

MEADOWS FIRE

BURNED AREA REHABILITATION ACCOMPLISHMENT REPORT FISCAL YEAR 2008



U. S. FISH AND WILDLIFE SERVICE ASH MEADOWS NATIONAL WILDLIFE REFUGE

**Prepared by: Heather Hundt – Fish and Wildlife Biologist
July 29, 2008**

**MEADOWS FIRE
FY 2008 BURNED AREA REHABILITATION
ACCOMPLISHMENT REPORT**

TABLE OF CONTENTS

PART A – FIRE LOCATION AND BACKGROUND INFORMATION 3
PART B – ACCOMPLISHMENT REPORT 4
PART C – MONITORING REPORT 9
PART D – FINANCIAL SUMMARY 10
PART E – PHOTO DOCUMENTATION 11



A desert spiny lizard takes advantage of one of the many tree snags created by the Meadows Fire.

**MEADOWS FIRE
FY 2008 BURNED AREA REHABILITATION
ACCOMPLISHMENT REPORT**

PART A - FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	MEADOWS	Jurisdiction		Acres	
Fire Number	NV-AMR-B2FI	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	

**Fish and Wildlife Service
MEADOWS FIRE
FY 2008 BURNED AREA REHABILITATION
PART B - ACCOMPLISHMENT REPORT**

Date Prepared: July 29, 2008	BAER Plan Name: Meadows Fire	Location (Region, Agency/Tribe): California/Nevada Operations Fish and Wildlife Service, Ash Meadows NWR
Prepared by: Heather Hundt (USFWS)		Project Implementation Leader: Heather Hundt (USFWS)
Line Item: R-1, Critical Habitat Rehabilitation	Specification Title: Critical Habitat Rehabilitation	
Percentage of Spec. Completed: 100%	Total funds Expended: \$138,818	Type of Funding Used: BAR
<p>Narrative: During FY 2008 habitat rehabilitation continued across eighty acres of critical habitat for six plant and fish species listed under the Endangered Species Act. Design and construction specifications included:</p> <ul style="list-style-type: none"> ➤ Stream and aquatic habitat rehabilitation in the lower stream channels. <p>In February 2008, Otis Bay Ecological Consultants continued rehabilitation work on the lower Jackrabbit Stream Channel, removing an irrigation ditch and realigning it into the historic channel. A new culvert was installed under the main Spring Meadows Road to prevent water becoming impounded on the east side of the road. Additional plantings occurred along the new channel to stabilize the channel and prevent erosion.</p> <p>The primary purpose of the habitat rehabilitation was to promote the recovery of a less fire prone, native vegetation community, which in turn increased aquatic habitat for the endangered Ash Meadows pupfish and Ash Meadows Speckled dace.</p>		
		Date Completed: 7/29/2008

**Fish and Wildlife Service
MEADOWS FIRE
FY 2008 BURNED AREA REHABILITATION
ACCOMPLISHMENT REPORT**

<i>Date Prepared:</i> July 29, 2008	<i>BAER Plan Name:</i> Meadows Fire	<i>Location (Region, Agency/Tribe):</i> California/Nevada Operations Fish and Wildlife Service, Ash Meadows NWR
<i>Prepared by:</i> Heather Hundt (USFWS)		<i>Project Implementation Leader:</i> Heather Hundt (USFWS)

<i>Line Item:</i> R-2, Invasive Species Control		<i>Specification Title:</i> Invasive Species Control
<i>Percentage of Spec. Completed:</i> 100%	<i>Total funds Expended:</i> \$61,043	<i>Type of Funding Used:</i> BAR

Narrative: During FY 2008 Ash Meadows continued to control non-native Russian knapweed, five-hook bassia and saltcedar across 100-acres of the burned area. Refuge staff visited critical species habitat rehabilitation sites on a weekly basis to monitor and remove any invasive species found. The contracting firm SWEAT treated large infestation sites on a monthly to quarterly basis, depending on the weed species or control method.

Please refer to the Vegetation Monitoring section of this report for a more in-depth discussion of treatment success.

<i>Date Completed:</i> 7/29/2008
--

**Fish and Wildlife Service
MEADOWS FIRE
FY 2008 BURNED AREA REHABILITATION
ACCOMPLISHMENT REPORT**

Date Prepared: July 29, 2008	BAER Plan Name: Meadows Fire	Location (Region, Agency/Tribe): California/Nevada Operations Fish and Wildlife Service, Ash Meadows NWR
--	--	--

Prepared by: Heather Hundt (USFWS)	Project Implementation Leader: Heather Hundt (USFWS)
--	--

Line Item: R-3, Native Plantings	Specification Title: Native Plantings
--	---

Percentage of Spec. Completed: 100%	Total funds Expended: \$54,581	Type of Funding Used: BAR
---	--	-------------------------------------

Narrative: Refuge staff and contractors from the Nevada Conservation Corps maintained, seeded and planted 50-acres of native vegetation within the burned area. For FY 2008 most of the work was concentrated on the lower jackrabbit channel and around the area where the new culvert was installed under Spring Meadows Road. Additional seeding and plant installation also occurred within the uplands along the upper channel in order to fill in vacant areas between previous plantings.

Species seeded and/or planted included Arizona ash, screwbean mesquite, alkali sacaton, inland saltgrass and various forbs. Planting success ranged from approximately 70% for mesquite trees and about 32% for Arizona ash trees. We've found that in more favorable soil conditions seeding of ash trees worked better than planting of container trees.

Date Completed: 7/29/2008

**Fish and Wildlife Service
MEADOWS FIRE
FY 2008 BURNED AREA REHABILITATION
ACCOMPLISHMENT REPORT**

<i>Date Prepared:</i> July 29, 2008	<i>BAER Plan Name:</i> Meadows Fire	<i>Location (Region, Agency/Tribe):</i> California/Nevada Operations Fish and Wildlife Service, Ash Meadows NWR
<i>Prepared by:</i> Heather Hundt (USFWS)		<i>Project Implementation Leader:</i> Heather Hundt (USFWS)
<i>Line Item:</i> R-4, Implementation Leader	<i>Specification Title:</i> Implementation Leader	
<i>Percentage of Spec. Completed:</i> 100%	<i>Total funds Expended:</i> \$33,974	<i>Type of Funding Used:</i> BAR

Narrative: From October 2007 through July 2008 the Implementation Leader coordinated all aspects of the rehabilitation plan including administering contracts, documentation of treatments installed, and ensuring the completion of all approved treatments. Along with development and implementation of contracts the Implementation Leader also coordinated treatments with other agencies and adjacent private landowners, as well as completing the 2008 accomplishment report.

The implementation leader functioned as the Contracting Officer Representative (COR) for all contracts that were in place for the Meadows Fire BAR Plan. All work was coordinated to ensure completion by specific deadline dates and that contract milestones were completed.

<i>Date Completed:</i> 7/29/2008
--

**Fish and Wildlife Service
MEADOWS FIRE
FY 2008 BURNED AREA REHABILITATION
ACCOMPLISHMENT REPORT**

PART C – MONITORING REPORT

SPECIFICATION TITLE:	Vegetation Monitoring	JURISDICTION	FWS-ASME
PART E LINE ITEM:	Vegetation Monitoring	FISCAL YEAR:	2008
SITE ID	N/A	SPECIFICATION TYPE:	BAR

I. TREATMENT EFFECTIVENESS REPORT

A. Objectives: Continue to monitor non-native invasive species treatment effectiveness and native planting recovery within the burned area to determine if management objectives are being met, and to identify any future planting or noxious weed control needs. Plants to be monitored include salt cedar, five-hook bassia, southern cattail and common reed, as well as all native planting treatments.

Continue monitoring for new occurrences of undesirable plant species (noxious and exotic), within the burned area. Monitoring will occur in uninfested areas having a high potential for weed invasion.

Continue monitoring for establishment of planted native grasses and other plant materials the first year following treatment to determine if revegetation efforts are meeting management goals.

B. Prescribed Treatment:

1. Control non-native invasive weeds within the burn area utilizing a variety of control techniques including herbicide and mechanical treatments. Timing of herbicide application is 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.
2. Follow-up control in the fall, spring and subsequent years on treated sites as appropriate.
3. Locate, map, and document (using photography, topographic maps, and Global Positioning System--GPS—technology) new or changed 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.
4. Initiate Agency approved control measures on weeds where monitoring demonstrates the establishment or expansion of known weed populations.
5. Monitor water quality in aquatic areas adjacent to herbicide treatments areas using passive samplers to detect herbicides.
6. Native seeds and cuttings were collected to propagate plants at private nurseries to produce tublings for planting.
7. Hand-plant native grasses, shrubs and trees by contract crews to re-establish native vegetation within moderate to high burn severity areas.

C. Treatment Modifications: There have been no modifications to the native planting or invasive species treatments during FY 2007.

D. Treatment Effectiveness Monitoring:

1. Permanent transects for each treatment were established prior to treatments 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 was developed by USGS-BRD, using a modified version of the National Park Service FMA protocol.
2. For native planting areas, permanent transects and photo points were established to monitor survival rates of planted species and to adjust planting methods or timing if monitoring indicates a deficiency in methods.

E. Observations: Effectiveness monitoring of weed treatments occurred once during each of the four seasons. Salt cedar treatments were 75% successful (mechanical and cut-stump). Re-treatments of five-hook bassia were deemed to be 79% successful. Southern cattail treatments were found to be 77% successful for the first year but grow back the following spring, albeit less dense. Russian knapweed success depends more on the site than the different types of treatments. Moist sites have a low to moderate success rate (20-40%), vs. dry upland sites where success rates approach 70%.

Phase 3 of the native plantings began in October of 2007 and continued throughout the fiscal year. As of mid-July 2008, approximately 78% of the grass and plantings appeared to be successful and at least 57% of the trees were doing well (mesquites performing far better than ash trees). As mentioned in previous reports the drip irrigation was funded through funds obtained through the Southern Nevada Public Lands Management Act for rehabilitation of previously weed infested areas. No BAR funds were used for the drip irrigation.

**MEADOWS FIRE
2008 BURNED AREA REHABILITATION
ACCOMPLISHMENT REPORT**

PART D – FINANCIAL SUMMARY

Treatment Specification	Unit	Unit Cost	# of Units	Approved Funds	Total Funds Expended
R-1 Critical Habitat Rehabilitation	Acres	\$1,735.23	80	\$146,920	\$138,818
R-2 Invasive Species Control	Acres	\$610.43	100	\$69,145	\$61,043
R-3 Native Plantings	Acres	\$1,091.62	50	\$62,683	\$54,581
R-4 Treatment Effectiveness Monitoring	Survey	\$385.44	50	\$27,375	\$19,272
R-6 Implementation Leader	Month	\$5,662.33	6	\$42,077	\$33,974
TOTAL	N/A	N/A	N/A	\$348,200	\$307,688

**MEADOWS FIRE
2008 BURNED AREA REHABILITATION
ACCOMPLISHMENT REPORT**

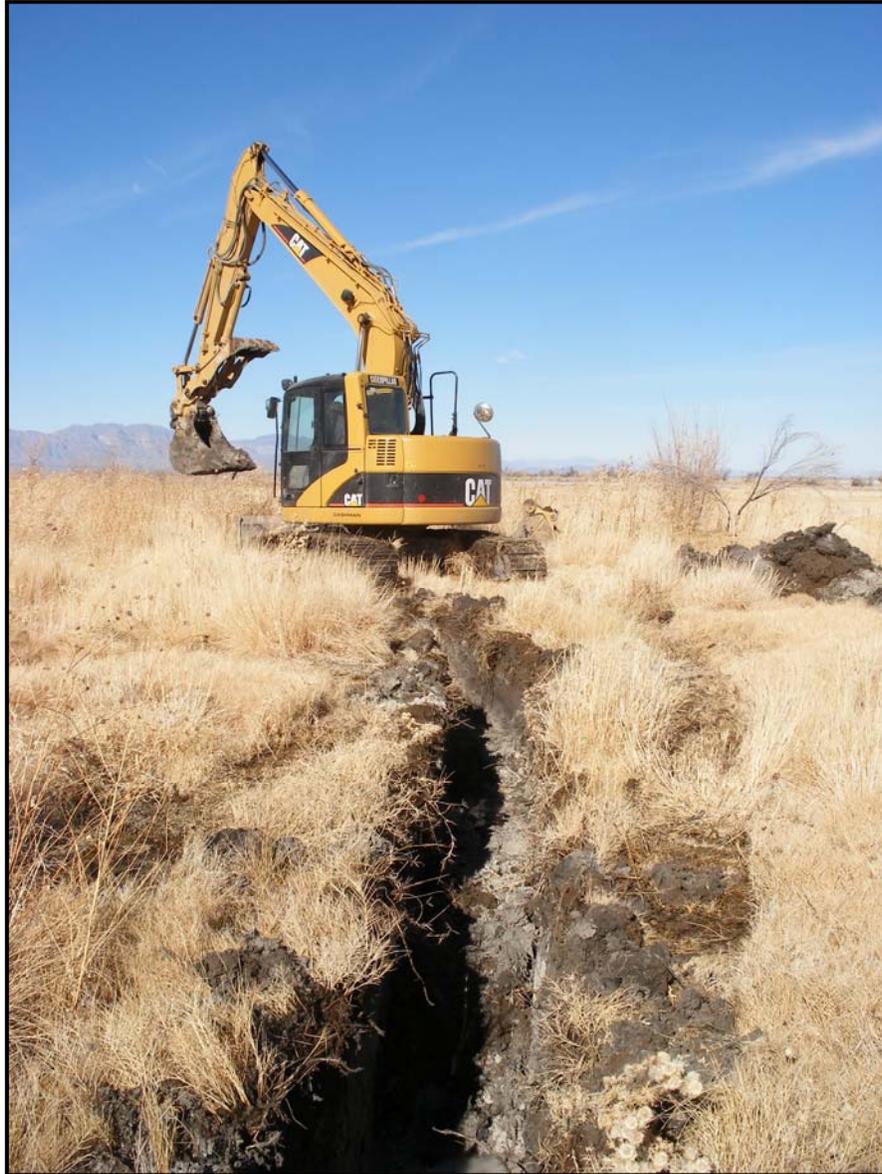
PART E - PHOTO DOCUMENTATION

- Critical Habitat Rehabilitation
- Invasive Species Control
- Native Plantings
- Treatment Effectiveness Monitoring



Aerial view of the rehabilitated jackrabbit stream channel.

CRITICAL HABITAT REHABILITATION



The last of the heavy equipment work on lower Jackrabbit stream channel was completed in late February 2008.

INVASIVE SPECIES CONTROL



Ash Meadows National Wildlife Refuge employee, Mark James works on controlling invasive five-hook bassia within the Meadows Fire project area.



Members of the Nevada Conservation Corps remove invasive southern cattail from the lower Jackrabbit Stream channel. A remnant population remained after the channel reconstruction due to moist soil conditions persisting after the work had been completed.

NATIVE PLANTINGS



Before – Native plantings along the rehabilitated Jackrabbit stream channel began in early 2007. By late 2007 vegetation along the newly restored stream channel began to thrive (by Mojave Desert standards).



After – By July 2008, after supplemental plantings and additional reseeding the riparian community is well on its way to recovery.

TREATMENT EFFECTIVENESS MONITORING



Before – Photopoints were one of the methods used to document the effectiveness of the native plantings along the rehabilitated Jackrabbit stream channel.



After – This photo was taken one year after the previous photo. The success rate of the native plantings approached 80% for some of the species, including coyote willow and sporabalus.