

Meadows Fire – July 29, 2005 – Ash Meadows National Wildlife Refuge

BURNED AREA REHABILITATION PLAN

AGENCY/UNIT: U.S. Fish and Wildlife Service Ash Meadows National
Wildlife Refuge, HCR Box 610Z, Amargosa Valley NV
89020, Phone: 775-372-5436

LOCATION: Nye County, Nevada

DATE: June 16, 2006

PREPARED BY: U.S. Department of Interior, U.S. Fish and Wildlife
Service, Ash Meadows National Wildlife Refuge

Prepared By: _____ Date: _____
Heather Hundt, Fish and Wildlife Biologist

BURNED AREA REHABILITATION PLAN REVIEW AND APPROVAL

MEADOWS FIRE - Ash Meadows National Wildlife Refuge

- I. Project Leader** approval that the Burned Area Rehabilitation Plan meets approved land management plan management objectives.

Linda Miller, Acting Project Leader, Desert NWR Complex, FWS

Date

- II. Regional Fire Management Coordinator** concurrence that the plan fits the technical definition for use of Rehabilitation finding.

Douglas Waggoner, Fire Management Coordinator, California/Nevada Operations Office

Date

- III. Rehabilitation Funding Approval (check one box below):**

- Approved
 Approved with Revision
 Disapproved

Explanation for Revision or Disapproval:

Steve Thompson, Manager, California/Nevada Operations, Region 1

Date

- IV. Rehabilitation Funding Approval (check one box below):**

- Approved
 Approved with Revision
 Disapproved

Explanation for Revision or Disapproval:

Brian McManus, Acting Chief, National Wildlife Refuge System, FWS

Date

**BURNED AREA REHABILITATION PLAN
MEADOWS FIRE**

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EXECUTIVE SUMMARY

Introduction

This Burned Area Rehabilitation Plan (Plan) has been prepared in accordance with Department of the Interior and Fish and Wildlife Service policy. This plan provides rehabilitation recommendations for all lands burned within the 311-acre Meadows Fire and downstream impact areas, including public lands administered by the Fish and Wildlife Service and other jurisdictions if necessary. The primary goals of the Meadows Fire Burned Area Rehabilitation Plan are to:

- Utilize integrated management activities to improve lands unlikely to recover naturally from severe wildland fire damage by emulating historic ecosystem structure, function, diversity, and dynamics according to approved land management plans.
- Restore or establish healthy, functioning ecosystems, even if these ecosystems cannot fully emulate historic or pre-fire conditions as specified in approved land management plans.
- Control monotypic salt cedar (*Tamarix ramosissima*), Russian knapweed (*Centaurea repens*), common reed (*Phragmites australis*) and southern cattail (*Typha domingensis*) to approved land management plan standards.

To meet these goals, the activities outlined in this Plan include:

- Rehabilitation of 160-acres of critical habitat, for six Federally-listed threatened and endangered species, which were heavily damaged by the Meadows fire. Rehabilitation will be accomplished through:
 -  Modification of stream channels and deep water marshes impacted by ash and sediment flows, which will significantly decrease invasive species establishment.
 - Control of non-native invasive species populations to establish health, function ecosystems as outline in approved land management plans..
 - Adaptive planting of native species in disturbed areas to prevent the re-establishment of non-native invasive species and stabilize the soil.
 - Monitor the non-native invasive species and native planting treatment for effectiveness to determine if objectives are being met to control non-native invasives and reduce fire risks.
 - Monitor Cultural Resource Sites during rehabilitation activities to ensure cultural sites remain intact.

The Ash Meadows National Wildlife Refuge (NWR) is located in the Amargosa Valley, in Nye County, Nevada. Established in 1984, the Ash Meadows NWR includes a total of 23,488 acres of spring-fed wetlands and alkaline desert uplands. In addition to Fish and Wildlife Service (FWS)-managed land (13,488 acres), 9,460 acres are cooperatively managed by the Bureau of Land Management (BLM) and FWS, 40 acres are managed by the National Park Service (NPS), and about 500 acres are under private ownership. The Refuge boundary is surrounded by 27,870 acres of BLM-managed land designated as the Ash Meadows Area of Critical Environmental Concern. These lands were established in 1998 to protect the habitat of several Special Status Species (BLM 2000; BLM 1998).

The primary purpose of the Ash Meadows NWR is to provide for the conservation and recovery of threatened, endangered, and endemic species. Ash Meadows has the highest rate of endemism of any other area of its size in the continental United States, and the second greatest concentration of endemic species in North America. At least 25 plants and animals occur only within the boundaries of the Refuge. Twelve of those endemic species are listed as threatened or endangered under the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*). The refuge's large number of endemic species is directly related to its unique hydrogeology. Ash Meadows NWR is a major discharge point for a vast underground aquifer with more than 30 major seeps and springs discharging over 17,000 cubic yards of water per acre, which supports a vast network of spring, wetland, and riparian habitat in the Mojave Desert.

While the Meadows Fire burned only 311 acres of the 23,488 acres making up the Ash Meadows NWR, the burn affected important spring, riparian, and wetland habitats including burning over designated critical habitat for six species listed under the Act, these include the endangered Ash Meadows Amargosa pupfish (*Cyprinodon nevadensis mionectes*) and Ash Meadows speckled dace (*Rhinichthys osculus nevadensis*); the threatened Ash Meadows milkvetch (*Astragalus phoenix*), spring-loving centaury (*Centaureum namophilum*), Ash Meadows gumplant (*Grindelia fraxino-pratensis*), and Ash Meadows ivesia (*Ivesia eremica*). Due to prior land management practices before establishment of the refuge in 1984, much of the site was infested with noxious weeds and had altered hydrology. A major effort has been underway to control established non-native invasive species and restore native spring, riparian, and wetland habitats. The Meadows Fire impacted portions of this habitat. Survival of many of the T & E and endemic species within Ash Meadows NWR is dependent upon critical habitat rehabilitation, continued control of non-native invasive species and the reestablishment of native plant cover to prevent further spread of non-native invasive species into the burned area. Therefore this plan primarily addresses impacts to the federally listed endangered species associated with Ash Meadows NWR.

This plan summarizes previous and ongoing activities and identifies future needs. The Burned Area Emergency Response (BAER) Team conducted an initial analysis of fire effects on the cultural and natural resources of Ash Meadows National Wildlife NWR using ground reconnaissance methods and satellite imagery, from which resource reports were generated. As part of the emergency stabilization efforts, contractors were hired to assist the refuge with implementing emergency stabilization of the Jackrabbit Outflow, invasive species control, planting of native vegetation, effectiveness monitoring and further assessing the damage caused by the fire and the related extent of the invasive species to fish and wildlife habitat.

Fisheries specialists from the U. S. Geological Survey, Biological Resources Discipline (USGS-BRD), Nevada Department of Wildlife (NDOW) and the U. S. Fish and Wildlife Service, Ecological Services (USFWS-ES) provided in-kind services to conduct site assessments immediately after the fire, as well as during the week of May 14, 2006, to determine impacts of the fire to native fish. Meetings between Refuge Staff, these experts and the contractors were held multiple times to discuss effects of the fire and potential actions to alleviate problems. A USFWS-ES Botanist and an avian expert also examined the site after the fire and provided verbal recommendations. The expert recommendations were utilized to develop a plan of action and Formal Section 7 consultation was initiated in October 2005.

The contractors have mapped the burned area for the extent of invasive species. The mapping has identified approximately 263 acres of the 311 acre fire to be infested with invasive species. The original vegetation assessment by the BAER team estimated the infested area to be only about 160 acres. Mechanical and chemical tamarisk control treatments were implemented earlier in the year and a total of 125 acres have been treated to date, with an additional 35 acres scheduled for treatment at the end of July 2006. All weed information has been digitized to GIS by either the contractors or Refuge Staff. The FWS regional Archeologist has surveyed the treatment areas. Several sites were identified and consultation with the State Historic Preservation Office (SHPO) has been completed.

Implementation of the stabilization of the Jackrabbit Outflow, along with installation of culverts is scheduled to begin July 2006 and will be completed in August 2006. Installation of 80 acres native plant material will begin once the work on the Jackrabbit Outflow has ended, with completion expected by the end of September 2006. Due to the unique ecosystem at Ash Meadows, including many endemic species of plants, as well as unique phenotypes of vegetation, it is necessary that the stock used for revegetation come from Ash Meadows and be propagated. Given the harsh conditions and specific requirements of the species, great care would be used to place these plants in appropriate microhabitats that would allow survival and growth. The requirement to use local stock and the precision needed to plant greatly inflates the cost of the project; however this is a necessary aspect due to the sensitivity and importance of Jackrabbit Springs and the Critical Habitat. In addition, exact specifications are needed to reconstruct the habitat for the endangered fish, including specific fill to be placed in the channel to reproduce desired substrate.

The individual rehabilitation treatments specifications including effectiveness monitoring identified in the assessments can be found in Part F. A summary of the costs by jurisdictions is in Part E. Appendix II contains the National Environmental Policy Act (NEPA) compliance documentation summary. Appendix III contains the Burned Area Rehabilitation Plan maps. Appendix IV contains photo documentation.

Fire Background

The Meadows fire burned approximately 311 acres within the authorized boundary of Ash Meadow NWR between July 29 and August 1, 2005. The fire began at approximately 14:30 hours as the result of an undetermined cause on private land within the authorized boundary of the Ash Meadows NWR. Two air tankers, two helicopters, two engines, and Air Attack were

dispatched from Las Vegas.

The fire spread from south to north driven by high winds. At approximately 17:00 hours, a large thunderhead came over the fire and blew the fire in three directions following heavy fuels. Ten structures on private land were threatened with the south and west fire heads, and the north head of the fire quickly consumed most of the Jackrabbit outflow with 50 – 100 foot flames. A back-fire was successful at stopping the fire from completely burning the entire Jackrabbit outflow and spring pool; however, over 95% of the outflow had high intensity burn due to the heavy concentration of salt cedar and cattails in the drainage. Advancing fire in heavy fuels around the Tubbs Ranch (USFWS-owned) was eventually stopped by retardant and water drops. Back-fire suppression actions were initiated between the Big Springs Road and Tubbs Ranch Road to stop the west head of the fire from crossing the Spring Meadows (main Refuge) road. The backfire burned spottily, especially near the Tubbs Ranch road, but the advancing fire head ran out of heavy fuels as well and stopped at the wet alkaline meadows. Back-fire operations impacted approximately 42 acres. Two fire lines of approximately 532 feet total were constructed by hand near the Jackrabbit Spring outflow southwest of the Big Springs road. Additional suppression actions included use of approximately 8 miles of existing roads, and the Incident Command Post/staging area that was located on private land. Retardant drops were applied to protect the private property at the south end of the fire area. Water for air drops was obtained from a pumpkin that was set up next to the service road to an unoccupied Refuge quarters.

The fire was declared contained on July 30 and controlled at 1800 hours on August 1. Approximately 150 acres within the fire perimeter are FWS lands managed by Ash Meadows NWR; 131 acres are BLM lands that are cooperatively managed by Ash Meadows NWR, and 30 acres are privately owned.

Fire Damages and Threats to Human Safety and Natural and Cultural Resources

The current burned area poses no threat to human safety and lies within the authorized boundary of Ash Meadow NWR. The fire exposed thirteen cultural sites, two of which will require monitoring if any additional ground-disturbing projects are approved through this Plan.

The burn adversely impacted critical habitat for six Federally listed species including the endangered Ash Meadows Amargosa pupfish (*Cyprinodon nevadensis mionectes*) and Ash Meadows speckled dace (*Rhinichthys osculus nevadensis*); the threatened Ash Meadows milkvetch (*Astragalus phoenix*), spring-loving centaury (*Centaureium namophilum*), Ash Meadows gumplant (*Grindelia fraxino-pratensis*), and Ash Meadows ivesia (*Ivesia eremica*). The burn also adversely impacted occupied habitat of the Federally-threatened Ash Meadows sunray (*Enceliopsis nudicaulis var. corrugate*). The majority of the critical habitat for listed species within the burn was located within the area with the highest intensity of burn. Vegetation within these high intensity burn areas incurred high mortality. Riparian areas containing ash, mesquite and saltcedar burned severely enough to kill the vegetation and sterilize the soil.

Resprouting of some vegetation is expected however the competition factor of non-native invasive species with native species is of major concern. The major impact of the fire to native

vegetation was the reduction of the size, density and cover of native trees and shrubs, and the stimulation of vigorous regrowth of the non-native salt cedar, Russian knapweed and five-hook bassia. The rapid regeneration these non-natives, and the ability of these species to suppress native plants, create a fire-adapted non-native plant community that promotes, and is perpetuated by, frequent wildfires.

Two primary impacts of the Meadows Fire necessitate rehabilitation: Increased invasive vegetation and alteration of aquatic habitat due to this vegetation, as well as debris, ash, and runoff sediment. The purpose of stream and aquatic habitat rehabilitation is to promote the recovery of a less fire prone, native vegetation community and reduce silt and burned debris in the channel, which would subsequently increase aquatic habitat for the federally listed species. The primary actions during implementation are intended to decrease the amount of spreading water as a result of damaged hydrology, which results in the formation of common reed and tamarisk marshes, and increasing the amount of water in a defined channel. The Ash Meadows speckled dace is found only at Ash Meadows and the stream channels associated with the Jackrabbit Spring are one of only two areas where the Ash Meadows speckled dace occurs in self-sustaining populations. Rehabilitation of the Jackrabbit drainage basin and stream channels, including additional stream stabilization and rehabilitation efforts, is critical for the recovery of this species.

Additional recommended rehabilitation treatment of the burned area consists of continued eradication of invasive non-native species, followed by continued restoration of native riparian and wet meadow habitats in a design that are far less susceptible to wildfire. The rehabilitation of native riparian and wetland habitats will help restore wildlife habitat and natural resource values, and reduce future threats from wildland fires.

Each of the above rehabilitation treatments directly relate to mitigating impacts of the Meadows Fire to management and recovery of the Federal endangered or threatened species and species endemic to Ash Meadows NWR, and the protection of cultural resources that are protected under the enabling legislation for the refuge and are therefore fundable under the U.S. Department of the Interior, Burned Area Rehabilitation Program.

Ash Meadows NWR Management Requirements

The uniqueness and biological diversity of Ash Meadows was formally recognized when it was established as a National Wildlife Refuge on June 18, 1984. In December 1986 Ash Meadows was recognized for its international importance and was formally designated as a “Wetland of International Importance” by the Ramsar Convention on Wetlands, an international treaty for the conservation and sustainable utilization of wetlands. Because of the high diversity of native plant and animal species, and the large number of endemic species, the FWS has been tasked to preserve and protect these species in perpetuity.

This plan documents the known damage to the habitat resources of Ash Meadows NWR and provides specific costs for the rehabilitation actions necessary to ensure that critical native habitats adequately recover. In-kind services will continue to be provided by USGS-BRD, NDOW and the USFWS-ES, as well as the Bureau of Land Management (BLM) to ensure the success of these rehabilitation efforts.

This plan is consistent with approved recovery plan goals and legislative mandate for the refuge which states that Ash Meadows National Wildlife Refuge is to be managed “to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants...” 16 U.S.C. 1534. All specifications are fully consistent with the approved Pesticide Use Proposals (2005), Draft Integrated Pest Management Plan (2006), Land Management Plan (1989), Fire Management Plan (1986), Proposed Land and Mineral Withdrawal at the Ash Meadows National Wildlife Refuge and Environmental Assessment (2000), and Draft Comprehensive Conservation Plan (2004) for the Ash Meadows National Wildlife Refuge and Desert National Wildlife Refuge Complex, as well as the Recovery Plan for Endangered and Threatened Species of Ash Meadows, Nevada (1990).

Primary goals for Ash Meadows NWR, through these management documents include:

- Eradication of non-native animal and plant species from Critical Habitat.
- Reestablishment of water to historic springbrook channels.
- Securing critical habitat from detrimental human disturbances including mining, off-road vehicles, and introduction of non-native species.
- Enhancement and restoration of aquatic and terrestrial ecosystems.
- Enhancement and reestablishment of native aquatic and plant communities.

**BURNED AREA REHABILITATION PLAN
MEADOWS FIRE**

PART A - FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	MEADOWS	Jurisdiction	Acres
Fire Number	NV-AMR-B2F1	U. S. Fish & Wildlife Service	150
Agency Unit	U. S. Fish and Wildlife Service Ash Meadows National Wildlife Refuge	Bureau of Land Management	131
Region	Region 8	Private	30
State	Nevada		
County(s)	Nye		
Ignition Date/Cause	July 29, 2005 Undetermined		
Zone	Western Great Basin		
Date Fully Contained	July 31, 2005		
Date Controlled	August 1, 2005	Total Acres	311

PART B - NATURE OF PLAN

Type of Action (check one box below)

<input checked="" type="checkbox"/>	Initial Submission
<input type="checkbox"/>	Amendment to the Initial Submission
<input type="checkbox"/>	Supplying Information For Accomplishment To Date On Work Underway
<input type="checkbox"/>	Different Phase Of Project Plan
<input type="checkbox"/>	Final Report (To Comply With The Closure Of The BAR Account)

PART C - REHABILITATION ASSESSMENT

Rehabilitation Objectives

- Rehabilitation of 160-acres of critical habitat, for six Federally-listed threatened and endangered species, which were heavily damaged by the Meadows fire. Rehabilitation will be accomplished through modification of stream channels and deep water marshes, which will significantly decrease future wildfire risk by dramatically curtailing invasive species establishment.
- Continue the control of invasive species populations to protect and enhance resource values including biodiversity, riparian and wetland habitats, and threatened and endangered species and to prevent erosion.
- Continue planting native species in disturbed areas to prevent the re-establishment of non-native invasive species.
- Monitor the invasive species and native planting treatment for effectiveness to determine if objectives are being met to control the invasive species and reduce fire risks.
- Monitor Cultural Resource Sites during rehabilitation activities to ensure cultural sites remain intact.

**BURNED AREA REHABILITATION PLAN
MEADOWS FIRE**

PART D - TEAM ORGANIZATION, MEMBERS, AND RESOURCE ADVISORS

I. Burned Area Rehabilitation Team Members:

Position	Team Member (Agency)
Team Leader	Heather Hundt, (FWS)
Cultural Resources/Archeologist	LouAnn Speulda, (FWS)
Vegetation Specialist	Heather Hundt, (FWS) Mark James, (Contractor) Amber Shanklin, (Contractor) Matt Burks, (Contractor)
Wildlife Biologist	Cristi Baldino, (FWS) Heather Hundt (FWS)
Aquatics Biologist	Shawn Goodchild (FWS)
GIS Specialist	Don Harper, (FWS)

**BURNED AREA REHABILITATION PLAN
MEADOWS FIRE**

PART E - SUMMARY OF ACTIVITIES AND COSTS

The summary of activities and cost table below identifies rehabilitation costs charged or proposed for funding from subactivity 9262 funding sources.

Rehabilitation Activities Cost Summary Table - Meadows Fire

Spec #	Title	Unit	Unit Cost	# of Units	Work Agent	Cost
R-1	Critical Habitat Rehabilitation	Acre	\$1,836.51	160	SC, FA	\$293,841
R-2	Invasive Species Control	Acre	\$691.45	210	SC, FA	\$145,205
R-3	Native Planting	Acre	\$1,253.65	100	SC, FA	\$125,365
R-4	Vegetation Monitoring	Survey	\$547.51	110	FA, SC, CA	\$60,225
R-5	Cultural Resource Protection	Acre	\$33.27	100	FA	\$3,326
R-6	Implementation Leader	Month	\$7,013	12	FA	\$84,154
TOTAL COST						\$713,118
Work Agent: CA=Coop Agreement, FA=Force Account, G=Grantee, P=Permitee, SC=Service Contract, TSP=Timber Sales Purchaser, V=Volunteer						

BURNED AREA REHABILITATION PLAN MEADOWS FIRE

PART F - INDIVIDUAL SPECIFICATION

TREATMENT NAME	Critical Habitat Rehabilitation	PART E SPECIFICATION #	R-1
NFPORS TREATMENT CATEGORY*	Wildlife Habitat	FISCAL YEAR(S) (list each year):	2007, 2008
NFPORS TREATMENT TYPE *	Stabilize/Secure/Protect Critical Habitat	WUI? Y / N	Y
IMPACTED COMMUNITIES AT RISK	Amargosa Valley and private lands within the Refuge boundary	IMPACTED T&E SPECIES	Ash Meadows speckled dace and Ash Meadows Amargosa pupfish, , Spring-loving centaury, Ash Meadows gumplant, Ash Meadows ivesia

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

<p>Number and Describe Each Task:</p> <p>A. General Description: The modification of the Jackrabbit Outflow will be completed during emergency stabilization actions in July 2006. This channel, highly altered prior to the establishment of the Refuge, created fire prone conditions dominated by invasive plant species (Tamarisk and cattail). Additional rehabilitation actions are necessary throughout the Meadows burn area, including erosion control and stream rehabilitation in the upper stream channels, stream and aquatic habitat rehabilitation in the lower stream channel, and impoundment removal in the vicinity of the former Tubbs Ranch.</p> <p>The primary actions during implementation are intended to decrease the amount of spreading water, which results in the formation of cattail and tamarisk marsh, and increasing the amount of water in a defined channel. The Federally endangered Ash Meadows speckled dace is found only at Ash Meadows and the Jackrabbit stream channels are one of only two areas where the Ash Meadows speckled dace occurs.</p> <p>Rehabilitation of the Jackrabbit drainage basin and stream channels, including additional stream stabilization and rehabilitation efforts, is critical for the recovery of this species.</p> <p>B. Location/(Suitable) Sites: Jackrabbit/Tubbs Ranch Watershed (See: Figure 4 Treatment Map)</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. Erosion control and stream rehabilitation in the upper stream channels. 2. Stream and aquatic habitat rehabilitation in the lower stream channels. 3. Impoundment modification and/or removal in the Tubbs Ranch area. <p>Equipment required for all three tasks include a tracked excavator, skidsteer loader and articulated 15 YD dump truck.</p> <p>D. Purpose of Treatment Specifications:</p> <p>The intensity of the Meadow Fire was increased by the presence of accumulated fuels from invasive plants such as tamarisk, Russian knapweed, common reed and five-hook bassia. The fire also destroyed all fish within the channel and created siltation and ash flows which modified the substrate. The purpose of stream and aquatic habitat rehabilitation is to promote the recovery of a less fire prone, native vegetation community; increase aquatic habitat for the endangered Ash Meadows speckled dace and Ash Meadows Amargosa pupfish; and develop natural fuel breaks to prevent spreading of wildfire on to private property.</p> <p>F. Treatment Effectiveness Monitoring Proposed:</p> <p>Effectiveness monitoring of weed treatments and endangered species rehabilitation treatments. Along with continued inspection of channels and culverts, after storm events, to determine if further treatments are needed.</p>
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II. LABOR, MATERIALS AND OTHER COST:

<p>➤ PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).</p>	COST / ITEM
AHME Equipment Operator WG-08/5 @ \$23.27/hour X 120 hours X 2 FY=	\$5,585

TOTAL PERSONNEL SERVICE COST		\$5,585
➤	EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	COST / ITEM
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST		\$0
➤	MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	COST / ITEM
Local fill material available from BLM, through a Free Use Permit (IN-KIND SERVICES) \$0 cost		\$0
TOTAL MATERIALS AND SUPPLY COST		\$0
➤	TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	COST / ITEM
TOTAL TRAVEL COST		\$0
➤	CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	COST / ITEM
Tracked excavator w/ operator @ \$7,250/wk X 5 weeks X 2 FY		\$72,500
Skidsteer loader w/ operator @ \$7,708/wk X 5 weeks X 2 FY		\$77,080
Articulated 15 YD dump truck w/ operator @ \$8,292/wk X 5 weeks X 2 FY		\$82,920
Engineering design, oversite, travel @ \$106/hr x 263 hrs x 2 FY		\$55,756
TOTAL CONTRACT COST		\$288,256

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNIT S	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY 2007	10/01/2006	09/30/2007	SC/FA	acres	\$1,836.51	80	\$146,921
FY 2008	10/01/2007	08/30/2008	SC/FA	acres	\$1,836.51	80	\$146,920
TOTAL							\$293,841

Work Agent: CA=Coop Agreement, FA=Force Account, G=Grantee, P=Permitee, SC=Service Contract, TSP=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1.	Estimate obtained from 2-3 independent contractual sources.	C
2.	Documented cost figures from similar project work obtained from local agency sources.	C
3.	Estimate supported by cost guides from independent sources or other federal agencies	M
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, E = Equipment M = Materials/Supplies, T = Travel, C = Contract, F = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within the Accomplishment Report.

See Resident road on Figure 4 Treatment Map

BURNED AREA REHABILITATION PLAN MEADOWS FIRE

TREATMENT NAME	Invasive Species Control	PART E SPECIFICATION #	R-2
NFPORS TREATMENT CATEGORY*	Invasive Species	FISCAL YEAR(S) (list each year):	2006,2007, 2008
NFPORS TREATMENT TYPE *	Chemical Treatment	WUI? Y / N	Y
IMPACTED COMMUNITIES AT RISK	Amargosa Valley and private lands within the Refuge boundary	IMPACTED T&E SPECIES	Ash Meadows speckled dace, Ash Meadows Amargosa pupfish, Ash Meadows milkvetch, Spring-loving centaury, Ash Meadows gumplant, Ash Meadows ivesia, Ash Meadows sunray

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

<p>A. General Description: Continue to utilize integrated pest management practices (chemical, mechanical, and cultural control methods), as appropriate to prevent the spread and establishment of noxious weeds and undesirable species known to exist within the fire perimeter of the Meadows Fire and as detected by monitoring.</p> <p>B. Location/(Suitable) Sites: Control all weeds as defined on the Noxious Weed Map as "Existing" locations. There are approximately 263 acres of known weed locations.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> Continue to control non-native invasive weeds within the burn area and as identified by monitoring. Known infestation of Russian Knapweed (<i>Centaurea repens</i>), Hyssop bassia (<i>Bassia hyssopifolia</i>), Russian Thistle (<i>Salsola spp</i>), and Saltcedar (<i>Tamarix spp.</i>) Multiple treatments will be required with a variety of control techniques. Ground and aerial application of chemicals including but not limited to Garlon, Glyphosate, Crossbow®, Arsonel® may be required. Timing of application may need to be adjusted to ensure treatment of each species is conducted in the proper phenological stage to ensure the protection and recovery of native, endemic and Federally listed species Follow-up control in the fall, spring or subsequent years on treated sites. Locate, map, and document (using photography, topographic maps, and Global Positioning System--GPS—technology), new weed occurrences within burned area. Provide GPS shape files to contractors for use in GPS guided applications. Document percent control or kill of noxious weeds. Initiate Agency approved control measures on new weed occurrences where monitoring demonstrates the establishment or expansion of known weed populations. Monitor water quality in aquatic areas adjacent to herbicide treatments areas using passive samplers to detect herbicides. <p>D. Purpose of Treatment Specifications: Control or contain existing noxious weed occurrences to prevent further spread onto uninfested sites within the burn area. Protect the ecological integrity and site productivity of seven (7) Threatened or Endangered plant and animal species and their associated habitats on lands administered by the AMNWR. Prevent spread of noxious weeds into critical habitats of T&E species on unburned lands within and adjacent to the refuge.</p> <p>E. Treatment Effectiveness Monitoring Proposed: Spot checking of noxious weed sites to ensure control methods are meeting management objectives. A staff person from the AMNWR will visit sites controlled every week after initial treatment; this is especially important for weed populations that are sprayed to ensure effectiveness of herbicide application. If both spring and summer/fall applications are used then visits will occur during both these times.</p>
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II. LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	COST/ITEM
USFWS – GS-05 Term Biological Technician @ \$13.21/hour + benefits @ 33% = \$17.57 x 8 hours/day x 42 days (2 Months) x 2 year +10 days (FY06) x 2 positions	\$26,425
TOTAL PERSONNEL SERVICE COST	\$26,425

EQUIPMENT PURCHASE, LEASE, OR RENTAL (Item @ Cost/Hours or Cost/Day or # Days X # Fiscal Years = Cost/Item) Note: Purchase requires written justification that demonstrates cost/item benefits over lease or rental.	
Vehicle Lease- 4WD Pick-up truck @ \$700/month x 2 months x 2 yrs	\$2,800
TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST	\$2,800
MATERIAL AND SUPPLIES (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item)	COST/ITEM
Field and office supplies @ \$1000 x 2 years	\$2,000
TOTAL MATERIAL AND SUPPLY COST	\$2,000
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item)	COST/ITEM
TOTAL TRAVEL COST	\$0.00
CONTRACT COST (Labor or Equipment @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item)	COST/ITEM
Control weeds with herbicides on 100 acres: ground application, rough terrain – 100 acres @ \$311.00/ac x 2 years	\$62,200
Follow up weed treatments, ground applications, ATV @ \$100/ac x 100 ac x 2 years	\$20,000
Water Quality Testing- @ \$3,972.50/site x 2 sites x 2 years	\$31,780
TOTAL CONTRACT COST	\$113,980.00

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY06	09/01/2006	09/30/2006	FA	Acres	\$691.45	10	\$6,915
FY07	10/1/2006	9/30/2007	FA,SC	Acres	\$691.45	100	\$69,145
FY08	10/01/2007	8/30/2008	FA,SC	Acres	\$691.45	100	\$69,145
TOTAL							\$145,205

Work Agent: CA=Coop Agreement, FA=Force Account, G=Grantee, P=Permitee, SC=Service Contract, TSP=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	C
2. Documented cost figures from similar project work obtained from local agency sources.	C,E,M
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, E = Equipment M = Materials/Supplies, T = Travel, C = Contract, F = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within the Accomplishment Report.
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BURNED AREA REHABILITATION PLAN MEADOWS FIRE

TREATMENT NAME	Native Planting	PART E SPECIFICATION #	R-3
NFPORS TREATMENT CATEGORY*	Reforestation	FISCAL YEAR(S) (list each year):	2006, 2007, 2008
NFPORS TREATMENT TYPE *	Planting	WUI? Y / N	Yes
IMPACTED COMMUNITIES AT RISK	Amargosa Valley and private lands within the Refuge boundary	IMPACTED T&E SPECIES	Ash Meadows speckled dace, Ash Meadows Amargosa pupfish, Ash Meadows milkvetch, Spring-loving centaury, Ash Meadows gumplant, Ash Meadows ivesia, Ash Meadows sunray

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

<p>A. General Description:</p> <p>The continuation of vegetation rehabilitation is necessary in order to promote the recovery of native vegetation, protect biological diversity of plant communities and critical T&E habitats, minimize erosion, and prevent the return of invasive plant species which create fire prone conditions. Native grasses, shrubs and trees will be hand-planted by contract crews to re-establish native vegetation within moderate to high burn severity areas. Native seed will continue to be collected and propagated at private nurseries to produce seedlings to plant in appropriate microhabitats within the burned area after channel rehabilitation and invasive species treatments are accomplished. The need for replanting and application rates will be based on the monitoring results from subsequent years. The plantings will be conducted in conjunction with noxious weed control and channel rehabilitation.</p> <p>B. Location/(Suitable) Sites:</p> <p>The areas to be replanted are within the Meadows fire perimeter, including along historic spring/stream channels and in areas where noxious weeds have encroached. The replanting will occur mostly in areas within the burn that was moderate to high intensity. The area roughly coincides with the existing noxious weed locations.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. A plan would be developed by a contractor which identifies specific guidelines for revegetation based on existing soil and moisture microhabitats, and recovery goals of listed species. 2. Site preparation by contractors 3. The species for replanting the burn area will include willow, ash, mesquites, saltgrass, alkali sacton, baccaris, and indian rice grass. Seed will be collected from local species and propagated under contract with federal and private nurseries. 4. Container stock and grass plugs will be planted by contract crews under the guidance of Refuge staff. 5. Installation of plants will occur during the cooler months (Oct – April). <p>D. Purpose of Treatment Specifications:</p> <p>The purpose of the treatment is to help prevent noxious weed encroachment and protect T&E species and their associated habitats. The native grass plantings are important in reducing bare ground, stabilizing plant communities, reducing spread of non-native invasives and protecting critical habitats of endemic plant species. Installation of trees and shrubs are important along the Jackrabbit channel in that they reduce the ability of cattails and salt cedar to become established, help to reduce water temperatures during the summer months, and provide nutrients in the form of allochthonous materials to support an aquatic food web.</p> <p>E. Treatment Effectiveness Monitoring Proposed:</p> <p>See Vegetation Monitoring Specification.</p>

LABOR, EQUIPMENT, MATERIALS, AND OTHER COST:

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	COST/ITEM
USFWS – GS-05 Term Biological Technician @ \$13.58/hour + benefits @ 33% = \$18.06 x 8 hours/day x 42 days (2 Month) x 2 year +10 days (FY06) x 2 positions =	\$26,425
TOTAL PERSONNEL SERVICE COST	\$26,425
EQUIPMENT PURCHASE, LEASE, OR RENTAL (Item @ Cost/Hours or Cost/Day or # Days X # Fiscal Years = Cost/Item) Note: Purchase requires written justification that demonstrates cost/item benefits over lease or rental.	COST/ITEM
Vehicle Rental- 20' container truck x \$500/mo x 1 months x 2 year	\$1,000
Mini Excavator rental - @ \$1250/week x 2 weeks x 1 yrs	\$2,500
TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST	\$3,500
MATERIAL AND SUPPLIES (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item)	COST/ITEM
Planting supplies @ \$500 x 2 years	\$1,000
TOTAL MATERIAL AND SUPPLY COST	\$1,000
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item)	COST/ITEM
TOTAL TRAVEL COST	\$0.00
CONTRACT COST (Labor or Equipment @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item)	COST /ITEM
Native Seed Collection and Cleaning @ 4 trips x \$5925/per trip x 2 years	\$47,400
Plant materials- 60 plants/acre x 50 acres x \$.184/plant x 2 year	\$11,040
Native Plantings- Contract Crew @ \$6/per 1 gallon container x 3,000 plants x 2 year	\$36,000
TOTAL CONTRACT COST	\$94,440

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY06	09/01/2006	09/30/2006	FA,SC	Acres	\$1253.65	5	\$6,268
FY07	10/01/2006	09/30/2007	FA,SC	Acres	\$1253.65	45	\$56,414
FY08	10/01/2007	08/30/2008	FA,SC	Acres	\$1253.65	50	\$62,683
TOTAL							\$125,365

Work Agent: CA=Coop Agreement, FA=Force Account, G=Grantee, P=Permitee, SC=Service Contract, TSP=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1.	Estimate obtained from 2-3 independent contractual sources.	C
2.	Documented cost figures from similar project work obtained from local agency sources.	E

3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, E = Equipment M = Materials/Supplies, T = Travel, C = Contract, F = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within the Accomplishment Report.
--

BURNED AREA REHABILITATION PLAN MEADOWS FIRE

TREATMENT NAME	Treatment Effectiveness Monitoring	PART E SPECIFICATION #	R-4
NFPORS TREATMENT CATEGORY*	Monitoring	FISCAL YEAR(S) (list each year):	2006,2007,2008
NFPORS TREATMENT TYPE *	Treatment Effectiveness Monitoring	WUI? Y / N	Y
IMPACTED COMMUNITIES AT RISK	Amargosa Valley and private lands within the Refuge boundary	IMPACTED T&E SPECIES	Ash Meadows speckled dace, Ash Meadows Amargosa pupfish, Ash Meadows milkvetch, Spring-loving centaury, Ash Meadows gumplant, Ash Meadows ivesia, Ash Meadows sunray

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

<p>A. General Description: Continue to monitor invasive species treatment effectiveness, channel rehabilitation and native plantings recovery within the burned area to determine if management objectives are being met and to identify any future channel rehabilitation, planting or noxious weed control needs. Plants to be monitored include saltcedar, Russian knapweed, bassia, and other invasives found, and all native planting treatments.</p> <p>Continue monitoring for new occurrences of undesirable plant species (noxious and exotic or invasive), within the burned area. Monitoring will occur in un-infested areas having a high potential for weed invasion. Continue monitoring for establishment of native grasses and other plant materials following treatment to determine if revegetation efforts or natural recovery are meeting management goals.</p> <p>B. Location/(Suitable) Sites: Monitoring for noxious weeds will occur in areas with potential for weed invasion and in areas that are treated for noxious weeds (see Noxious Weed Map).</p> <p>Monitoring for planting success will occur in treated areas to determine success in competing with noxious weeds and reclaiming bare ground.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. Establish permanent transects for each treatment which will be established prior to treatment to continue short-term monitoring on known noxious weed occurrences and in areas of potential spread within the burned area to determine spread of noxious and invasive plant species. The monitoring protocol has been developed by USGS-BRD, using a modified version of the National Park Service FMA protocol. The monitoring will evaluate one or more of the following: cover, height, density, frequency, and visual obstruction for individual plant species or groups of species. Line intercept can be used to measure shrub canopy cover and quadrat-sampling methods can be used to measure frequency. Collect data to describe the vegetation recovery from the fire. Compare reestablishment within burn area to control areas outside of burn. 2. Prepare annual reports and a final report analyzing the data for burned and unburned sites to determine cover and frequency of natives. 3. Locate, map, and document (using photography, topographic maps, and Global Positioning System--GPS—technology), new weed occurrences within burned area. 4. Continue with Agency approved control measures pursuant to the Integrated Pest Management plan on new weed occurrences where monitoring demonstrates the establishment or expansion of known weed populations. 5. For native planting areas, information from monitoring transects shall determine survival rates of planted species including healthy, sick, dead or missing plants. These data may be used to determine if additional Emergency Stabilization and/or Rehabilitation actions will be continued. <p>D. Purpose of Treatment Specifications: Noxious weed and invasive plant monitoring is required to detect new weed occurrences in the burned area, to monitor known weed densities, and determine the effectiveness of treatments. Monitoring of native grass planting success and effectiveness is required to ascertain the degree of competition with undesirable plant species and determine if additional treatments are necessary to control non-native invasive species and protect ecosystem biodiversity.</p> <p>E. Treatment Effectiveness Monitoring: As described in this specification. Coordination and oversight between the Refuge staff, contractors, and USGS-BRD regarding data collection and interpretation shall increase effectiveness of this monitoring.</p>

II. LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	COST/ITEM
USFWS – GS-05 Term Biological Technician @ \$13.58/hour + benefits @ 33% = \$18.06 x 8 hours/day x 42 days (2 Month) x 2 year +10 days (FY06) x 2 positions =	\$26,425
TOTAL PERSONNEL SERVICE COST	\$26,425
EQUIPMENT PURCHASE, LEASE, OR RENTAL (Item @ Cost/Hours or Cost/Day or # Days X # Fiscal Years = Cost/Item) Note: Purchase requires written justification that demonstrates cost/item benefits over lease or rental.	COST/ITEM
Vehicle Lease- 4WD Pick-up truck @ \$700/month x 2 month x 2 yrs	\$2,800
TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST	\$2,800
MATERIAL AND SUPPLIES (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item)	COST/ITEM
Field supplies (rebar, fence posts, measuring tape, monitoring frames, flagging, etc) and office supplies (paper, computer discs, pencils, etc) @ \$500 x 2 years	\$1,000
TOTAL MATERIAL AND SUPPLY COST	\$1,000
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item)	COST/ITEM
TOTAL TRAVEL COST	\$0.00
CONTRACT COST (Labor or Equipment @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item)	COST /ITEM
Monitoring Contract for data acquisition, data management and reports- Great Basin Institute @ \$15,000/year x 2 years	\$30,000
TOTAL CONTRACT COST	\$30,000

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY06	09/01/2006	09/30/2006	FA	Survey	\$547.51	10	\$5,475
FY07	10/01/2006	9/30/2007	FA,CA	Survey	\$547.51	50	\$27,375
FY08	10/01/2007	9/30/2008	FA,CA	Survey	\$547.51	50	\$27,375
TOTAL							\$60,225

Work Agent: CA=Coop Agreement, FA=Force Account, G=Grantee, P=Permitee, SC=Service Contract, TSP=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	E,M
3.	Estimate supported by cost guides from independent sources or other federal agencies	C
4.	Estimates based upon government wage rates and material cost.	P

5. No cost estimate required - cost charged to Fire Suppression Account

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within the Accomplishment Report.

BURNED AREA REHABILITATION PLAN MEADOWS FIRE

TREATMENT NAME	Cultural Resources Protection	PART E SPECIFICATION #	R-5
NFPORS TREATMENT CATEGORY*	Heritage Resources	FISCAL YEAR(S) (list each year):	2007
NFPORS TREATMENT TYPE *	Protect Heritage Sites	WUI? Y / N	Y
IMPACTED COMMUNITIES AT RISK	Amargosa Valley and private lands within the Refuge boundary	IMPACTED T&E SPECIES	Ash Meadows speckled dace, Ash Meadows Amargosa pupfish, Ash Meadows milkvetch, Spring-loving centaury, Ash Meadows gumplant, Ash Meadows ivesia, Ash Meadows sunray

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

<p>Number and Describe Each Task:</p> <p>A. General Description: A professional archaeologist, meeting the Secretary's standards shall provide oversight to ensure the lead federal agency (FWS), has met its obligations under the National Historic Preservation Act.</p> <p>B. Location/(Suitable) Sites: Historic Properties within the Meadows Fire Re-vegetation treatment areas. Such locations are exempt from public disclosure under the Archaeological Resources Protection Act of 1979 (ARPA), and the Freedom of Information Act (FOIA). The FWS maintains its own records on the location of sensitive cultural resources, and will provide, as necessary such information to law enforcement officers, tribal consultants, and the professional archaeologist having oversight for compliance with the implementing regulations under the NHPA.</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. Complete Section 106 compliance requirements for rehabilitation activities and treatments. <p>D. Purpose of Treatment Specifications: Tribal consultation will occur as part of the Section 106 process. The professional archaeologist, in charge, shall ensure that such consultation meets the implementing regulations under the NHPA, and that the FWS is in full compliance with Section 106 for this federal undertaking.</p> <p>E. Treatment Effectiveness Monitoring Proposed: SHPO concurrence shall suffice to demonstrate FWS has met its requirement for tribal consultation and compliance with Section 106 of the NHPA.</p>
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II. LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST/ITEM
Archaeologist GS-12 @ \$31.84/Hr x 33% for benefits = \$42.35 x 40 hours =	\$1,694
TOTAL PERSONNEL SERVICE COST	\$1,694
EQUIPMENT PURCHASE, LEASE OR RENTAL (Item @ Cost/Hour or Cost/Day X # Hours or # Days X # Fiscal Years = Cost/Item): (Note: Purchase requires written justification that demonstrates cost/item benefits over lease or rental.)	COST/ITEM
TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST	\$0

MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item):	COST/ITEM
TOTAL MATERIALS AND SUPPLY COST	\$0
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item):	COST/ITEM
Lead archeologist @ \$1,500 X 1 Rounds Trips =	\$1,500
Per Diem & Lodging for Arch. @ \$91/day x 2 days	\$182
TOTAL TRAVEL COST	\$1,682
CONTRACT COST (Labor or Equipment @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item):	COST/ITEM
TOTAL CONTRACT COST	\$0

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY07	10/01/2006	09/30/2007	FA	ACRES	\$33.76	100	\$3,376
TOTAL							\$3,326

Work Agent: CA=Coop Agreement, FA=Force Account, G=Grantee, P=Permitee, SC=Service Contract, TSP=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	T
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, E = Equipment M = Materials/Supplies, T = Travel, C = Contract, F = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within the Accomplishment Report.
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BURNED AREA REHABILITATION PLAN MEADOWS FIRE

TREATMENT NAME	Implementation Leader	PART E SPECIFICATION #	R-6
NFPORS TREATMENT CATEGORY*	Administration	FISCAL YEAR(S) (list each year):	2007, 2008
NFPORS TREATMENT TYPE *	Contract Administration	WUI? Y / N	Y
IMPACTED COMMUNITIES AT RISK	Amargosa Valley and private lands within the Refuge boundary	IMPACTED T&E SPECIES	Ash Meadows speckled dace, Ash Meadows Amargosa pupfish, Ash Meadows milkvetch, Spring-loving centaury, Ash Meadows gumplant, Ash Meadows ivesia, Ash Meadows sunray

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

<p>Number and Describe Each Task:</p> <p>A. General Description: Hire Implementation Leader for to develop additional contract specifications or amendments, monitor contractor performance, process contracts, maintain project documentation, and track expenditures, complete project accomplishments.</p> <p>B. Location/(Suitable) Sites: See other treatments</p> <p>C. Design/Construction Specifications:</p> <ol style="list-style-type: none"> 1. Implementation Leader will coordinate all aspects of rehabilitation plan including administering contracts, documentation of treatments installed, providing accomplishment report, submitting supplemental requests for funding, ensuring the completion of all approved treatments, and coordinating treatments with other agencies and private landowners. 2. Implementation Leader will coordinate on-the-ground implementation of treatments including sites orientation of contractors, developing daily/weekly work plans for contractors/crews, and supervising work. 3. At completing of the funding period the implementation leader will prepare a final accomplishment report. <p>D. Purpose of Treatment Specifications: The implementation leader will develop contract specifications, coordinate contractor access to remote closed refuge property, coordinate all aspects of project implementation, inspect subcontractor work, and report accomplishments.</p> <p>E. Treatment Effectiveness Monitoring Proposed: N/A</p>
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II. LABOR, MATERIALS AND OTHER COST:

➤ PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST / ITEM
USFWS – GS-11 Biologist @ \$27.39/hour + benefits @ 33% = \$36.42 x 8 hours/day x 130 days (6 months) x 2 year	\$75,754
TOTAL PERSONNEL SERVICE COST	\$75,754
➤ EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	COST / ITEM
One Leased Vehicle and fuel @ \$700/month x 12 months (2 yrs) =	\$8,400
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	\$8,400
➤ MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	COST / ITEM
TOTAL MATERIALS AND SUPPLY COST	\$0
➤ TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	COST /

TOTAL TRAVEL COST		ITEM \$0
TOTAL CONTRACT COST		COST / ITEM \$0

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNIT S	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY07	10/01/2006	9/30/2007	FA	Month	\$7,012.83	6	\$42,077
FY08	10/01/2007	08/30/2008	FA	Month	\$7,012.83	6	\$42,077
TOTAL							\$84,154

Work Agent: CA=Coop Agreement, FA=Force Account, G=Grantee, P=Permitee, SC=Service Contract, TSP=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P,E
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, E = Equipment M = Materials/Supplies, T = Travel, C = Contract, F = Suppression

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--

BURNED AREA REHABILITATION PLAN MEADOWS FIRE

PART G - RESTORATION REQUIREMENT

The following are post-rehabilitation implementation, operation, maintenance, monitoring, and evaluation actions beyond three years from fire control to ensure the effectiveness of initial investments. Estimated annual cost and funding source is indicated.

1. Map, implement and monitor invasive species through a refuge-wide integrated vegetation management action (\$12,783,000, FY08-FY11, Southern Nevada Public Lands Management Act funding).
2. Implement invasive species control and revegetation (in-kind services and support provided through the Federal Interagency Southern Nevada Restoration Team, and National Park Service Exotic Plant Management Team).

**BURNED AREA REHABILITATION PLAN
MEADOWS FIRE**

PART H - CONSULTATIONS

U. S. Fish and Wildlife Service

LouAnn Speulda, Regional Archeologist, Portland, OR

Shawn Goodchild, Aquatics Biologist, Ecological Services, Southern Nevada Field Office

Fred Edwards, Botanist, Ecological Services, Southern Nevada Field Office

U. S. Geological Survey

Gary Scopetone, Fisheries Biologist, Biological Resources Division, Reno Field Station

Nevada Department of Wildlife

Brian Hobbs, Fisheries Biologist, Fisheries Bureau, Las Vegas, NV

**BURNED AREA REHABILITATION PLAN
MEADOWS FIRE**

APPENDIX I - BURNED AREA ASSESSMENT REPORTS

- Amended Vegetation Damage Assessment

**BURNED AREA REHABILITATION PLAN
MEADOWS FIRE**

**MEADOWS FIRE AMENDED VEGETATION DAMAGE ASSESSMENT
REPORT**

I. Objectives

- Reevaluate invasive species encroachment into native plant communities.
- Provide additional management recommendations to assist in the continuation of vegetation recovery and species habitat protection to prevent any set-backs in progress made in regards to habitat protection and rehabilitation.

II. Issues

- Long term impacts to plant communities and vegetation resources on Ash Meadows NWR lands within the Meadows Fire.
- Impacts due to the acceleration of non-native or invasive species establishment in designated Critical Habitat of four Federally listed plant species, due to the ground disturbance caused by the Meadows Fire.
- Need for additional management strategies, which provide for the recovery and revegetation of heavily impacted areas.
- Need for the continued protection and enhancement of other resource values including site biodiversity, meadow riparian plant communities, endemic and Threatened and Endangered Species.
- Need for long-term protection of aquatic resources through prevention of erosion by planting native species such as saltgrass, willow and ash trees.
- Need to establish streamside vegetation to permit desired conditions of sunlight infiltration and allochthonous material inputs to promote native aquatic species.

III. Observations

This assessment identifies and addresses known and potential impacts to the vegetation resources within the perimeter of the Meadows fire on Ash Meadows NWR, in addition to what was provided by the BAER team's vegetation assessment provided in the Emergency Stabilization (ES) Plan. Vegetation resources, for this assessment will be defined as plant communities, individual plant species, Threatened, Endangered and Sensitive (TES) plant species and critical habitat for TES plants.

Findings and Recommendations contained in this assessment are based upon information obtained from field reconnaissance and data collected within the burned area. Data was collected within the impacted area using ground GPS/GIS technology.

This assessment will further attempt to capture the concerns and issues of Ash Meadows NWR staff, USFWS-ES, BAER Implementation Leader and other cooperating agencies for the future management of the lands in and near the burned area. It will expand on the known damage to the vegetation resources, the critical need for non-native invasive species control, revegetation of native species for the recovery of the vegetation resources, and the effects of proposed rehabilitation treatments.

A. Background Information

Ash meadows is a unique wetlands system associated with springs, seeps, outflow channels and areas with high groundwater tables, including woodlands comprised of mesquite and ash trees and a variety of herbaceous communities. A recent checklist of vascular plants at Ash Meadows NWR R includes 332 taxa, of which 227 (83 percent) are native to the Ash Meadows ecosystem. Eight of the plant species are endemic and their distribution is restricted to the Ash Meadows area. Many of these species have been impacted by historic development of the area. In the early 1960's and 70's, springs and streams were extensively altered and diverted for agricultural development. Thousands of acres were leveled adjacent to the springs for alfalfa and other intensively farmed crops. In the late 1970's the property was purchased by a large land developer and initial work began for planned housing tracts and golf courses. In an effort to protect rare endemic species, the Nature Conservancy purchased 12,654 acres in 1984 which was then sold to the USFWS that same year.

Ash Meadows is essentially a watered island amidst the expansive Mohave Desert. Because of this feature, however, there still exists endemic species whose existence has been threatened by land disturbance, moisture regime modification, and non-native invasive species expansion.

The undetermined-caused Meadows Fire started in the afternoon of July 29, 2005, on private land within the authorized boundary of Ash Meadows NWR. Gusty, erratic winds due to a large thunderstorm blew the fire in three directions following heavy fuels. Due to the high winds and heavy fuel fuels, over 60% of the burn was high intensity. The fire was declared contained on July 30, 2005. A total of 311 acres has been impacted by the fire, including private (30 acres), USFWS lands administered by the Ash Meadows NWR (150 acres), and Bureau of Land Management lands, which are cooperatively managed by Ash Meadows NWR (131 acres).

Resource concerns expressed by Ash Meadows NWR for vegetation resources include damage to designated critical habitat for four Federally-listed species, native vegetation loss, short and long-term impacts to wet meadow and riparian habitats, and the potential for spread of invasive species into critical habitat for T&E and endemic species. Resource management direction was obtained from the *Ash Meadows Refuge Management Plan* (1987), *Recovery Plan for the endangered and threatened species of Ash Meadows, Nevada* (1990), and information contained within the *Draft Ash Meadows Comprehensive Conservation Plan* (2004).

B. Reconnaissance Method

Ground reconnaissance methods have continued after the departure of the BAER Team and builds upon their initial assessment. Mapping of the non-native invasive species within the burn area is complete and provides a more accurate impact of non-native invasive species within the burned area. Ground reconnaissance included traversing affected areas on foot, and recording observations of non-native invasive species using GPS/GIS.

C. Findings

Primary plant communities within the fire area include upland areas dominated by saltbush (*Atriplex* sp., primarily *confertifolia* and *lentiformis* ssp. *torreyi*); alkali flats and seasonally wet meadows with alkali sacaton (*Sporobolus airoides*), salt grass (*Distichlis spicata*), blue-eyed grass

(*Sisyrinchium* sp.), Ash Meadows gumplant (*Grindelia fraxino-pratensis*), spring-loving centaury (*Centaureum namophilum*), Tecopa birds-beak (*Cordylanthus tecopensis*), western niterwort (*Nitrophila occidentalis*), Mojave thistle (*Cirsium mohavense*), and Ash Meadows lady tresses (*Spiranthes infernalis*); wet meadows of *Juncus* sp. and sedges (*Scirpus* sp.); cattail (*Typha domingensis*) marshes; and riparian areas with Ash trees (*Fraxinus velutina*), mesquite (*Prosopis glandulosa* var. *torreyana* and *Prosopis pubescens*), and narrow-leaved willow (*Salix exigua*). Spring discharge maintains soil moisture in the lowlands while uplands only receive water from rainfall that averages less than 2.75 inches annually.

As part of the emergency stabilization efforts, contractors were hired to assist the refuge with implementing emergency stabilization of the Jackrabbit Outflow. This also includes invasive species control, native planting, monitoring treatments, and assessing the extent of the non-native invasive species and the damage caused by the fire to fish and wildlife habitat. The contractors have mapped the burned area for non-native invasive species and their extent. Field reconnaissance has confirmed weed locations and new occurrences have been located. Mapped non-native invasive species include salt cedar (*Tamarix ramosissima*), 5-hook Bassia (*Bassia hyssopifolia*), Russian knapweed (*Acroptilon repens*), Russian olive (*Elaeagnus angustifolia*), Russian thistle (*Salsola* spp) and Fan Palm (*Washingtonia filifera*). The mapping has identified approximately 263 acres of the 311 acre fire to be infested with invasive species. The original vegetation assessment by the BAER team estimated the infested area to be only about 160 acres.

Saltcedar is found primarily along waterways and adjacent to old agricultural fence and has the ability to totally choke out all vegetation in riparian areas. The extent of the Saltcedar is estimated to be approximately 158 acres in size. Saltcedar is a primary threat to the recovery of Ash and Mesquite and threatens critical habitat for many wildlife and plant species. Resprouting of the tamarisk has been identified on plants that were not burned completely. Russian knapweed is expanding at an alarming rate. The mapped population is 40 plus acres in size. Ash Meadows NWR has successfully combated Russian knapweed in some areas however the lack of funding and personnel now threatens the gains they have made on several large populations. Five-hook Bassia, Russian knapweed, Russian olive, Russian thistle, and Fan Palm make up the additional 65 acres.

Management guidelines contained within the *Recovery Plan for the Endangered and Threatened Species of Ash Meadows, Nevada* state that “All non-native animals and plant species must be eradicated from essential habitat.” Additionally, the plan states that “Historic vegetation must be reestablished in all areas not requiring maintenance of structures for management purposes.”

Mechanical and chemical tamarisk control treatments were implemented earlier in the year and a total of 125 acres have been treated to date, with an additional 35 acres scheduled for treatment at the end of July 2006.

IV. Recommendations

A. Rehabilitation

- Invasive Species Control- continue to control non-native invasive species population using Integrated Pest Management practices to control known and new populations within and adjacent to the burn area.

- Native Planting-continue plantings of native grasses, shrubs and trees which are critical to maintain the biological integrity and biodiversity of the plant communities within the burned area and stem the noted expansion of non-native invasive species.
- Vegetation Monitoring-Monitor known and new populations of non-native invasive species; monitor treatment effectiveness and implement adaptive management principles to effectively treat non-native invasives within the Meadows fire.

B. Non-specific related recommendations

- Continue to partner with U. S. Geological Survey -Las Vegas Field Station; currently assisting in monitoring the vegetation within the burned area, as well as actively pursue partnerships with other agencies and non-profits to assist with implementation of rehabilitation efforts
- Continue consultation with U.S. Fish and Wildlife Service, Ecological Services on the Integrated Pest management Plan and non-native invasive species control measures to ensure protection of Threatened and Endangered and endemic species.
- Thoroughly document treatments and results for annual accomplishment reporting. Pursue additional rehabilitation funding as necessary.
- Continue partnering with USFWS-ES and USGS-BRD to develop and implement planting strategies to benefit native aquatic species, such as the speckled dace.

V. Consultations

NAME, AGENCY, TITLE	TELEPHONE
Fred Edwards, Fish and Wildlife Service, Ecological Services, Botanist	702-515-5230
Curt Deuser, National Park Service, Exotic Plant Management Team Lead	702-293-8979
Matt Brooks, U. S. Geological Survey, Vegetation Ecologist	702-564-4615

VI. References

- U. S. Fish and Wildlife Service. 1990. Recovery Plan for the Endangered and Threatened Species of Ash Meadows, Nevada. Fish and Wildlife Service, Portland, Oregon. 123 pp.
- U. S. Fish and Wildlife Service. 2004. Preliminary Administrative Comprehensive Conservation Plan and Draft Environmental Impact Statement. U. S. Fish and Wildlife Service, California-Nevada Office, Sacramento, CA. 243 pp.
- U. S. Fish and Wildlife Service. 1989. Ash Meadows Refuge Management Plan, Parts I and II. U. S. Fish and Wildlife Service, Portland, Oregon. 40 pp.

**BURNED AREA REHABILITATION PLAN
MEADOWS FIRE**

APPENDIX II - ENVIRONMENTAL COMPLIANCE

- **Environmental Compliance Consideration and Documentation**
- **NEPA Environmental Checklist**

**BURNED AREA REHABILITATION PLAN
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Environmental Compliance Consideration and Documentation**

Federal, State, and Private Lands Environmental Compliance Responsibilities

All projects proposed in the MEADOWS Burned Area Rehabilitation Plan that are prescribed, funded, or implemented by Federal agencies on Federal, State, or private lands are subject to compliance with the National Environmental Policy Act (NEPA) in accordance with the guidelines provided by the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); Department of the Interior and Fish and Wildlife Services. This Appendix documents the Burned area emergency response team considerations of NEPA compliance requirements for prescribed rehabilitation and monitoring actions described in this plan for all jurisdictions affected by the MEADOWS Fire.

This plan identifies specific rehabilitation and monitoring actions designed to mitigate damages to resources that result of the Meadows Fire.

Agency Specific Guidance: This NEPA documentation has been developed in accordance with the following agency specific guidelines.

U.S. Fish and Wildlife Service: Rehabilitation and monitoring actions proposed on will comply with U.S. Fish and Wildlife Service, NEPA Guidelines, Part 516 (DM 6, Appendix 1).

Related Plans and Cumulative Impact Analysis

Recovery Plan for the Endangered and Threatened Species of Ash Meadows, Nevada (1990).

The purpose of Ash Meadows National Wildlife Refuge is: *“to conserve (A) fish or wildlife which are listed as endangered species or threatened species....or (B) plants...”* (16 U.S.C. 1531 *et seq.*)

Proposed Land and Mineral Withdrawal at the Ash Meadows National Wildlife Refuge and Environmental Assessment (2000).

Ash Meadows National Wildlife Refuge Pesticide Use Proposals, including Integrated Pest Management practices and Biological Assessment (2005).

Ash Meadows Fire Management Plan, 1989

Cumulative Impact Analysis

Cumulative effects are the environmental impacts resulting from the incremental impacts of a proposed action when added to other past, present, and reasonably foreseeable future actions, both Federal and non-Federal. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. The rehabilitation treatments for areas affected by the Meadows Fire, as proposed in the Meadows Fire Burned Area Rehabilitation Plan; do not result in an intensity of impact (i.e. major ground disturbance, etc.) that would cumulatively constitute a significant impact on

the quality of the environment, although stream channel rehabilitation to mitigate for fire damage to critical habitat for threatened and endangered species will be contingent on the completion and approval of all necessary compliance. The treatments are consistent with the above jurisdictional management plans and associated environmental compliance documents and categorical exclusions listed below.

Applicable and Relevant Categorical Exclusions

Except for stream channel rehabilitation, all treatments proposed in this plan for the Meadows Fire are Categorically Excluded from further environmental analysis as provided for in the *specify relevant departmental and agency Categorical Exclusions*. All applicable and relevant Department and Agency Categorical Exclusions are listed below. Categorical Exclusion decisions were made with consideration given to the results of required emergency consultations completed by the Burned area emergency response team and documented below.

Applicable Department of Interior Categorical Exclusion

Part 516 DM 2, App. 1.1	Personnel actions and investigations and personnel services contracts.
Part 516 DM 2, App. 1.6	Non-destructive data collection, inventory (including field, aerial and satellite surveying and mapping), study, research and monitoring activities.
Part 516 DM 2, App. 1.7	Routine and continuing government business, including such things as supervision, administration, operations, maintenance and replacement activities having limited context and intensity; e.g. limited size and magnitude or short-term effects.
Part 516 DM 2, App. 1.11	Activities which are educational, informational, advisory or consultative to other agencies, public and private entities, visitors, individuals or the general public.
Part 516 DM 6 App. 4.4 M (2)	Establishment of non-disturbance environmental quality monitoring programs and field monitoring stations including testing services.

Applicable Fish and Wildlife Service Categorical Exclusions

(1) Research, inventory, and information collection activities directly related to the conservation of fish and wildlife resources which involve negligible animal mortality or habitat destruction, no introduction of contaminants, or no introduction of organisms not indigenous to the affected ecosystem.

(2) The construction of new, or the addition of, small structures or improvements, including structures and improvements for the restoration of wetland, riparian, streams, or native habitats, which result in no or only minor changes in the use of the affected local area. The following are examples of activities that may be included.

- i. The installation of fences.
 - ii. The construction of small water control structures.
 - iii. The planting of seeds or seedlings and other minor revegetation actions.
 - iv. The construction of small berms or dikes.
 - v. The development of limited access for routine maintenance and management purposes.
- (3) Fire management activities including prevention and restoration measures, when conducted in accordance with departmental and Service procedures.

Statement of Compliance for the Meadows Fire Burned Area Rehabilitation Plan.

This section documents consideration given to the requirements of specific environmental laws in the development of the Meadows Fire Burned Area Rehabilitation Plan. Specific consultations initiated or completed during development and implementation of this plan are also documented. The following executive orders and legislative acts have been reviewed as they apply to the Meadows Fire Burned Area Rehabilitation Plan:

1. **National Historic Preservation Act (NHPA).** The Burned Area Rehabilitation Team Archeologist has determined that rehabilitation treatments will not adversely affect cultural resources within the Meadows Fire burned area. This plan provides funds to complete any additional NHPA consultation and documentation requirements.
2. **Executive Order 11988, Floodplain Management.** All proposed treatments are in compliance with this order.
3. **Executive Order 11990, Protection of Wetlands.** All proposed treatments are in compliance with this order.
4. **Executive Order 12372, Intergovernmental Review.** Coordination and consultation is ongoing with affected Tribes, Federal, and local agencies. A copy of the plan will be disseminated to all affected agencies and funding is provided by the plan to facilitate completion of tribal consultations.
5. **Executive Order 12892, Federal actions to address Environmental Justice in Minority and Low-Income Populations.** All Federal actions must address and identify, as appropriate, disproportionately high and adverse human health or low-income populations, and Indian Tribes in the United States, The Burned Area Rehabilitation Team has determined that the actions proposed in this plan will result in no adverse human health or environmental effects for minority or low-income populations and Indian Tribes.
6. **Endangered Species Act.** The Burned Area Rehabilitation Team wildlife biologist and vegetation specialist consulted with the U.S. Fish and Wildlife Service regarding actions proposed in this plan and potential affects on Federally listed species and have determined that there is no effect, except for the stream channel rehabilitation within critical habitat, implementation will be contingent on compliance approval. Individual agencies are

responsible for continued consultations during plan implementation as site specific treatments are developed.

7. **Clean Water Act.** All proposed treatments are in compliance with this Act. Emergency stabilization and rehabilitation measures proposed are necessary to maintain clean water within the burn and adjacent areas. Long-term impacts are considered beneficial to water quality.
8. **Clean Air Act.** Federal Ambient Air Quality Primary and Secondary Standards are provided by the National Ambient Air Quality Standards, as established by the U.S. Environmental Protection Agency (EPA) (Clean Air Act, 42 U.S.C. 7470, et seq., as amended). The Burned Area Rehabilitation Team determined that treatments prescribed in the Meadows Fire burned area will have short-term minor impacts to air quality that would not differ significantly from routine land use practices for the area. Long-term treatments proposed in the plan would be expected to have a beneficial impact to air quality through stabilization of ash and soils within the Meadows Fire burned area.
9. **Wilderness Act.** The Meadows Fire did not impact designated or proposed wilderness.

CONSULTATIONS

LouAnn Speulda, Archeologist, Region 1, Fish and Wildlife Service Office, Portland OR
Linda Miller, Acting Project Leader, Desert National Wildlife Refuge Complex
Cristi Baldino, Wildlife Biologist, Ash Meadows National Wildlife Refuge
Sharon McKelvey, Refuge Manager, Ash Meadow National Wildlife Refuge
Shawn Goodchild, Fish and Wildlife Biologist, Ecological Services, Las Vegas, Nevada
Fred Edwards, Botanist, Ecological Services, Las Vegas, Nevada

NEPA Checklist: If any of the following exception applies, the Burned Area Rehabilitation Plan cannot be Categorically Excluded and an Environmental Assessment (EA) is required.

(Yes) (No)

- (x) Adversely affect Public Health and Safety
- (x) Adversely affect historic or cultural resources, wilderness, wild and scenic rivers aquifers, prime farmlands, wetlands, floodplains, ecologically critical areas, or Natural Landmarks.
- (x) Have highly controversial environmental effects.
- (x) Have highly uncertain environmental effects or involve unique or unknown environmental risks.
- (x) Establish a precedent resulting in significant environmental effects.
- (x) Relates to other actions with individually insignificant but cumulatively significant environmental effects.
- (x) Adversely effects properties listed or eligible for listing in the National Register of Historic Places
- (x) Adversely affect a species listed or proposed to be listed as Threatened or Endangered.

- Threaten to violate any laws or requirements imposed for the "protection of the environment" such as Executive Order 11988 (Floodplain Management) or Executive Order 11990 (Protection of Wetlands).

National Historic Preservation Act

Ground Disturbance:

- None
- Ground disturbance did occur and an archeologist survey, required under section 110 of the NHPA was prepared.

A NHPA Clearance Form:

- Is required because the project may have affected a site that is eligible or on the national register. The clearance form is attached. SHPO has been consulted under Section 106 (see Cultural Resource Assessment, Appendix I).
- Is not required because the Burned Area Rehabilitation Plan has no potential to affect cultural resources (initial of cultural resource specialist).

Other Requirements

(Yes) (No)

- Does the Burned Area Rehabilitation Plan have potential to affect any Native American uses? If so, consultation with affiliated tribes is needed.
- Are any toxic chemicals, including pesticides or treated wood, proposed for use? If so, local agency integrated pest management specialists must be consulted.

I have reviewed the proposals in the Meadows Fire Burned Area Rehabilitation Plan in accordance with the criteria above and have determined that the proposed actions would not involve any significant environmental effect. Therefore it is categorically excluded from further environmental (NEPA) review and documentation. Burned area emergency response team technical specialists have completed necessary coordination and consultation to insure compliance with the National Historic Preservation Act, Endangered Species Act, Clean Water Act and other Federal, State and local environment review requirements.

Sharon McKelvey, Refuge Manager, Ash Meadows National Wildlife Refuge Date

Linda Miller, Acting Project Leader, Desert NWR Complex, FWS Date

**BURNED AREA REHABILITATION PLAN
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APPENDIX III - MAPS

- **Critical Habitat Maps**

**BURNED AREA REHABILITATION PLAN
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APPENDIX IV - PHOTO DOCUMENTATION

- Non-native Invasive Species Control and Mapping
- Effectiveness Monitoring

