400,000 | 2,500,000 | 400,000 | 9.2 | 30 | 200 | $18.00 | $3,600.00 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (Wyoming) | | | | | | | | | | | | | |
| TOTAL | | 380 | 1.7 | 0.7 | | | 3,165,000 | 878,800 | 20.2 | 126 | 350 | | $5,850.00 |

| Aerial Seed Mix 4 Fall/Winter 2008-2009 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 27 | 0.5 | 0.26 | 407,000 | 207,570 | 203,500 | 103,785 | 2.4 | 7 | 50 | $18.00 | $900.00 |
| TOTAL | | 27 | 0.5 | 0.3 | | | 203,500 | 103,785 | 2.4 | 7 | 50 | | $900.00 |

## 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: Sandberg's bluegrass, Indian ricegrass, and Wyoming big sagebrush plants were found on the site before it burned.

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: Plants would 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 by livestock during the winter. Grazing during the plant dormant winter period would 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 exotics where soil, moisture, or other habitat conditions have changed to the point were 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 [**X**] 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 [**X**] No [ ] Rationale: The general area receives low precipitation and based on passed experience there is little likelihood that non-naïve seeded species would interbreed or spread off-site.

**PROPOSED SEED SPECIES – NATIVES AND NON-NATIVES**

| Non-native Plants | Native Plants |
|---|---|
| Forage kochia (Immigrant) | Sandberg's bluegrass (Mtn Home) |
| Russian wildrye (Bozoisky) | Big sagebrush, (Wyoming) |
| Crested wheatgrass (Hycrest) | Indian ricegrass (Nezpar) |

**PART 5. – COST-RISK ANALYSIS**

**Probability of Rehabilitation Treatments Successfully Meeting Objectives**

| Action/ Spec. # | Planned Action | Unit | # Units | Total Cost | % Probability of Success |
|---|---|---|---|---|---|
| R2 | Pre-planting Chemical Fallowing | acres | 1,965 | 58,000 | 75-100 |
| R2 | Ground Seeding | acres | 1,686 | 136,000 | 50-80 |
| R3 | Aerial Seeding | acres | 2,677 | 92,000 | 30-70 |
| R5 | Noxious Weeds | acres | 3,227 | 11,000 | 60-90 |
| R6 | Soil Stabilization: Sediment Traps | number | 10 | 13,000 | 80 |
| R7 | Fence Repair/Gate | miles | 5.5 | 19,000 | 100 |
| R15 | Livestock Closure | acres | 3,227 | 0 | 100 |
| R16 | Monitoring | acres | 3,227 | 21,000 | 100 |
| | TOTAL COSTS | | | 350,000 | |

**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 would 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 aerial herbicide treatment, aerial and ground seeding of selected species, and protection of seedings during establishment would not pose risks to the natural resources or to any private property.
**No Action** Yes [ ] No [**X**] Rationale: No action could result in complete dominance of the burned area by cheatgrass and other invasive annuals.
**Alternative(s)** Yes [ ] No [**X**] Rationale: Although acceptable alternatives may exist, none have been identified that would pose fewer risks 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 [**X**] No [ ] Rationale: The probability of the proposed treatments being successful is relatively high, and the costs are reasonable considering the benefits to be realized.
**No Action** Yes [ ] No [**X**] Rationale: There would be no costs associated with no action; however, no benefits would be realized.
**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, reduce vulnerability of the site to invasive annuals, restore vegetation diversity, and provide for a more properly functioning ecosystem. The cost/risk is reasonable considering the benefits to the long-term health of the ecosystem.

**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, Snake River Birds of Prey NCA. 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) 0.25$m^2$ plots per site, show the mean density of live annual plants to be $\leq 10/m^2$. Monitoring the effectiveness of 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) 0.25$m^2$ plots per site, indicate the mean density of mature established seeded perennial grasses is $\geq 5/m^2$, 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 the drill seeding would take place during the summers of 2009-2010.

3. **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) 0.125$m^2$ plots indicate mean establishment densities as follows:

| | |
|---|---|
| Aerial Seed Mix 1 & 3 | Sandberg's bluegrass ≥ 5/$m^2$ |
| | Wyoming big sagebrush ≥ 1/9$m^2$ |
| Aerial Seed Mix 2 | Rubber Rabbitbrush ≥ 1/9$m^2$ |
| Aerial Seed Mix 4 | Wyoming big sagebrush ≥ 1/9$m^2$ |
| Aerial Seed Mix 5 | Forage kochia ≥ 1/$m^2$ |

4. **Noxious Weeds**
   BLM noxious weed specialists would inventory the 3,227 acre burned area for noxious weeds and take appropriate actions. Species treated and GPS location would be recorded. Personnel would revisit treated sites to evaluate mortality and inventory for additional weed populations.

5. **Soil Stabilization**
   The sediment traps would be in monitored for three years. The success of the traps would be determined by the amount of sediment found on the upstream side of the traps, especially the one at the lowest point in the draw.

6. **Livestock Closure**
   Livestock would 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 to ensure effectiveness of area closure.

**PART 7 - MAPS**

1. Air Seed Mix-1 2007, Air Seed Mix-2 2007, Air Seed Mix-3 2008, Air Seed Mix-4 2008, Chem-Fallow, Drill Seed Mix-1 2008, Drill Seed Mix-1 2008
2. Fence Repair, Sediment Traps

## REVIEW, APPROVALS, AND PREPARERS

### REHABILITATION PLAN TEAM MEMBERS

| Position | Team Member (Agency/Office) | Initial and Date |
|---|---|---|
| Team Leader | Mike Barnum | |
| Operations | Cindy Fritz | |
| NEPA Compliance & Planning | Matt McCoy | |
| Botanist | Mark Steiger | |
| Hydrologist | Paul Seronko | |
| Cultural Resources/Archeologist | Dean Shaw | |
| Wildlife Biologist | John Doremus | |

### 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

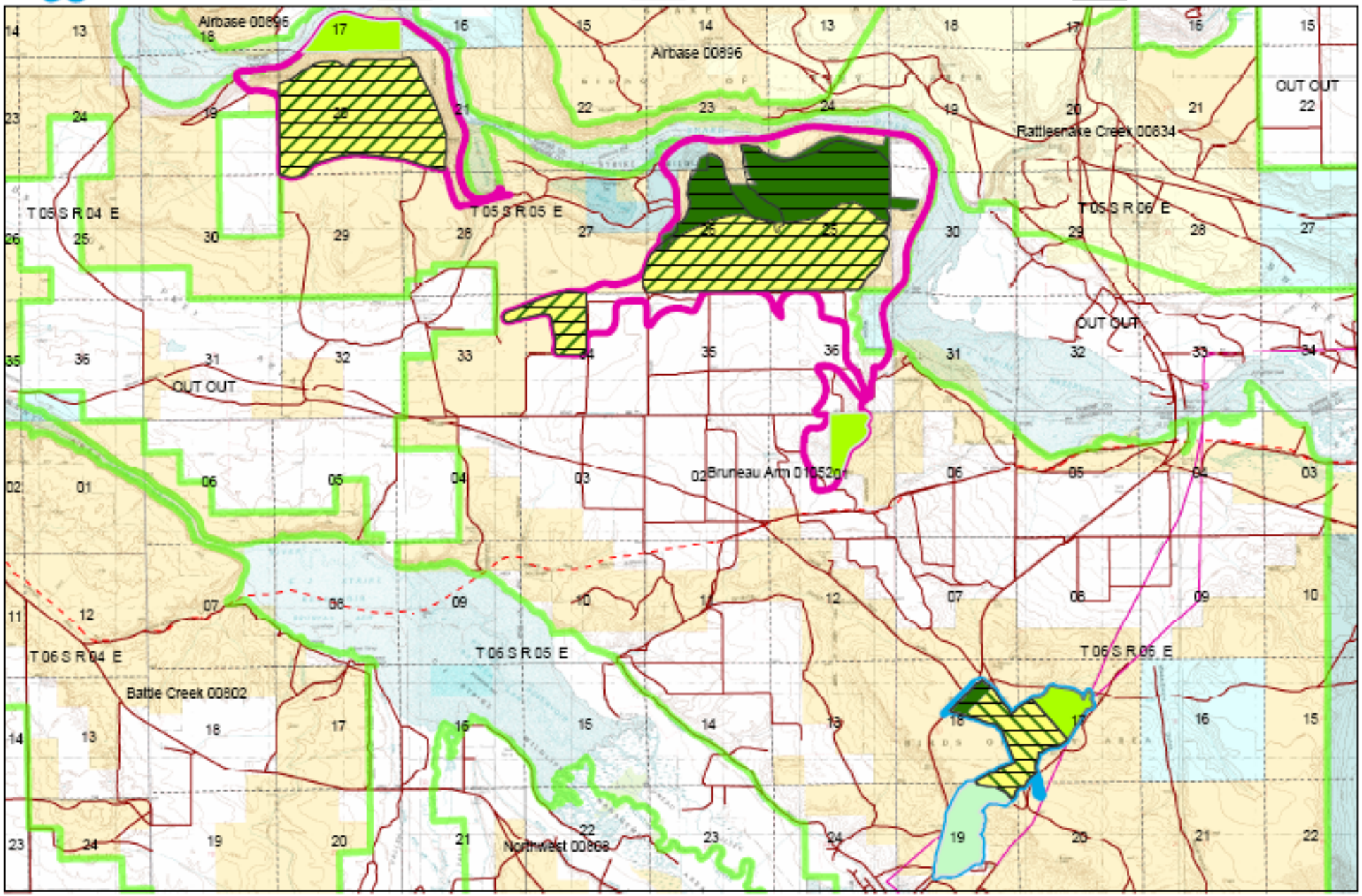
| /s/ Rosemary Thomas | 9/6/2007 |
|---|---|
| FIELD OFFICE MANAGER | DATE |

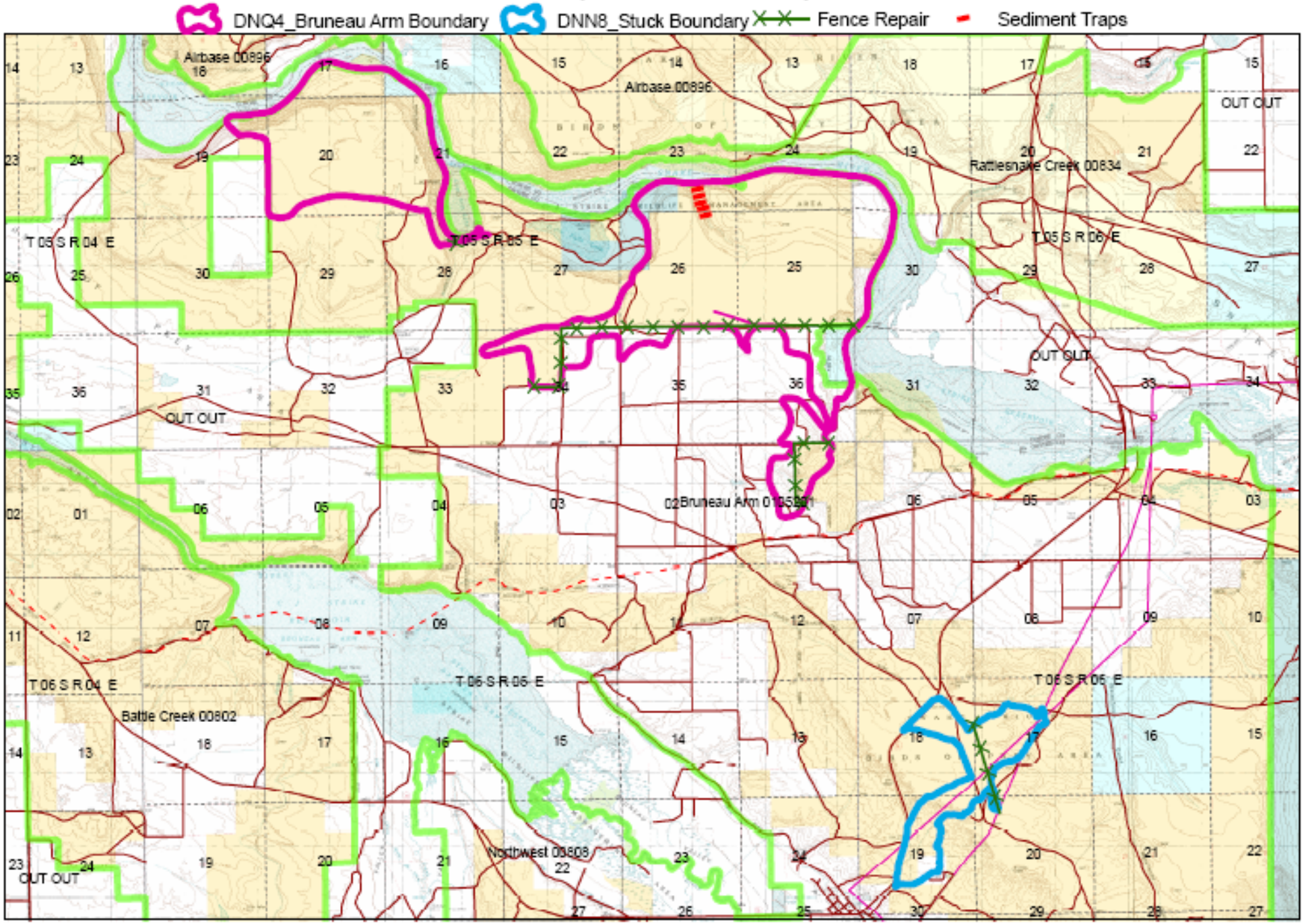
### FUNDING APPROVAL

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 would be done by the IBAER coordinators based on relative values to be protected, commensurate with rehabilitation costs.

Map 1.

## Boise District 2007 Wildfire: Bruneau Arm Complex (DNQ4) & Stuck (DNN8)
## Aerial Seeding 2007 & 2008 and Chem-Fallow & Drill Seeding 2008



Map 2.

## Boise District 2007 Wildfire: Bruneau Arm Complex (DNQ4) & Stuck (DNN8)
## Fence Repair & Sediment Traps