

# **Fuji Fire-June 5, 2004-Hanford Reach National Monument BURNED AREA EMERGENCY STABILIZATION PLAN**



**AGENCY/UNIT:** Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge

**LOCATION:** Richland, Grant County, Washington

**DATE:** June 10, 2004

**PREPARED BY:** Hanford Reach National Monument ESR Team

Submitted By: \_\_\_\_\_ Date: \_\_\_\_\_  
Greg M. Hughes, Project Leader

**REVIEW AND APPROVAL**

FWS, Hanford Reach National Monument

**I. Suppression Operations Funding Approval (check one box below):**

- Approved
- Approved with Revision (see attached)
- Disapproved

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**Gregory M. Hughes, Project Leader** **Date**

**II. Burned Area Stabilization (9142) Funding Approval (check one box below):**

- Approved
- Approved with Revision (see attached)
- Disapproved

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**Gregory M. Hughes, Project Leader,** **Date**

**Regional Fire Management Coordinator concurrence** that the plan fits the technical definition for use of Burned Area Emergency Stabilization finding.

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**Regional Fire Management Coordinator, Region 1** **Date**

**III. Agency Operational Base Funding Approval (check one box below):**

- Approved
- Approved with Revision (see attached)
- Disapproved

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**Gregory M. Hughes, Project Leader**

**Date**

**III. Burned Area Stabilization Funding Approval (check one box below):**

- Approved
- Approved with Revision (see attached)
- Disapproved

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**Regional Director, Region 1**

**Date**

## **EXECUTIVE SUMMARY**

### **Introduction**

This plan has been prepared in accordance with provisions contained with Chapter 620 DM 3-Burned Area Emergency Stabilization and Rehabilitation, Presidential Proclamation 7319 of June 9, 2000 and the Hanford Reach National Monument Fire Management Plan. This plan provides burned area emergency stabilization and rehabilitation (ESR) recommendations for all lands burned within the Fuji Fire perimeter and downstream impact areas including public lands administered by the U.S. Fish and Wildlife Service. The primary objectives of the Fuji Fire Burned Area Emergency Stabilization (ES) Plan are:

### **Emergency Stabilization**

- To prescribe cost effective post-fire stabilization measures necessary to protect human life, property, and critical cultural and natural resources.
- To promptly stabilize and prevent further degradation to affected resources on lands within the fire perimeter or downstream impact areas and mitigate damages caused by fire suppression operations in accordance with approved land management plans and policies, and all relevant federal, state, and local laws and regulations.

This plan addresses the emergency stabilization and fire suppression impacts/ fire related damages to lands administered by the Service on the Hanford Reach National Monument (HRNM). Based upon field assessments conducted by HRNM staff between June 5-7, 2004, an analysis was conducted to include: suppression impacts, watershed stability, archaeological and vegetation impacts, fire effects on known threatened and endangered (T&E) species and their habitats. Our archeologists conducted initial inventories of suppression impacts for potential damage to cultural sites as well as initiating a cultural resource damage assessment. The vegetation specialist evaluated and assessed fire damages and suppression impacts to vegetative resources, including threatened and endangered (T&E) species, and identified values at risk associated with vegetative losses. The wildlife biologist conducted an assessment of T&E species.

Individual resource Burned Area Assessment Reports produced by these specialists are in Appendix I. The individual treatments specifications including the effectiveness monitoring identified in the assessments can be found in Part F. A summary of the costs is in Part E. Appendix II contains the National Environmental Policy Act (NEPA) compliance documentation summary. Appendix III contains the ESR Plan maps. Appendix IV contains photo documentation. Appendix V contains supporting documentation.

### **Fire Background**

The Fuji Fire, Number 13700-9141-A4BA , started on July 5, 2004 at approximately 0400 hours by an apparent lightning strike from an early morning thunder storm. The fire smoldered for approximately nine hours before being discovered and reported at 1335 hours. The fire burned extremely hot as it was pushed through the shrub-steppe community by gusting winds. The Fuji fire burned approximately 36.4 acres in Wyoming Big sagebrush/ Spiny Hopsage and Sandberg's bluegrass. The fire exhibited erratic rates of spread and threatened to jump the South Unit Irrigation canal on the north boundary of the Saddle Mountain National Wildlife

Refuge (SMNWR). Firefighters from Grant county and the USFWS responded to the incident along with the assistance of a Single Engine Air Tanker (SEAT) based out of the Richland, WA. airport. A unified command initiated initial attack at Road E. Initial attack activities were conducted by fire crews and engines and supported by the SEAT. A dozer pulling disc put in a firebreak on the east and southern flank. Use of the SEAT and disking proved an effective method of line construction and fire containment. Ground disturbance within the shrub-steppe plant community was substantial given the fire location, and necessary fire suppression actions (disking actions) that were employed to prevent the loss of an additional estimated 3,000 acres. The disk lines were later used by suppression forces to access the edges of the fire and thereby created wheel track trails that have compacted soils, increased access potential to off-road vehicles and negatively impacted native vegetation and micro-biotic crusts.

The Fuji Fire was contained at approximately 1600 hours on June 5, 2004.

The HRNM ESR Team, tasked with evaluation of short and long-term rehabilitation needs, developed this plan to address the following issues:

- Cultural and natural resource values impacted by the fire or fire suppression actions.
- Rehabilitation requirements established by Federal law, policies, and relevant Department of the Interior resource management mandates.
- Rehabilitation requirements established by state laws, policies, and regulations.
- Implementation of treatments in a timely manner, prior to the first damaging rains.

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

The Fuji Fire burned 36.4 acres, of public lands. All impacted lands are within the SMNWR. . Fire suppression impacts included: approximately 1 mile of disked fireline, with 0.5 miles on Monument lands, damage to the Monument boundary fence, and the potential spread of perennial pepper weed and knapweed by suppression forces and suppression actions.

The entire fire has been mapped by the BAER Team for burn severity. Seventy percent of the fire area is classified as low burn severity with thirty percent mapped as moderate/high burn severity. This attests to the fires' rapid spread through light fuels, extremely low fuel moisture levels in 100 and 1000 hour fuels and long residency times within the shrubs. Most of the soils examined were not water repellent. Therefore, an overall water yield increase due to the fire is expected to be minor and not exacerbate flooding events.

Almost all plant and litter cover that was present in the burn area has been consumed by the fire. The loss of vegetative cover has exposed fine sandy and silty soils to ablation. Nearly all soils within the burn area have a fairly high risk of wind erosion, however, certain soils within the burn area are especially susceptible.

The ESR Team conducted field surveys after the fire to identify impacts and compile the following recommendations for rehabilitation of affected lands:

#### **Fire Suppression Treatments:**

- Inventory disklines for potential archeological sites prior to rehabilitation
- Rehabilitate 1 mile of diskline

- Repair the Monument boundary fence
- Repair access road under BPA powerline into fire area

#### **Emergency Fire Stabilization and Rehabilitation Treatments:**

- Conduct cultural resource damage assessment of known/documented sites
- Control unburned non-native invasive plants
- Protect ecological integrity of native shrub-steppe plant communities through native grass seeding
- Monitor seeding effectiveness for site stabilization
- Control noxious weeds and invasive plant species

Specifications were developed for all actions meeting the requirements of fire suppression or Emergency Fire Stabilization (ES) funding.

Other resource impacts assessed as a result of the Fuji Fire included a review of cultural sites impacted, and impacts to vegetation resources. The cultural resource assessment addresses the discovery of lithic scatters and an isolated projectile point. Prior to rehabilitation of suppression lines, an archeological inventory will be required. A cultural resource damage assessment of the burn area still needs to be completed as quickly as possible.

Federal T&E plant species listed as occurring or having habitat within Grant County have not been previously mapped within the fire area. Listed wildlife species existing within the fire area include Burrowing Owls and Washington Ground Squirrels.

Burrowing Owls are a federal species of concern and a state candidate species. There is no known active burrows within the fire area.

This area is also potential habitat for the Washington Ground Squirrel, a federal and state candidate species. There are no known burrows within the fire area however this area has not been actively surveyed to date.

Vegetation resources provide valuable wildlife forage and habitat, watershed protection, and comprise a visually pleasing landscape. Generally speaking, bunchgrass communities experienced greater than 95% vegetative loss. On approximately 65% of the fire area, complete consumption of vegetative resources was observed. Most shrub, grass and forb species and organic material on the soil surface was consumed indicating extreme fire intensity. The primary vegetative concerns are the recovery of the shrub-steppe plant community (Wyoming Big Sagebrush and Spiny Hopsage) and control of non-native species and noxious weed invasion.

This BAER Plan is the initial funding request for Emergency Fire Stabilization funds. The Emergency Fire Stabilization funding for this plan is for one year from the date of fire containment. At the conclusion of the funding period, a final Accomplishment Report will be due to the approval authority. The Accomplishment Report will document the funding received, (initial and supplemental funding), treatments installed, the effectiveness of the installed treatments and the results of monitoring activities.

#### **Hanford Reach National Monument Management Requirements**

The uniqueness and biological diversity of the Hanford Reach was formally recognized by Presidential Proclamation 7319 of June 9, 2000 establishing this area as the Hanford Reach National Monument. The monument is described as a “biological treasure, embracing important riparian, aquatic, and upland shrub-steppe habitats that are rare or in decline in other areas. Within its mosaic of habitats, the monument supports a wealth of increasingly uncommon native plant and animal species, the size and diversity of which is unmatched in the Columbia Basin.” Because of the high diversity of native plant and animal species, the large number of rare and sensitive plant species, the well developed microbiotic crusts and significant breeding populations of nearly all steppe and shrub-steppe dependent species, the FWS has been tasked to preserve and protect these objects of antiquity in perpetuity. Primary goals for the Monument through the current Comprehensive Conservation Plan include:

- Protect and restore the native habitats and biodiversity of the Hanford shrub-steppe ecosystem.
- Monitor, protect, and recover native plants and animals that are federally or state listed and any other species that are in any other way considered sensitive.
- Monitor status and trends of migratory birds, particularly those that are considered shrub-steppe obligate species and manage local populations.
- Provide for compatible education, interpretation, and wildlife-dependent recreational opportunities.
- Promote public understanding of the shrub-steppe ecosystem through scientific research and allow other compatible research opportunities afforded by the unique and isolated environment of the ALE Reserve.
- Manage for the protection, preservation, evaluation, and understanding of the cultural heritage and resources of the ALE Reserve while consulting with appropriate Native American groups and complying with historic preservation legislation.
- Provide for operation and maintenance activities without compromising ecological and cultural values.

## **Emergency Stabilization**

Emergency Stabilization actions for the Fuji fire include:

- Ecological stabilization through seeding of native species to prevent the establishment and reestablishment of non-native invasive plants.
- Cultural inventories of suppression impacted areas and known cultural sites to prevent further degradation or impacts.
- Noxious weed and invasive species control to protect ecological integrity of the site.

The following statements in the approved HRNM Fire Management Plan direct the development of the proposed burned area rehabilitation treatments funded through the Burned Area Stabilization and Rehabilitation funds:

- Prior to the completion of an ESR, rehabilitation may be initiated by the Incident Commander, FMO, or Project Leader. A set of standard treatments for slopes, channels, and roads are pre-approved and listed in the Fire Management Handbook on pg. 5.2-1. If emergency rehabilitation measures are needed or if rehabilitation is needed to reduce the effects of a wildland fire then the Monument can request appropriate funding through the Burned Area Emergency Rehabilitation (BAER) fund. ESR plans for each fire will be reviewed by the Fire Analysis Committee. A final plan will be submitted to Region for establishing an account. Rehabilitation should be initiated prior to complete demobilization or early the following season.
- Protect and restore the native habitats and biodiversity of the Hanford shrub-steppe ecosystem. (ALE -CCP)
- Monitor, protect, and recover native plants and animals that are federally or state listed and any other species that are in any other way considered sensitive. (ALE-CCP)

## TABLE OF CONTENTS

REVIEW AND APPROVAL .....	<a href="#">ii</a>
EXECUTIVE SUMMARY .....	<a href="#">iv</a>
TABLE OF CONTENTS .....	<a href="#">1</a>
PART A - FIRE LOCATION AND BACKGROUND INFORMATION .....	<a href="#">2</a>
PART B - NATURE OF PLAN .....	<a href="#">3</a>
PART C - EMERGENCY STABILIZATION AND REHABILITATION ASSESSMENT .....	<a href="#">4</a>
PART D - TEAM ORGANIZATION, MEMBERS, AND RESOURCE ADVISORS .....	<a href="#">5</a>
PART E - SUMMARY OF ACTIVITIES AND COSTS .....	<a href="#">7</a>
PART F - INDIVIDUAL TREATMENT SPECIFICATIONS .....	<a href="#">10</a>
PART G - POST-REHABILITATION REQUIREMENT .....	<a href="#">26</a>
APPENDIX I - ESR BURNED AREA ASSESSMENT REPORTS .....	<a href="#">27</a>
APPENDIX II - ENVIRONMENTAL COMPLIANCE .....	<a href="#">41</a>
APPENDIX III - MAPS .....	<a href="#">46</a>
APPENDIX IV - PHOTO DOCUMENTATION .....	<a href="#">48</a>

**PART A - FIRE LOCATION AND BACKGROUND INFORMATION**

Fire Name	Fuji
Fire Number	13700-9141-A4BA
Agency Unit	Hanford Reach National Monument
Region	1
State	WA
County(s)	Grant
Ignition Date/Cause	06/05/2004 - Lightning
Zone	CWICC
Date Contained/ Controlled	06/05/2004
Jurisdiction- FWS	36.4 Acres
Total Acres	36.4 Acres

**PART B - NATURE OF PLAN**

I. Type of Plan (check one box below)

<input checked="" type="checkbox"/>	Emergency Stabilization
<input type="checkbox"/>	Rehabilitation
<input type="checkbox"/>	Both Emergency Stabilization and Rehabilitation

II. Type of Action (check one box below)

<input checked="" type="checkbox"/>	Initial Submission
<input type="checkbox"/>	Updating or Revising the Initial Submission
<input type="checkbox"/>	Supplying Information of Accomplishment to Date on Work
<input type="checkbox"/>	Different Phase of Project
<input type="checkbox"/>	Final Accomplishment Report (To Comply with the Closure of the 9262 Account)

## **PART C - EMERGENCY STABILIZATION AND SUPPRESSION IMPACTS ASSESSMENT**

### Emergency Stabilization Objectives:

- Locate and stabilize severely burned areas which pose a direct threat to human life, property or critically important cultural and/or natural resources.
- As practical and necessary, restore natural conditions to areas disturbed by fire suppression actions.
- Prevent the establishment of non-native invasive plants.

### Suppression Impacts Rehabilitation Objectives:

- ✓ Rehabilitate suppression impacts to Columbia Basin shrub-steppe plant communities with native species as specified in the June 9, 2000 Presidential Proclamation and the Comprehensive Land Use Plan (DOE-1999) as prescribed within the existing Memorandum of Understanding.
- ✓ Repair or replace burned and damaged infrastructure along the Monument boundary.

**PART D - TEAM ORGANIZATION, MEMBERS, AND RESOURCE ADVISORS**

I. Approval Authorities

U.S. Fish and Wildlife Service- Hanford Reach National Monument

Activities Requiring Local Agency Administrator Approval Fire Suppression Damages (charged to Fire Suppression)	Status	Cost
Dozerline/Disk line rehabilitation	P	\$4,534
Boundary Fence Repair	P	\$3,607
Cultural Resources Damage Assessment	P	\$ 974
<b>Subtotal</b>		<b>\$9,115</b>

Status: C=Completed,; O=Ongoing; P=Planned

Activities Requiring Regional/State/Headquarters Approval Emergency Stabilization and Rehabilitation (charged to BAR)	Status	Cost
Noxious Weed and Invasive Species Control	P	\$ 1,953
Ecological stabilization seeding	P	\$ 14,100
Noxious weed control and revegetation effectiveness monitoring	P	\$ 1,488
<b>Subtotal</b>		<b>\$ 17,541</b>

Status: C=Completed,; O=Ongoing; P=Planned

<b>Total Emergency Stabilization and Suppression Rehabilitation Costs</b>	<b>\$ 26,656</b>
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II. Burned Area Emergency Stabilization and Rehabilitation (ESR) Team Members:

<b>Position</b>	<b>Team Member (Agency)</b>
Team Leader	David Smith- USFWS-HRNM
Public Information	Ron Crouse and Paula Call- USFWS-HRNM
Operations	Jack Heisler- USFWS-HRNM
NEPA Compliance & Planning	David Smith- USFWS-HRNM
Hydrologist	
Soil Scientist	
Geologist	
Cultural Resources/Archeologist	Jenna Gaston- USFWS- HRNM
Vegetation Specialist	David Smith- USFWS-HRNM
Wildlife Biologist	Heidi Newsome- USFWS-HRNM
GIS Specialist	
Documentation/Computer Specialist	David Smith- USFWS-HRNM
Photographer	Heidi Newsome- USFWS- HRNM

III. Resource Advisors: (Note: Resource Advisors are individuals who assisted the ESR Team with the preparation of the plan. See Part H for a full list of agencies and individuals who were consulted or otherwise contributed to the development of the plan).

<b>Name</b>	<b>Affiliation</b>
Paula Call	Hanford Reach NM, Outdoor Recreation Planner
Eric Hagen	Hanford Reach NM, Fire Management Officer
Tom Padgett	Hanford Reach NM, Range Technician
Robert Little	Hanford Reach NM, Engineering Equipment Operator
Greg Hughes	Hanford Reach NM, Project Leader
Aaron Bibe	Hanford Reach NM, Range Technician
Mike Ritter	Hanford Reach NM, Deputy Project Leader

**PART E - SUMMARY OF ACTIVITIES AND COSTS**

The summary of activities and cost table below identifies emergency stabilization costs proposed for funding from Suppression Operations, Burned Area Emergency Stabilization, agency operation, and other funding sources. Expenditures are displayed in the total cost column. They are coded with the appropriate cost authority. The total cost of the rehabilitation effort to date, excluding the costs absorbed by the fire account (fire crews, labor, and associated overhead) is displayed as either Suppression Operations (F), Burned Area Stabilization (BAR), Emergency Watershed Protection (EWP), or Agency Operations/Other (O/OP) or other.

**Fire Name: Fuji**

**Specification Cost Summary**

Account	Dollars	Dollars
Fire Suppression Activity Damage Rehabilitation (F)		\$9,115
Burned Area Rehabilitation (BAR)		\$17,541
Emergency Stabilization	\$ 17,541	
Rehabilitation	\$ N/A	
Emergency Watershed Protection (EWP)		
Agency Operations/Other (OP/O)		
Funding Summary - Estimated Total		\$26,656



**INTERAGENCY  
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN**

**PART F - SPECIFICATION**

<b>SPECIFICATION TITLE:</b>	Diskline and Road Rehabilitation	<b>JURISDICTIONS:</b>	USFWS-HRNM
<b>PART E LINE ITEM:</b>	#1- Diskline and Road Rehabilitation	<b>FISCAL YEAR:</b>	2004
<b>ESR REFERENCE #:</b>	6.2.13 Wildland Fire Suppression Activity Damage	<b>SPECIFICATION TYPE:</b>	FS

**I. WORK TO BE DONE**

**1. General Description:** Rehabilitation of approximately 1 mile of suppression line and 1.5 miles of access road is necessary to protect habitats from noxious weed infestation, off-road vehicle intrusion on the landscape and to minimize fragmentation of ecological areas. Monitoring of suppression line rehab is necessary to determine the need for future exotic plant mitigation needs. Dozer lines and disk lines within the burned area on lands managed by FWS will be treated according to methods described in the Hanford Site Biological Resource Management Plan (HSBRMP, 1996). Soils are currently too powdery for immediate rehabilitation therefore treatments should be delayed until fall of 2004 until soil conditions and growing conditions are favorable to maximize success of rehabilitation actions.

**2. Location (Suitable) Sites:** See Appendix III and photo documentation section. Within and adjacent to the fire perimeter of the Fuji fire.

**C. Design/Construction Specifications:**

- Return soil in side-cast berms back into center profile of disturbed areas. Disked lines will be treated using a tractor and disk/harrow to return and recontour disturbed areas back to the natural land profile and break up compaction to a 6 inch depth.
- Water rills will be constructed on lands with slopes greater than 5%.
- Water rills should be skewed horizontally from the fall line of the slope approximately 15 to 20 degrees from horizontal and drained away from the fire burned area if possible.
- Fill materials will be cleaned or removed from established drainages and live water courses if feasible without further disturbance of the drainage area.
- Reseed disturbed lands with Hanford or Columbia Basin derived native seed. The seed mix will be tested for purity and germination rates. Contractor will provide written evidence (seed label and letter) that seed conforms to the origin, purity and germination requirements in the specification. Test methods specified in the *Rules for Testing Seeds, Proceedings of the Association of Official Seed Analysts* will be acceptable for determining the germination rate.

Seed Mix for low elevations (<800')- 6 Acres (MOL))

Bluebunch wheatgrass ( <i>Pseudorogneria spicatum</i> )	6 lbs./ac. PLS	34%
Indian Ricegrass ( <i>Oryzopsis hymenoides</i> )	4 lbs./ac. PLS	22%
Sandberg's bluegrass ( <i>Poa sandbergii</i> )	5 lbs./ac. PLS	28%
Squirreltail, <i>Sitanion hystrix</i>	2 lbs./ac. PLS	11%
Yarrow, ( <i>Achillea millefolium</i> )	0.5 lbs./ac. PLS	02%
Spiny hopsage, ( <i>Grayia spinosa</i> )	0.2 lbs/ac PLS.	01%

**D. Purpose of Treatment Specification:** Prevent surface and gully erosion on lands disturbed by dozerline and disking.

**D. Treatment Effectiveness Monitoring:** Visually inspect line after rain events and promptly correct any erosion problems. Monitor seeding effectiveness and retreat areas as needed to re-establish native grass cover and prevent expansion of non-native invasive species.

**II. LABOR, MATERIALS AND OTHER COST**

<b>PERSONNEL SERVICES (Grade @ cost/hour X # hours X fiscal year = cost/item) Do not include contract personnel costs here - see contract services below</b>	<b>COST/ITEM</b>
WG-9 @ \$30/hour x 20 hours x 1 fiscal year	\$ 600
<b>TOTAL PERSONNEL SERVICE COST</b>	<b>\$600</b>
<b>EQUIPMENT PURCHASE, LEASE OR RENTAL (item @ cost/hour or day X #hours or days X fiscal year = cost) Do not include contract personnel costs here -see contract services below</b>	<b>COST/ITEM</b>

Semi with trailer transport @ \$45/hour x 8 hours	\$360
Challenger Tractor rental with disc @ \$50/hour x 20 hours x 1 fiscal year	\$1,000
<b>TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST</b>	<b>\$1,360</b>

	<b>COST/ITEM</b>
<b>MATERIALS AND SUPPLIES (item @ cost/each X quantity x fiscal year = cost)</b>	
Fuel, Oil and Filters @ \$60/day x 2 days	\$120
Native Seed @ \$360/acre x 6 acres	\$2,160
<b>TOTAL MATERIALS AND SUPPLY COST</b>	<b>\$2,280</b>

	<b>COST/ITEM</b>
<b>TRAVEL COST (Personnel @ rate X round trips X fiscal year = cost)</b>	
4 X 4 Pickup @ 200 miles/rt x 3 round trips x .365/mile x 1 fiscal year	\$219
<b>TOTAL TRAVEL COST</b>	<b>\$219</b>

	<b>COST/ITEM</b>
<b>CONTRACT COST (Labor, equipment, and travel @ cost/hr. X hrs. X fiscal year = cost)</b>	
Drill Seeder Contract @ \$15/acre x 5 acres	\$75
<b>TOTAL CONTRACT COST</b>	<b>\$75</b>

**III. SPECIFICATION COST SUMMARY**

<b>FISCAL YEAR</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b># OF UNITS</b>	<b>COST</b>	<b>FUNDING SOURCE</b>	<b>METHOD</b>
FY-1	acres	\$756	6	\$4,534	F	P, C
FY-2						
FY-3						
<b>TOTAL</b>	acres	\$756	6	\$4,534	F	P,C

**FUNDING SOURCES:**

F = Fire Suppression Account  
 ESR = Emergency Stabilization & Rehabilitation  
 OP/O = Agency Operating or Other Account  
 EWP = Emergency Watershed Protection (NRCS)

**SPECIFICATION TYPE**

ES = Emergency Stabilization  
 R = Rehabilitation  
 FS = Fire Suppression

**METHODS FOR COMPLETION:**

P = Agency Personnel Services  
 C = Contract  
 EFC = Emergency Fire Contract  
 FC = Crew Labor Assigned to Fire

**IV. 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 resources	
3. Estimate supported by cost guides from independent sources or other federal agencies	F
4. Estimate based upon government wage rates and materials cost.	F
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services      M = Materials/Supples      T = Travel      C = Contract      F = Fire Suppression

**V. RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN REPORT**

List relevant documentation and cross-references within ESR Plan: Refer to Appendix I: Operations Assessment and Appendix III- Fire Suppression Impacts Map.

**INTERAGENCY  
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN**

**PART F - SPECIFICATION**

<b>SPECIFICATION TITLE:</b>	Boundary Fence Repair	<b>JURISDICTIONS:</b>	USFWS-HRNM
<b>PART E LINE ITEM:</b>	#2-Boundary Fenceline Repair	<b>FISCAL YEAR:</b>	2004
<b>ESR REFERENCE #:</b>	6.2.13 Wildland Fire Suppression Activity Damage	<b>SPECIFICATION TYPE:</b>	FS

**I. WORK TO BE DONE**

<p><b>1. General Description:</b> Repair approximately 1/4 mile of damaged boundary fence between the Hanford Reach National Monument and adjacent state and private lands.</p> <p><b>2. Location (Suitable) Sites:</b> See Appendix III and photo documentation section. Repair approximately 1/4 mile of HRNM boundary fence on the northern edge of the Fuji fire.</p> <p><b>C. Design/Construction Specifications:</b></p> <p>1. Repair 4-strand fence with 12.5 gauge barbed wire, 5 1/2 foot steel fence posts, stays, and brace posts as required.</p> <p>2. Remove and dispose of damaged and weakened metal posts and wire.</p> <p><b>D. Purpose of Treatment Specification:</b> To restore and maintain the integrity of the National Monument boundary, prevent trespass, reduce ORV access opportunities, and protect the ecological integrity of shrub-steppe plant communities in and around the fire area.</p> <p><b>E. Treatment Effectiveness Monitoring:</b> Conduct contract performance reviews through visual inspections.</p>
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**II. LABOR, MATERIALS AND OTHER COST**

<b>PERSONNEL SERVICES (Grade @ cost/hour X # hours X fiscal year = cost/item) Do not include contract personnel costs here - see contract services below</b>	<b>COST/ITEM</b>
WG-9 @ \$30/hour x 12 hours x 1 fiscal year	\$360
<b>TOTAL PERSONNEL SERVICE COST</b>	<b>\$360</b>
<b>EQUIPMENT PURCHASE, LEASE OR RENTAL (item @ cost/hour or day X #hours or days X fiscal year = cost) Do not include contract personnel costs here -see contract services below</b>	<b>COST/ITEM</b>
<b>TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST</b>	
<b>MATERIALS AND SUPPLIES (item @ cost/each X quantity x fiscal year = cost)</b>	<b>COST/ITEM</b>
4 rolls- 12.5 Gauge Barbed wire @ \$42/roll x 1 fiscal year	\$168
80 - 5.5 foot steel posts @ \$2.75 each x 1 fiscal year	\$220
<b>TOTAL MATERIALS AND SUPPLY COST</b>	<b>\$388</b>
<b>TRAVEL COST (Personnel @ rate X round trips X fiscal year = cost)</b>	<b>COST/ITEM</b>
4 X 4 Pickup @ 200 miles/rt x 3 round trips x .365/mile x 1 fiscal year	\$219
<b>TOTAL TRAVEL COST</b>	<b>\$219</b>
<b>CONTRACT COST (Labor, equipment, and travel @ cost/hr. X hrs. X fiscal year = cost)</b>	<b>COST/ITEM</b>
1/4 mile Contracted Fence Repair @ \$2.00/lineal foot x 1,320 lineal feet x 1 fiscal year	\$2,640
<b>TOTAL CONTRACT COST</b>	<b>\$2,640</b>

**III. SPECIFICATION COST SUMMARY**

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY-1	miles	\$901.75	.25	\$3,607	F	C
FY-2						
FY-3						
<b>TOTAL</b>	miles	\$901.75	.25	\$3,607	F	C

**FUNDING SOURCES:**

F = Fire Suppression Account  
 ESR = Emergency Stabilization & Rehabilitation  
 OP/O = Agency Operating or Other Account  
 EWP = Emergency Watershed Protection (NRCS)

**SPECIFICATION TYPE**

ES = Emergency Stabilization  
 R = Rehabilitation  
 FS = Fire Suppression

**METHODS FOR COMPLETION:**

P = Agency Personnel Services  
 C = Contract  
 EFC = Emergency Fire Contract  
 FC = Crew Labor Assigned to Fire

**IV. 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 resources	
3. Estimate supported by cost guides from independent sources or other federal agencies	F
4. Estimate based upon government wage rates and materials cost.	F
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services      M = Materials/Supples      T = Travel      C = Contract      F = Fire Suppression

**V. RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN REPORT**

List relevant documentation and cross-references within ESR Plan: Refer to Appendix I: Operations Assessment and Appendix III- Fire Suppression Impacts Map.

**INTERAGENCY  
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN**

**PART F - SPECIFICATION**

<b>SPECIFICATION TITLE:</b>	Noxious Weed-Invasive Species Control	<b>JURISDICTIONS:</b>	USFWS-HRNM
<b>PART E LINE ITEM:</b>	#3-Noxious Weed-Invasive Species Control	<b>FISCAL YEAR:</b>	2004-2005
<b>ESR REFERENCE #:</b>	6.3.2.1 Non-native Invasive Plant Control	<b>SPECIFICATION TYPE:</b>	ES

**I. WORK TO BE DONE**

<p><b>1. General Description:</b> Control noxious weed infestations remaining within Fuji Fire area prior to seed-set and maturation. Current weed species observed include perennial pepper weed (<i>Lepidium latifolium</i>), diffuse knapweed (<i>Centaurea diffusa</i>), kochia (<i>kochia scoparia</i>), and Russian thistle (<i>Salsola kali</i>). Utilize integrated pest management techniques (herbicides, biological, mechanical and cultural control methods) as appropriate to prevent the spread and establishment of noxious weeds within the fire area. Also, suppression of Cheatgrass (<i>Bromus tectorum</i>) for establishment of native grass seeds.</p> <p><b>2. Location (Suitable) Sites:</b> Control all visible noxious weed populations along roads, on suppression lines and within the fire area. Control sites identified include; disked lines, and perennial pepperweed, diffuse knapweed, kochia, and Russian thistle populations.</p> <p><b>C. Design/Construction Specifications:</b></p> <ol style="list-style-type: none"> <li>Control noxious weeds as identified in USFWS and DOE monitoring surveys (approximately 70% of fire area 30 ac.) prior to seed set in accordance with guidelines contained within ALE and DOE management plans and approved Environmental Assessments.</li> <li>Recommended herbicide for cheatgrass control is Roundup© (glyphosphate). Application at low concentrations (3.5-6.0oz./acre) during late winter-early spring will minimize damage to native species. Recommended herbicide for perennial pepper weed, diffuse knapweed, kochia, and Russian thistle is Transline (Clopyralid) @ 1pt/gallon spot treatment and 2,4-D @ 2.5oz/gallon.</li> <li>Application methods may include hand sprayer or tractor/ATV mounted sprayer.</li> <li>Winds in the area to be sprayed should be less than 3 MPH.</li> <li>A buffer of 150 feet will be adhered to around all open water or wetland areas.</li> <li>Applicator will be state certified.</li> <li>Follow-up control in subsequent years on all new infestation sites as identified through noxious weed monitoring surveys.</li> </ol> <p><b>D. Purpose of Treatment Specification:</b> Protect the ecological integrity and site productivity of shrub-steppe plant communities within the ALE and DOE lands in accordance with established management plan guidelines.</p> <p><b>E. Treatment Effectiveness Monitoring:</b> Conduct fall and spring surveys for noxious weeds and invasive species establishment. Should new occurrences be identified, immediate action will be taken to control new infestations.</p>
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**II. LABOR, MATERIALS AND OTHER COST**

<b>PERSONNEL SERVICES (Grade @ cost/hour X # hours X fiscal year = cost Do not include contract personnel costs here - see contract services below</b>	<b>COST/ITEM</b>
<b>TOTAL PERSONNEL SERVICE COST</b>	
<b>EQUIPMENT PURCHASE, LEASE OR RENTAL (item @ cost/hour or day X #hours or days X fiscal year = cost) Do not include contract personnel costs here -see contract services below</b>	<b>COST/ITEM</b>
<b>TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST</b>	
<b>MATERIALS AND SUPPLIES (item @ cost/each X quantity x fiscal year = cost</b>	<b>COST/ITEM</b>
5 Gallons of Roundup©/Transline @ \$15/gallon x 2 fiscal years	\$75
<b>TOTAL MATERIALS AND SUPPLY COST</b>	\$75
<b>TRAVEL COST (Personnel @ rate X round trips X fiscal year = cost</b>	<b>COST/ITEM</b>
4 X 4 Pickup @ 200 miles/rt x 3 round trips x .365/mile x 2 fiscal years	\$438
<b>TOTAL TRAVEL COST</b>	\$438
<b>CONTRACT COST (Labor, equipment, and travel @ cost/hr. X hrs. X fiscal year = cost</b>	<b>COST/ITEM</b>

Herbicide Application- 36 acres @ \$40/acre x 2 fiscal years	\$1,440
<b>TOTAL CONTRACT COST</b>	<b>\$1,440</b>

**III. SPECIFICATION COST SUMMARY**

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY-1	acres	\$54.25	36	\$1,953	ESR	C
FY-2						
FY-3						
<b>TOTAL</b>	<b>acres</b>	<b>\$54.25</b>	<b>36</b>	<b>\$1,953</b>	<b>ESR</b>	<b>C</b>

**FUNDING SOURCES:**  
**F** = Fire Suppression Account  
**ESR** = Emergency Stabilization & Rehabilitation  
**OP/O** = Agency Operating or Other Account  
**EWP** = Emergency Watershed Protection (NRCS)

**SPECIFICATION TYPE**  
**ES** = Emergency Stabilization  
**R** = Rehabilitation  
**FS** = Fire Suppression

**METHODS FOR COMPLETION:**  
**P** = Agency Personnel Services  
**C** = Contract  
**EFC** = Emergency Fire Contract  
**FC** = Crew Labor Assigned to Fire

**IV. SOURCE OF COST ESTIMATE**

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

**P** = Personnel Services      **M** = Materials/Supplies      **T** = Travel      **C** = Contract      **F** = Fire Suppression

**V. RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN REPORT**

List relevant documentation and cross-references within ESR Plan: Refer to Appendix I: Vegetation Assessment.
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**INTERAGENCY  
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN**

**PART F - SPECIFICATION**

<b>SPECIFICATION TITLE:</b>	Ecological Stabilization - Native grass seeding	<b>JURISDICTIONS:</b>	USFWS-HRNM
<b>PART E LINE ITEM:</b>	#4- Ecological Stabilization - Native grass seeding	<b>FISCAL YEAR:</b>	2004/2005
<b>ESR REFERENCE #:</b>	6.3.2.3 Revegetation	<b>SPECIFICATION TYPE:</b>	ES

**I. WORK TO BE DONE**

<p><b>A. General Description:</b> Apply native seed mix in burned area to stabilize ecological integrity of native shrub steppe community, prevent invasion by noxious weeds and non-native species, and to limit erosion and stabilize soils.</p> <p><b>B. Location (Suitable) Sites:</b> Fire area on Monument lands (36 acres) is located north of State Highway 24 in T15N, R26E, S28, N1/2 or the NW1/4 on the Saddle Mountain National Wildlife Refuge. Reseeding should take place across the entire fire area (36 acres) to stabilize soils, limit weed invasion, and protect ecological integrity.</p> <p><b>C. Design/Construction Specification(s):</b>  <u>Purchase native seed mix:</u> in appropriate amounts to stabilize soils and ecological function according to the following specifications for native seed mix.</p> <p>Seed Mix: (500 acres):</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td>Bluebunch wheatgrass (<i>Pseudoroegneria spicata</i>)</td> <td style="text-align: center;">6 lbs./ac. PLS</td> <td style="text-align: center;">34%</td> </tr> <tr> <td>Indian Ricegrass (<i>Oryzopsis hymenoides</i>)</td> <td style="text-align: center;">4 lbs./ac. PLS</td> <td style="text-align: center;">22%</td> </tr> <tr> <td>Sandberg's bluegrass (<i>Poa sandbergii</i>)</td> <td style="text-align: center;">5 lbs./ac. PLS</td> <td style="text-align: center;">28%</td> </tr> <tr> <td>Squirreltail, <i>Sitanion hystrix</i></td> <td style="text-align: center;">2 lbs./ac. PLS</td> <td style="text-align: center;">11%</td> </tr> <tr> <td>Yarrow, (<i>Achillea millefolium</i>)</td> <td style="text-align: center;">0.5 lbs./ac PLS</td> <td style="text-align: center;">02%</td> </tr> <tr> <td>Spiny hopsage, (<i>Grayia spinosa</i>)</td> <td style="text-align: center;">0.2 lbs/ac PLS.</td> <td style="text-align: center;">01%</td> </tr> </table> <p><u>Seed Mixture Selection and Certification:</u> The seed mix should be tested for purity and germination rates. Before accepting delivery of seed shipment the contractor must provide written evidence (seed label and letter) to the Monument managers (Deputy Project Leader or Natural Resources Specialist) that the seed conforms to the purity and germination requirements in the specification. Seed must also be source identified as originating from the Columbia Basin and should be grown in the Columbia Basin Ecoregion.</p> <p><u>Delivery:</u> Deliver certified weed-free seed sold on pure live seed basis. Deliver to Hanford Reach National Monument.</p> <p><u>Storage:</u> Seed should be applied as soon as possible after delivery. If immediate application is not possible the seed should be stored under dry, cool conditions and protected from rodents and other wildlife. Seed also needs to be protected from dew and rain.</p> <p><u>Timing of Seeding Application:</u> Seeding should occur in December, 2003, or no later than late January, 2004.</p> <p><u>Application Rate:</u> Seed will be applied at the above rates, on a PLS/acre basis.</p> <p><u>Application Method:</u> Seed will be applied by ATV and broadcast seeder followed by light harrow.</p> <p><b>D. Purpose of Treatment Specification:</b> To promote ecological recovery of native shrub/steppe ecosystem, to prevent invasion by non-native species and noxious weeds, and to stabilize soils.</p> <p><b>E. Treatment Effectiveness Monitoring:</b> Monitor to determine effectiveness and if a second seeding is needed. See specification 'Monitor Revegetation and Seeding Effectiveness'.</p>	Bluebunch wheatgrass ( <i>Pseudoroegneria spicata</i> )	6 lbs./ac. PLS	34%	Indian Ricegrass ( <i>Oryzopsis hymenoides</i> )	4 lbs./ac. PLS	22%	Sandberg's bluegrass ( <i>Poa sandbergii</i> )	5 lbs./ac. PLS	28%	Squirreltail, <i>Sitanion hystrix</i>	2 lbs./ac. PLS	11%	Yarrow, ( <i>Achillea millefolium</i> )	0.5 lbs./ac PLS	02%	Spiny hopsage, ( <i>Grayia spinosa</i> )	0.2 lbs/ac PLS.	01%
Bluebunch wheatgrass ( <i>Pseudoroegneria spicata</i> )	6 lbs./ac. PLS	34%																
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Yarrow, ( <i>Achillea millefolium</i> )	0.5 lbs./ac PLS	02%																
Spiny hopsage, ( <i>Grayia spinosa</i> )	0.2 lbs/ac PLS.	01%																

**II. LABOR, MATERIALS AND OTHER COST**

<b>PERSONNEL SERVICES (Grade @ cost/hour X # hours X fiscal year = cost/item)</b>	<b>COST/ITEM</b>
<b>Do not include contract personnel costs here - see contract services below</b>	
GS-11 Archaeologist @ @\$24.00/Hr. X 32 Hrs x 1 fiscal year	\$768
<b>TOTAL PERSONNEL SERVICE COST</b>	<b>\$768</b>
<b>EQUIPMENT PURCHASE, LEASE OR RENTAL (item @ cost/hour or day X #hours or days X fiscal year = cost) Do not include contract personnel costs here -see contract services below</b>	<b>COST/ITEM</b>

<b>TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST</b>	
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<b>MATERIALS AND SUPPLIES (item @ cost/each X quantity x fiscal year = cost</b>	<b>COST/ITEM</b>
Seed mix – @ \$350.00/acre x 36 acres x 1 year	\$ 12,600
<b>TOTAL MATERIALS AND SUPPLY COST</b>	<b>\$12,600</b>

<b>TRAVEL COST (Personnel @ rate X round trips X fiscal year = cost</b>	<b>COST/ITEM</b>
<b>TOTAL TRAVEL COST</b>	

<b>CONTRACT COST (Labor, equipment, and travel @ cost/hr. X hrs. X fiscal year = cost</b>	<b>COST/ITEM</b>
Seed application @ \$12/acre x 36 acres x 1 fiscal year	\$ 432
Move in and Move out costs (mobilization expense) @ \$300 x 1 fiscal years	\$ 300
<b>TOTAL CONTRACT COST</b>	<b>\$ 732</b>

**III. SPECIFICATION COST SUMMARY**

**FISCAL**

<u>YEAR</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u># OF UNITS</u>	<u>COST</u>	<u>FUNDING SOURCE</u>	<u>Method</u>
FY-1	acres	\$391	36	\$14,100	ESR	C
FY-2						
FY-3						
Total	Acres	\$391	36	\$14,100	ESR	C

**FUNDING SOURCES:**

F = Fire Suppression Account  
 ESR = Emergency Stabilization & Rehabilitation  
 OP/O = Agency Operating or Other Account  
 EWP = Emergency Watershed Protection (NRCS)

**SPECIFICATION TYPE**

ES = Emergency Stabilization  
 R = Rehabilitation  
 FS = Fire Suppression

**METHODS FOR COMPLETION:**

P = Agency Personnel Services  
 C = Contract  
 EFC = Emergency Fire Contract  
 FC = Crew Labor Assigned to Fire

**V. SOURCE OF COST ESTIMATE**

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

P = Personnel Services      M = Materials/Supplies      T = Travel      C = Contract      F = Fire Suppression

**V. RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN REPORT**

List relevant documentation and cross-references within ESR Plan: Refer to Vegetation Assessment- Appendix I
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**INTERAGENCY**

## BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN

### PART F - SPECIFICATION

<b>SPECIFICATION TITLE:</b>	<b>Cultural Resource Assessment-Suppression</b>	<b>Jurisdictions:</b>	<b>USFWS-HRNM</b>
<b>PART E LINE ITEM:</b>	<b>#5 Cultural Resource Damage Assessment- Suppression</b>	<b>FISCAL YEAR:</b>	<b>2004-2005</b>
<b>ESR REFERENCE #:</b>	<b>6.3.1 Cultural Resources</b>	<b>SPECIFICATION TYPE:</b>	<b>FS</b>

### I. WORK TO BE DONE

<p><b>A. General Description:</b> Within 90 days of control of the fire, complete a cultural resource field inventory and evaluation of previously recorded and documented sites within the area burned by the Fuji Fire in order to develop a condition assessment for cultural resource compliance and rehabilitation purposes.</p> <p><b>B. Location (Suitable) Sites:</b></p> <ol style="list-style-type: none"> <li>Review all disturbed areas within the fire perimeter for cultural/archaeological resources that may have been affected during suppression actions</li> <li>The location and description of cultural resources is sensitive and exempt from public disclosure under the Archaeological Resources Protection Act of 1979 and the Freedom of Information Act. The Department of Energy and US Fish and Wildlife Service maintain their own cultural resource records, and may issue detailed written descriptions of sites to be evaluated by field personnel, including site descriptions, GPS and/or TSR, and cross-referenced to agency maps.</li> </ol> <p><b>C. Design/Construction Specification(s):</b></p> <ol style="list-style-type: none"> <li>Visit and evaluate each recorded site and all disturbed areas within the perimeter of the burned area. These evaluations should be completed within 90 days of the control of the fire, unless extended by the affected agency as authorized by a specific time waiver approved by NIFC.</li> <li>Site damage assessments should include post fire effects such as wind deflation, undercutting and loss of integrity, as well as wind-aided burial or erosion of surface features, increased visibility and vulnerability to looting.</li> <li>Develop mitigation, rehabilitation or monitoring recommendations, measures and cost estimates for each site that may be threatened by burial, destabilization, exposure to the public, or erosion consequent to fire effects.</li> <li>Initiate consultation with Tribal governments, Native American Indian communities and SHPO as required under 36 CFR 800.</li> <li>Implement the individual site treatments through a supplemental specification for Cultural Resources General Rehabilitation and Preservation Techniques for Sites.</li> </ol> <p><b>D. Purpose of Treatment Specification:</b> This action is necessary to meet legislative mandates under Section 106 of the National Historic Preservation Act and 36 CFR 800.</p> <p><b>E. Treatment Effectiveness Monitoring:</b> N/A</p>
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### II. LABOR, MATERIALS AND OTHER COST

PERSONNEL SERVICES (Grade @ cost/hour X # hours X fiscal year = cost/item)	COST/ITEM
Do not include contract personnel costs here - see contract services below	
GS-11 Archaeologist @ @\$24.00/Hr. X 32 Hrs x 1 fiscal year	\$768
<b>TOTAL PERSONNEL SERVICE COST</b>	<b>\$768</b>

EQUIPMENT PURCHASE, LEASE OR RENTAL (item @ cost/hour or day X #hours or days X fiscal year = cost) Do not include contract personnel costs here -see contract services below	COST/ITEM
<b>TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST</b>	

MATERIALS AND SUPPLIES (item @ cost/each X quantity x fiscal year = cost)	COST/ITEM

Photographic film and processing @ \$12/roll x 5 rolls	\$60.00
<b>TOTAL MATERIALS AND SUPPLY COST</b>	<b>\$60.00</b>

<b>TRAVEL COST (Personnel @ rate X round trips X fiscal year = cost)</b>	<b>COST/ITEM</b>
4 X 4 Pickup @ 200 miles/day x 2 days x .365/mile x 1 fiscal year	\$146.00
<b>TOTAL TRAVEL COST</b>	<b>\$146.00</b>

<b>CONTRACT COST (Labor, equipment, and travel @ cost/hr. X hrs. X fiscal year = cost)</b>	<b>COST/ITEM</b>
<b>TOTAL CONTRACT COST</b>	

**III. SPECIFICATION COST SUMMARY**

**FISCAL**

<u>YEAR</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u># OF UNITS</u>	<u>COST</u>	<u>FUNDING SOURCE</u>	<u>Method</u>
FY-1	AC	\$27	36	\$974	F	P
FY-2						
FY-3						
Total	AC	\$27	36	\$974	F	P

**FUNDING SOURCES:**

**F** = Fire Suppression Account

**ESR** = Emergency Stabilization & Rehabilitation

**OP/O** = Agency Operating or Other Account

**EWP** = Emergency Watershed Protection (NRCS)

**SPECIFICATION TYPE**

**ES** = Emergency Stabilization

**R** = Rehabilitation

**FS** = Fire Suppression

**METHODS FOR COMPLETION:**

**P** = Agency Personnel Services

**C** = Contract

**EFC** = Emergency Fire Contract

**FC** = Crew Labor Assigned to Fire

**IV. SOURCE OF COST ESTIMATE**

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

**P** = Personnel Services

**M** = Materials/Supplies

**T** = Travel

**C** = Contract

**F** = Fire Suppression

**V. RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN REPORT**

List relevant documentation and cross-references within ESR Plan: Refer to Appendix I: Cultural Resources Assessment and FireMap- Appendix III.
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**INTERAGENCY  
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION PLAN**

**PART F - SPECIFICATION**

<b>SPECIFICATION TITLE:</b>	<b>Noxious Weed and revegetation effectiveness monitoring</b>	<b>Jurisdictions:</b>	<b>USFWS-HRNM</b>
<b>PART E LINE ITEM:</b>	<b>#6 Noxious weed and revegetation effectiveness monitoring</b>	<b>FISCAL YEAR:</b>	<b>2004-2005</b>
<b>ESR REFERENCE #:</b>	<b>6.3.5 Monitoring</b>	<b>SPECIFICATION TYPE:</b>	<b>ES</b>

**I. WORK TO BE DONE**

<p><b>A. General Description:</b> Conduct monitoring for noxious weed infestations and of seeding treatment in first year following treatment to determine success of rehabilitation efforts on the Fuji Fire. Weed monitoring will include mapping to determine weed abundance and spread, seeding success will be monitored to assess establishment of native grasses, but also to evaluate reseeding as a method to control weed spread.</p> <p><b>B. Location (Suitable) Sites:</b> Noxious weeds, including, Perennial pepperweed (<i>Lepidium latifolium</i>), diffuse knapweed (<i>Centaurea diffusa</i>), kochia (<i>kochia scoparia</i>), and Russian thistle (<i>Salsola kali</i>), are located either in the fire area, or adjacent to the fire area. These upland weeds have the potential to invade any disturbed location. The entire fire area should be monitored for noxious weeds, but particular emphasis should be placed on the disclines and areas that burned particularly hot. The 36 acres within the Hanford Reach National Monument be monitored.</p> <p><b>C. Design/Construction Specification(s):</b> Sampling plots shall be established in areas representing the range of major plant community types and important environmental variables (topographic variations, soil types, etc.) within the seeded areas.</p> <ol style="list-style-type: none"> <li>1. Sampling methodology will determine native species composition and percent cover, seedling density/ m<sup>2</sup> and vigor, and presence and abundance of invasive non-native plants,.</li> <li>2. Additional observations will be documented to record other factors such as herbivory, surface erosion, etc.</li> <li>3. Sampling will be conducted during May-June of the first year to capture initial establishment, and during October (at the end of summer drought) to capture ultimate first year survival.</li> <li>4. A minimum seedling establishment of 4 plants of large bunchgrass species and 10 plants of Sandberg's bluegrass per square meter should be present in seeded areas at the end of the first growing season. If seedling establishment does not meet this requirement then a second application of seed should be applied.</li> <li>5. Abundance of cheatgrass (<i>Bromus tectorum</i>) or other invasive non-native species exceeding 10% cover during the first year following seeding will trigger appropriate action to control the invasives. If intensive mechanical or herbicide treatment of invasive species is indicated, the effected area may require reseeding after treatment.</li> <li>6. A second year's monitoring is necessary to confirm survival of seedings, and in the event that a second seeding is applied.</li> <li>7. A final report shall be published that documents sampling methodologies, techniques, areas sampled, and summary of findings. This report should be submitted with the Accomplishment Report at the conclusion of funding.</li> </ol> <p><b>D. Purpose of Treatment Specification:</b> To insure establishment of planted and seeded species for maintaining ecosystem structure and function as native wildlife and plant habitat, for prevention of noxious weed establishment, and to facilitate the vegetative recovery to native shrub-steppe plant communities.</p> <p><b>E. Treatment Effectiveness Monitoring:</b> See above.</p>
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**II. LABOR, MATERIALS AND OTHER COST**

<b>PERSONNEL SERVICES (Grade @ cost/hour X # hours X fiscal year = cost/item)</b>	<b>COST/ITEM</b>
<b>Do not include contract personnel costs here - see contract services below</b>	
<b>TOTAL PERSONNEL SERVICE COST</b>	

EQUIPMENT PURCHASE, LEASE OR RENTAL (item @ cost/hour or day X #hours or days X fiscal year = cost) Do not include contract personnel costs here -see contract services below	COST/ITEM
<b>TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST</b>	

MATERIALS AND SUPPLIES (item @ cost/each X quantity x fiscal year = cost)	COST/ITEM
<b>TOTAL MATERIALS AND SUPPLY COST</b>	

TRAVEL COST (Personnel @ rate X round trips X fiscal year = cost)	COST/ITEM
4 X 4 Pickup @ 200 miles/day x 2 days x .365/mile x 1 fiscal year	\$146.00
<b>TOTAL TRAVEL COST</b>	\$146.00

CONTRACT COST (Labor, equipment, and travel @ cost/hr. X hrs. X fiscal year = cost)	COST/ITEM
Ecologist/Botanist: 4 days @ 250.00/day x 1 years	\$1,000
Field Assistants: 1 x 4 days @ \$ 122/day x 1 years	\$ 488
<b>TOTAL CONTRACT COST</b>	\$ 1,488

**III. SPECIFICATION COST SUMMARY**

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY-1	acres	\$ 41.33	36	\$1,488	ES	P
FY-2						
FY-3						
<b>TOTAL</b>	<b>acres</b>	<b>\$ 41.33</b>	<b>36</b>	<b>\$1,488</b>	<b>ES</b>	<b>P</b>

**FUNDING SOURCES:**

F = Fire Suppression Account

ESR = Emergency Stabilization & Rehabilitation

OP/O = Agency Operating or Other Account

EWP = Emergency Watershed Protection (NRCS)

**SPECIFICATION TYPE**

ES = Emergency Stabilization

R = Rehabilitation

FS = Fire Suppression

**METHODS FOR COMPLETION:**

P = Agency Personnel Services

C = Contract

EFC = Emergency Fire Contract

FC = Crew Labor Assigned to Fire

**IV. 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 resources	M, C
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimate based upon government wage rates and materials cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services M = Materials/Supplies T = Travel C = Contract F = Fire Suppression

**V. RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN REPORT**

**List relevant documentation and cross-references within ESR Plan:** Refer to Vegetation Assessment- Appendix I

## **PART G - POST-REHABILITATION REQUIREMENT<sup>1</sup>**

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

### Emergency Stabilization

1. Continue effectiveness monitoring of treatments- (\$5,000-OP/O)
2. Continue noxious weed monitoring and treatment(\$5,000-OP/O)

### Rehabilitation

1. Continue effectiveness monitoring of treatments- (\$5,000-OP/O)
2. Continue noxious weed monitoring and treatment(\$5,000-OP/O)

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<sup>1</sup> Non-9142 funding

## APPENDIX I - ESR BURNED AREA ASSESSMENT REPORTS

- **Vegetation Damage Assessment Report**
- **Cultural Resource Damage Assessment Report**
- **Suppression/Operations Assessment**



# VEGETATION RESOURCE ASSESSMENT

## I. OBJECTIVES

- Evaluate and assess fire and suppression impacts to vegetative resources and identify values at risk associated with vegetative losses.
- Determine rehabilitation and monitoring needs supported by specifications to aid in vegetative recovery and soil stabilization.
- Evaluate potentials for invasive species encroachment into native plant communities within the fire area.
- Provide management recommendations to assist in vegetative recovery, watershed stabilization, site productivity and species habitat protection and rehabilitation.

## 2. ISSUES

- Suppression effects and short/long-term impacts to plant communities and vegetative resources within the Fuji Fire on federal and private lands.
- Protection and enhancement of other resource values including site productivity, wildlife habitat, vegetative resources, cultural resources and watershed stability.
- Management strategies which provide for the stabilization, natural regeneration and recovery of impacted areas.
- Monitoring of the planting/seeding effectiveness of rehabilitation efforts.
- Monitoring of impacted lands for the early detection and control of invasive and noxious weed species.

## III. OBSERVATIONS

This report identifies and addresses known and potential impacts to vegetative resources within the Fuji Fire area, Saddle Mountain National Wildlife Refuge (SMNWR).

The burned area consists of approximately 36.4 acres of contiguous area, all of which were within the boundaries of the Hanford Reach National Monument (Monument). Vegetative resources provide forage and cover for a variety of wildlife species, aesthetic values, watershed stability, and biologically diverse plant associations.

Findings and recommendations contained within this assessment are based upon field reconnaissance of the fire area, interviews with local resource specialists, local land managers, and review of relevant documents and literature.

This report will detail the known damage to the vegetative resources; will discuss re-vegetation processes and future monitoring criteria, and will outline management considerations for recovery of vegetative resources.

### B. Reconnaissance Methodology and Results

Ground reconnaissance was conducted on June 07, 2004. Photographs were taken and are in the photo documentation section of this plan. The fire burned in a mosaic pattern on approximately 10 % of the fire area. Vegetation resources were significantly reduced over the remainder of the fire area. The standing biomass of shrubs, grasses, forbs, were 70% consumed or killed due to heat scorch over approximately 85% of the fire area.

Literature available at the Monument headquarters relating to vegetation resources in the area was consulted for baseline data relating to pre-fire conditions on the burned area.

#### 1. Vegetation:

The Fuji fire burned approximately 36 acres of federal lands near the Fuji Orchard, Mattawa, WA. on the

northern portion of the SMNWR. The area is part of the recently designated Hanford Reach National Monument. The Monument area was identified as unique and deserving of full protection by Presidential proclamation in 2000. One of the unique features of the Monument that contributed to its establishment is the diversity and vast size of native plant communities. The area has been surveyed by The Nature Conservancy of Washington and the Washington Natural Heritage Program. These surveys have identified a total of 17 terrestrial, native plant community types (or elements) that occurred as 48 separate element occurrences on the ALE Reserve and North Slope. These elements are unique in the state for their character and plant associations. Additionally, 112 populations/occurrences of 28 rare plant taxa were located across the Hanford Site.

Primary plant communities impacted by the fire included the following plant associations:

Spiny Hopsage/ Wyoming Big Sagebrush/Sandberg's bluegrass: This community type is characterized by spiny hopsage (*Grayia spinosa*) Wyoming big sagebrush, Sandberg's bluegrass, and low forb diversity. The plant community type is generally confined to locations with soils that are finer-textured than is typical for needle-and-thread associations.

Big Sagebrush/Cheatgrass: This community is primarily composed of Big sagebrush with an understory dominated by cheatgrass (*Bromus tectorum*).

Species diversity within each of the major community types has been altered in some areas due to the activities of neo-European people that entered the region beginning 200 years ago. In more recent history, alien plants were introduced and established a foothold in the shrub-steppe communities with the advent of livestock grazing in the mid-1800's and through agricultural cultivation and urbanization later in the century. More recently, this area has been extensively impacted by grazing activities administered by the Washington Department of Fish and Wildlife during the 1970's and 80's.

Vegetation within this area has also been altered through the establishment of cheatgrass within sage communities and the shortening of the natural fire return interval. Historically, fire return intervals were between 50-100 years in the shrub-steppe region. Fires burned in a mosaic fashion across the landscape leaving many healthy remnant stands of bunchgrass and sage. The mosaic fire patterns allowed for the survival of healthy sage communities and habitat for wildlife species.

Within the Big sagebrush community, cheatgrass provided ladder fuels for fire to quickly spread into and throughout these stands. In areas where native bunchgrass dominated the understory, fire impacts to some shrub stands were greatly reduced.

## 2. Vegetation/Structural Impacts

Vegetation resources were directly impacted by the Fuji Fire and by suppression tactics utilized to control the fire. Documented impacts to vegetation resulted from:

- a) Construction of diskline on previously undisturbed sites
- b) Impacts to native microbial crust, shrub and grass species during line construction, suppression and mop-up activities.
- c) Vegetation losses due to fire intensity. Most grassland communities were completely consumed and/or scorched. Some additional loss is expected within remaining shrub communities.
- d) Loss of the organic litter layer on approximately 95 percent of the fire.
- e) Damage to structural improvements, (e.g. boundary fence) by suppression actions. Fences were cut or damaged.

### B. Vegetation Recovery

Revegetation of the fire area through natural processes will take between 7-10 years to visually represent pre-fire conditions. However, due to the presence of non-native plants and noxious weeds, the site is at risk of becoming dominated by non-native annuals such as cheatgrass and perennial pepperweed. Without active restoration it is unlikely that the site will recover to its pre-fire characteristics. Some impacted plant communities will take decades to re-establish back to pre-fire levels. Most research indicates that fire will eliminate spiny hopsage altogether and sagebrush for at least several years. Because big sagebrush reproduces by seed and not by sprouting, recovery can be very prolonged on many sites. Concern has been expressed about the re-establishment of critical sagebrush communities for agency listed T&E wildlife habitat and the protection of the ecological integrity of the shrub-steppe community.

Other direct impacts to vegetation include the loss of shrub lands previously occupied by dense vegetation which are now open and traversable. Increased visitor/research use into areas off of designated road systems can be expected and could have negative impacts to wildlife, microbiotic crusts, vegetative recovery, and cultural resources. Impacts to natural regeneration process and the protection of cultural resources will be jeopardized if travel within the fire area is not regulated for the remainder of this calendar year.

### **1. Noxious Weed Establishment**

Perennial pepperweed (*Lepidium latifolium*), diffuse knapweed (*Centaurea diffusa*), kochia (*kochia scoparia*), and Russian thistle (*Salsola kali*) infestations are located within or near the fire area. These noxious weeds spread vigorously, and are a threat to the burned area.

### **2. Revegetation**

Revegetation in the area should be conducted in order to protect soils in the area, to reduce the change of further erosion and degradation. Additionally, because the site is at risk from non-native species and noxious weeds, revegetation must be completed to protect the plant community and ecology of the site. As stated above, it is unlikely that the fire area will recover without some intervention and active restoration effort.

## IV. RECOMMENDATIONS

### A. Emergency Stabilization : (specification related)

The following recommendations are offered to assist in the timely recovery of the Fuji Fire:

**#1-Dozer/Disc line Rehabilitation-** Reseed all disturbed areas resulting from suppression actions with native seed species to protect the ecological integrity of the area.

**#3- Noxious Weed- Invasive Species Control-** Control noxious weed infestation remaining within the Fuji Fire area utilizing integrated pest management techniques.

**#4- Ecological Stabilization- Native Grass Seeding-** Apply native seed mix in burned area to stabilize ecological integrity of native shrub steppe community, prevent invasion by noxious weeds and non-native species, and to limit erosion and stabilize soils.

**#6- Monitor Noxious weed and Revegetation Effectiveness-** Monitor for noxious weed infestations and of seeding treatment in first year following native grass seed planting to determine success of revegetation efforts and to determine if additional treatments are required to protect and maintain ecological integrity of the site.

## V. References:

Final Report. 1994-1999. Biodiversity Inventory and Analysis of the Hanford Site. The Nature Conservancy of Washington.

USFWS. Draft Comprehensive Plan and Environmental Assessment. Arid Lands Ecology Refuge. 10/99.

1995 Annual Report. Biodiversity Inventory and Analysis of the Hanford Site. The Nature Conservancy of Washington.

Field Guide to Washington's Rare Plants: Washington State Department of Natural Resources, 2000.

Fire Effects Information System (FEIS)- National Interagency Fire Center Web Site

Proclamation 7319 of June 9, 2000. Establishment of the Hanford Reach National Monument.

National Wildlife Refuge System Improvement Act of 1997.

USFWS. Fire Management Handbook. Emergency Fire Rehabilitation Standards.

Joel G. Peterson. 1995. . Ecological Implications of Sagebrush Manipulation.

1972. Federal Natural Research Areas in Oregon and Washington- Rattlesnake Hills RNA.

C.A. Brandt et al. 1999. Plant Reestablishment After Soil Disturbance: Effects on Soil, Treatment, and Time.

Steven O. Link et al. 1990. Response of a Shrub-Steppe Ecosystem to Fire: Soil Water and Vegetational Change.

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David N. Smith, Natural Resource Specialist- Hanford Reach National Monument 509-371-1801

**U. S. DEPARTMENT OF THE INTERIOR  
BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION TEAM**

**Fuji Fire**

**CULTURAL RESOURCE ASSESSMENT**

**I. OBJECTIVES**

- Identify and protect previously recorded or documented prehistoric and historic cultural resources within the fire perimeter area.
- Assess damage to known and documented archaeological sites, historic structures, and cultural landscape features from the effects of wildfire and suppression activities.
- Inventory areas disturbed by fire suppression activities and recommend treatments for those cultural properties adversely affected by suppression and rehabilitation actions.

**II ISSUES**

- Assessment of fire and fire suppression effects on previously documented cultural resources as well as those associated with rehabilitation of the Fuji Fire.
- Protection of cultural resources from suppression-related effects;
- Inventory of cultural properties potentially affected by the wildfire and fire suppression activities;
- Protection of prehistoric and historic archaeological resources, culturally significant locations, historic structures, and historic landscapes within the fire suppression and burned areas;
- Evaluation, monitoring, or preservation treatments for cultural resources affected by fire, suppression, or rehabilitation activities.

**III OBSERVATIONS**

**a) Background Information**

The following information is derived from several widely available sources and is intended to be a cursory overview of present knowledge to provide a context within which the fire, suppression activity, post-suppression inventory, and recommended cultural resource prescriptions may be considered. Supporting documents are cited in the Reference, Part V.

The HRNM contains extensive archaeological deposits left by more than 10,000 years of human activity. Several National Register of Historic Places Districts are located within the HRNM site. The remains of pithouses, graves, rock cairns, hunting and fishing camps, game drives and quarries are represented, as are the structural and archaeological remains of historic farming, ranching, road, irrigation, ferry crossings and other features of early settlement and mineral exploitation. The Yakama, Umatilla, Colville, Nez Perce Tribes and the Wanapum People maintain cultural ties to the area.

The Columbia Plateau region has been formed by basalt flows, catastrophic flooding, and environmental flux. Prehistoric cultural subsistence systems have been shaped by these changing conditions. The early

Holocene (ca. 10,000 years B.P.) was cooler and moister than present conditions. People at this time were probably quite mobile, concentrating on hunting activities. The environment became drier about 8,000 years B. P.; a pattern of seasonal subsistence collection of a wide variety of resources developed with a riverine base. With the return to a more moist and cool environment at approximately 4,500 years B. P. the regional culture began constructing house pits and had a hunter-gatherer subsistence pattern. There is a brief period (3,800 to 3,400 years B.P.) in the archaeological record for which no house pits have been found. When house pits reappear the hunter-gatherer lifestyle continues but with evidence for intensified food processing and food storage, thus setting the pattern for the Columbia Basin that remained into modern times.

The Monument is an important area to members of the Yakama, Umatilla, Colville and Nez Perce Tribes, as well as the Wanapum People. Their ancestors resided on the land, utilized its resources and in so doing created a culture closely woven with the landscape. This connection is retained with use of traditional properties for gathering and ceremonies.

Euro-Americans first came into the region with the Lewis and Clark expedition. They were followed by fur trappers, military units, and miners passing through on the major rivers and White Bluffs road by the 1860's. The lack of timber and fur-bearing animals, the presence of numerous, well-established Native Americans, and the scorching summers were among the salient reasons that the area was not immediately settled by Euro-Americans.

Like the tribes along the Columbia and Yakima rivers, when the Euro-Americans did settle, they placed ranches and farms adjacent to these important irrigation sources and transportation corridors. By 1880 cattle ranches were established and the railroad soon arrived. The towns of Hanford, White Bluffs, and Richland thrived along the riverbanks in the early 20th century. Oil exploration was conducted in the Rattlesnake Mountain and Rattlesnake Hills area in the 1920's and 1930's, but useful deposits were not found. Natural gas was discovered on Rattlesnake Mountain in the 1920's but the deposits proved too small to be a major continuing economic force. The remains of numerous exploration sites and gas wells are scattered along the foot of Rattlesnake Mountain. The federal government acquired the land for the Hanford Engineering Works in 1943 and proceeded to evacuate all civilians (Indians and whites) from the area.

Between 1955 and 1961 NIKE Ajax and Hercules missiles were deployed by the U.S. Army at four locations on the Hanford Site, three on the North Slope and one on the ALE. The White Bluff fire was adjacent to the main road system that was developed for accessing the NIKE Ajax missile site on the Wahluke plateau. An earlier road associated with the ferry for the Hanford town site traverses the bluff just below the fire.

## **B. Reconnaissance Methodology**

Protection of human life and property from wildfire takes precedence over the protection of historic and prehistoric cultural properties. However, the diminishing numbers of archaeological sites, traditional cultural sites and resources of cultural importance representing millennia of human life must be provided protection whenever possible.

The explosive spread of the fire and the very limited cultural resource personnel available prevented any effective intervention during suppression. Cultural resource assessment and protection efforts began on June 9, 2004 with a cursory survey conducted by the HRNM archaeologist.

BAER policy recognizes cultural resources as a critical resource requiring assessment and protection. A guiding principle as well as a legal requirement of burned area stabilization and rehabilitation is to regard

archaeological sites and other materially fragile cultural resources when proposing emergency rehabilitation treatments. If post-fire conditions indicate erosion threats or other actual or potential watershed problems, cultural resources must receive special attention to ensure that their unique and irreplaceable values are given full consideration.

Incident-related damages to cultural resources fall in two broad categories: fire-related and suppression-related. Fire-related impacts include thermal fracture of, basalt, chert, granite and other stone artifacts, destabilization or destruction of structures and features. Other impacts include destruction of organic elements in an occupational or midden deposit, destabilization of soils within a site or landscape with resultant increased erosion and deflation of loosened sediments, and increased susceptibility to looting and surface collection due to greater visibility.

Suppression related impacts occur with disturbance or destruction from dozer line construction. Rehabilitation activities also may cause impacts, including restoration of dozer lines and restoration of range land.

### **C. Findings**

Sites within the Fuji fire area range from lithic scatters to historic debris scatters, to hunting and gathering sites.

A preliminary inventory of pre-historic and historic sites on the fire area was conducted June 9, 2004. No previously recorded sites appear within documents maintained by the U.S. Fish and Wildlife Service. However, during the initial field review USGS bench marks and several historic debris scatters were noted.

Overall, the area burned at a low to moderate severity. The fire was wind-driven through native grasslands and cheatgrass and did not dwell long enough to completely consume all vegetation or to create hydrophobic soils. Fine plant roots were usually observed immediately below the surface, indicating that the organic composition of the soil and consequently of archaeological sites has not been affected to a significant extent within the main body of the fire. However, these areas have been significantly impacted by suppression line construction and could potentially negatively impact archaeological sites.

## **IV. RECOMMENDATIONS**

One specification was prepared to address known and potential effects to cultural resources. This specification may be accomplished by force account, contract or inter-agency agreement. The specification addresses potential affects and specific rehabilitation needs for properties damaged by the fires and inventory/assessment of identified cultural resources. Similarly, line items for Section 106 compliance investigations have been included in the seeding of native species specification. It will be necessary to review the fire area prior to reseeding efforts and ground disturbance activities.

The inventory of previously uninventoried areas in advance of ground disturbing activity for other rehabilitation projects will be accomplished under the compliance process for those undertakings. At this writing no subsurface deposits appear to have been damaged or are threatened by post fire erosion. Therefore no archaeological site data recovery is recommended at this time.

**A. Emergency Stabilization** (specification related)

**#5- Cultural Resources Damage Assessment - Suppression**

A field inventory of locations disturbed by the fire suppression effort, or areas with the potential to be effected by rehabilitation activities will be undertaken to identify potential effects to cultural resources. Evaluation of those effects and development of necessary mitigation or treatment plans will be undertaken as required.

**B. Rehabilitation- None**

**C. Management** (non-specification related)

Post suppression rehabilitation of vegetation through planting of seeds or container plants has the potential to effect historic and prehistoric cultural properties. As specific revegetation plans are developed they must be reviewed by agency archaeologists, Tribes, and consultation with the State Historic Preservation Officer must be documented.

Specifications for rehabilitation undertakings must include Section 106 compliance, and include specific provisions for the protection of identified cultural resources. The contractor must be informed of areas to be avoided by flagging or UTM locations, and of the requirement to follow specific site treatment requirements. Inspectors must be responsible for monitoring and documenting compliance. Archaeological monitors may be required at specific locations. Monitors should have direct contact with the Contracting Officers Representative to ensure compliance with the cultural resource protection requirements.

The locations and expressions of archeological sites can not be determined with certainty. If in the course of any rehabilitation or restoration activity cultural resources are discovered all work in the vicinity must stop and the appropriate agency archaeologist consulted.

**V. REFERENCES**

2000, Establishment of the Hanford Reach National Monument. Presidential Proclamation 7319.

1998, Handbook of North American Indians, Volume 12: Plateau. Walker, Jr. Deward (Editor) Smithsonian institution, Washington.

1996, Draft National Register of Historic Places Multiple Property Documentation Form. Historic, Archaeological and Traditional Cultural Properties of the Hanford Site, Washington Prepared for U.S. Department of Energy, Richland Operations Office by Battelle Pacific Northwest National Laboratory

N.D., EE.II Hanford Area Land Use A Historical Perspective. M.S. Gerber, Ph.D



**U. S. DEPARTMENT OF THE INTERIOR  
BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION TEAM**

**Fuji Fire**

**OPERATIONS ASSESSMENT**

**I. OBJECTIVES**

- Identify, inventory, and map fire suppression impacts on jurisdictions affected by the fire.
- Specify rehabilitation measures to mitigate fire suppression impacts.
- Coordinate with local agencies so that specification recommendations are consistent with agency objectives.
- Protect natural and cultural resource values during rehabilitation efforts.

**II. ISSUES**

- Critical natural and cultural resources.
- Extensive soil disturbance on highly erodible soils from fire suppression activities.
- Damage to fences within fire perimeter associated with fire suppression actions.

**III. OBSERVATIONS**

**A. Background**

Please refer to fire history summary.

**B. Reconnaissance Methodology and Results**

On June 7, 2004 HRNM staff began evaluating resource impacts caused by the suppression effort. Team members did reconnaissance from the ground and obtained information from local sources. Information was also gathered from interviews with Division Supervisors, and from engine crews assigned to the fire.

**C. Findings**

The Fuji fire burned approximately 36 acres on the Hanford Reach National Monument. Approximately 1.0 miles of diskline was created to stop the fire. Approximately 1/4 mile of fence was impacted by suppression crews and the fire on the HRNM boundary.

Rehabilitation of suppression line is necessary to protect habitats from noxious weed infestation, ORV intrusion on the landscape and to minimize fragmentation of ecological areas. Monitoring of suppression lines is necessary to determine the need for future noxious weed mitigation needs. Disklines within the burned area on lands managed by FWS will be treated according to methods described in the Hanford Site Biological Resource Management Plan (HSBRMP, 1996). Private land owners to the east of the fire have not requested rehabilitation assistance to date.

There are four types of suppression impacts to be considered:

- Completion of Cultural Resource inventory in accordance with Section 106 regulations prior to rehabilitation initiation.
- Diskline built on FWS which require restoration and revegetation.
- Repair of the boundary fence and interior fence on the HRNM.
- Access roads to the fire area that were used for suppression actions are now impassible due do the amount of lose powdery soils resulting from the destruction of soil structure in the upper horizons. These roads will only be rehabilitated after completion of the cultural resource inventory and weather permits further action (accumulation of adequate moisture).

#### IV. RECOMMENDATIONS

##### A. Fire Suppression

- **#1- Diskline and Road Rehabilitation.** Rehabilitate disklines and other sites directly or indirectly impacted by fire suppression activities. Diskline rehab should be done at a later date due to the degraded soil conditions at this time. This activity should take place in the late fall or early winter when soil moisture content is higher.
- **#4- Cultural Resource Damage Assessment-** Conduct inventory of all suppression lines and impact areas prior to rehabilitation actions to determine suppression impacts and potential mitigation measures to cultural and historical resources.
- **#2- Fence Repair.** Repair suppression damaged fence around perimeter of the fire between HRNM boundary and other public lands.

##### B. Management (non-specification related)

- Continue to review rehabilitation specifications with operators and other personnel associated with implementation of the BAER Plan to insure rehabilitation specifications are clearly understood for protection of sensitive resources and land productivity.
- Guarantee safety of personnel assigned to rehab operational assignments in the fire area.
- Monitor suppression related damage on dirt roads following fall and winter moisture events to see if additional rehab measures are necessary.

#### V. CONSULTATIONS

Greg Hughes, Project Leader FWS

Jenna Gaston, Archaeologist, FWS

Heidi Newsome, Wildlife Biologist, FWS

Eric Hagen, Fire Management Officer, FWS

Mike Ritter, Deputy Project Leader, FWS

David N. Smith, Natural Resource Specialist, FWS

## **VI. REFERENCES**

USDI, 1995. BAER Field Team Leader Reference Book

DOE, 1996. Hanford Site Biological Resource Management Plan

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Jack Heisler, Refuge Operations Specialist -USFWS

## APPENDIX II - ENVIRONMENTAL COMPLIANCE

### ENVIRONMENTAL COMPLIANCE CONSIDERATIONS, DOCUMENTATION, AND CONSULTATIONS

#### Fuji Fire Burned Area Emergency Rehabilitation Plan

#### FEDERAL, STATE, AND PRIVATE LANDS ENVIRONMENTAL COMPLIANCE RESPONSIBILITIES

All projects proposed in the Fuji Fire Burned Area Emergency Rehabilitation (BAER) 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 Manual, Part 516, U.S. Fish and Wildlife Service, NEPA Guidelines, Part 516 DM 6, Appendix 1; and DOE, NEPA Regulations (10 CFR Part 1021). This Appendix documents the BAER Team considerations of NEPA compliance requirements for prescribed rehabilitation and monitoring actions described in this plan for all jurisdictions affected by the Fuji Fire burned area emergency stabilization.

#### B. RELATED PLANS AND CUMULATIVE IMPACTS ANALYSIS

Draft Hanford Biological Resources Management Plan and Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement: The BAER Team Environmental Protection Specialist reviewed the Draft Hanford Biological Resources Management Plan (1996) and Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement (September 1999) and in consultation with the Department of Energy (DOE) NEPA coordinator determined that actions proposed in the Fuji Fire BAER Plan within the boundary of the Hanford National Laboratory are consistent with the management objectives established in the Land-Use Plan. The EIS incorporates the management plan by reference. The EIS/management plan specifically addresses bulldozer lines and provides NEPA compliance for bulldozer line rehabilitation under NEPA.

Arid Lands Ecology (ALE) Facility Management Plan: The BAER Team Environmental Protection Specialist reviewed the Arid Lands Ecology (ALE) Facility Management Plan (1993) and determined that actions proposed in the Fuji Fire BAER Plan within the boundaries of the ALE, now incorporated as part of the Hanford Reach National Monument, is consistent with the plan.

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 emergency protection and stabilization treatments for areas affected by the Fuji Fire, as proposed in the Fuji Fire BAER 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. The treatments are consistent with the above jurisdictional management plans and associated environmental compliance documents and categorical exclusions listed below.

**C. APPLICABLE AND RELEVANT CATEGORICAL EXCLUSIONS**

U.S. Fish and Wildlife Service: The individual actions proposed in this plan for Hanford Reach National Monument are Categorically Excluded from further environmental analysis as provided for in the Department of the Interior Manual Part 516 and U.S. Fish and Wildlife Service, NEPA Guidelines, Part 516 DM 6, Appendix 1. All applicable and relevant Department and Agency Categorical Exclusions are listed below. Department exceptions (516) DM 2.3 do not apply to any of the individual actions proposed. Categorical Exclusion decisions were made with consideration given to the results of required emergency consultations completed by the BAER Team and documented in Section E below.

**Applicable Departmental Categorical Exclusions**

- 516 DM2 App. 2, 1.6 Non-destructive data collection, inventory (including field, aerial, and satellite surveying and mapping), study, research and monitoring activities.
- 516 DM 6 App. 4.4 A Operations, maintenance, and replacement of existing facilities (includes road maintenance).
- 516 DM 6 App. 4.4 L(5) Emergency road repairs under 23 U.S.C. 125.
- 516 DM 6 App. 7.4 C(3) Routine maintenance and repairs to non-historic structures, facilities, utilities, grounds and trails.
- 516 DM 6 App. 7.4 C(19) Landscaping and landscape maintenance in previously disturbed or developed areas.

**Applicable U.S. Fish and Wildlife Service Categorical Exclusions**

- 516 DM 6 App. 1.4B (1) Research, inventory, and information collection activities directly related to the conservation of fish and wildlife resources which involve negligible animal mortality of habitat destruction, no introduction of contaminants, or no introduction of organisms not indigenous to the affected ecosystem.
- 516 DM 6 App. 1.4B (3) i The installation of fences.
- 516 DM 6 App. 1.4B (3)iii The planting of seeds or seedlings and other minor revegetation actions.
- 516 DM 6 App. 1.4B (3)v The development of limited access for routine maintenance and management purposes.
- 516 DM 6 App. 1.4B (5) Fire management activities, including prevention and restoration measures, when conducted in accordance with Departmental and Service procedures.516 DM 6 App. 1.4B (6). The reintroduction or supplementation (e.g. stocking) of native, formerly native, or established species into suitable habitat within their historic or established range, where no or negligible environmental disturbances are anticipated.

**D. STATEMENT OF COMPLIANCE FOR THE FUJI FIRE BURNED AREA EMERGENCY REHABILITATION PLAN**

This section documents consideration given to the requirements of specific environmental laws in the development of the Fuji Fire BAER 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 Fuji Fire BAER Plan:

1. National Historic Preservation Act (NHPA). The BAER Team archeologists have initiated necessary consultation with the Washington State Historic Preservation Office (SHPO) and the Yakama, Umatilla, Nez Perce, and Wanapum Tribes regarding treatments proposed in the Fuji Fire BAER Plan.
2. Executive Order 11988. Floodplain Management. No treatments are proposed within the 100-year floodplain.
3. Executive Order 11990. Protection of Wetlands. No treatments are proposed within jurisdictional wetlands.
4. Executive Order 12372. Intergovernmental Review. Coordination and consultation is ongoing with affected Tribes, Federal, State, and local agencies. A copy of the BAER Plan will be disseminated to all affected agencies.
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 BAER Team Environmental Protection Specialist 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 BAER Team wildlife biologist and vegetation specialists have consulted with the Service and Washington Department of Fish and Wildlife regarding actions proposed in this plan and potential affects on Federally and State listed species. Individual agencies are responsible for continued consultations during plan implementation.
7. Secretarial Order 3127. Although contaminated sites are known to occur on properties owned by the Hanford National Laboratory, no treatments are proposed that would affect contaminated sites. There are no known contaminated sites on other jurisdictions affected by the Fuji Fire.
8. Clean Water Act. No treatments are proposed within jurisdictional wetlands.
9. 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 BAER Team Environmental Protection Specialist has determined that treatments prescribed in the Fuji 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 this plan would be expected to have a beneficial impact to air quality through stabilization of ash and soils within the Fuji Fire burned area.

## **E. CONSULTATIONS**

### **Department of Energy, Hanford National Laboratory**

Tom Ferns, Program Manager, Richland Operations Office

**NEPA Checklist:** If any of the following exception applies, the ESR 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.
- ( )  (X) Threaten to violate any laws or requirements imposed for the "protection of the environment" such as Executive Order 1 1 988 (Floodplain Management) or Executive Order 1 1 990 (Protection of Wetlands).

### **National Historic Preservation Act**

Ground Disturbance:

- ( ) None
- (X) Ground disturbance did occur and an archeologist survey, required under section 110 of the NHPA will be prepared. A report will be prepared under contract as specified by the ESR Plan.

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).
- (X) Is not required because the ESR Plan has no potential to affect cultural resources (initial of cultural resource specialist).

**Other Requirements**

(Yes) (No)

- ( X ) ( ) Does the ESR Plan have potential to affect any Native American uses? If so, consultation with affiliated tribes is needed.
- ( X ) ( ) 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 Fuji Fire Burned Area Emergency Stabilization 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. ESR 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.

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ESR Team Environmental Protection Specialist

Date

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Project Leader, Hanford Reach National Monument

Date

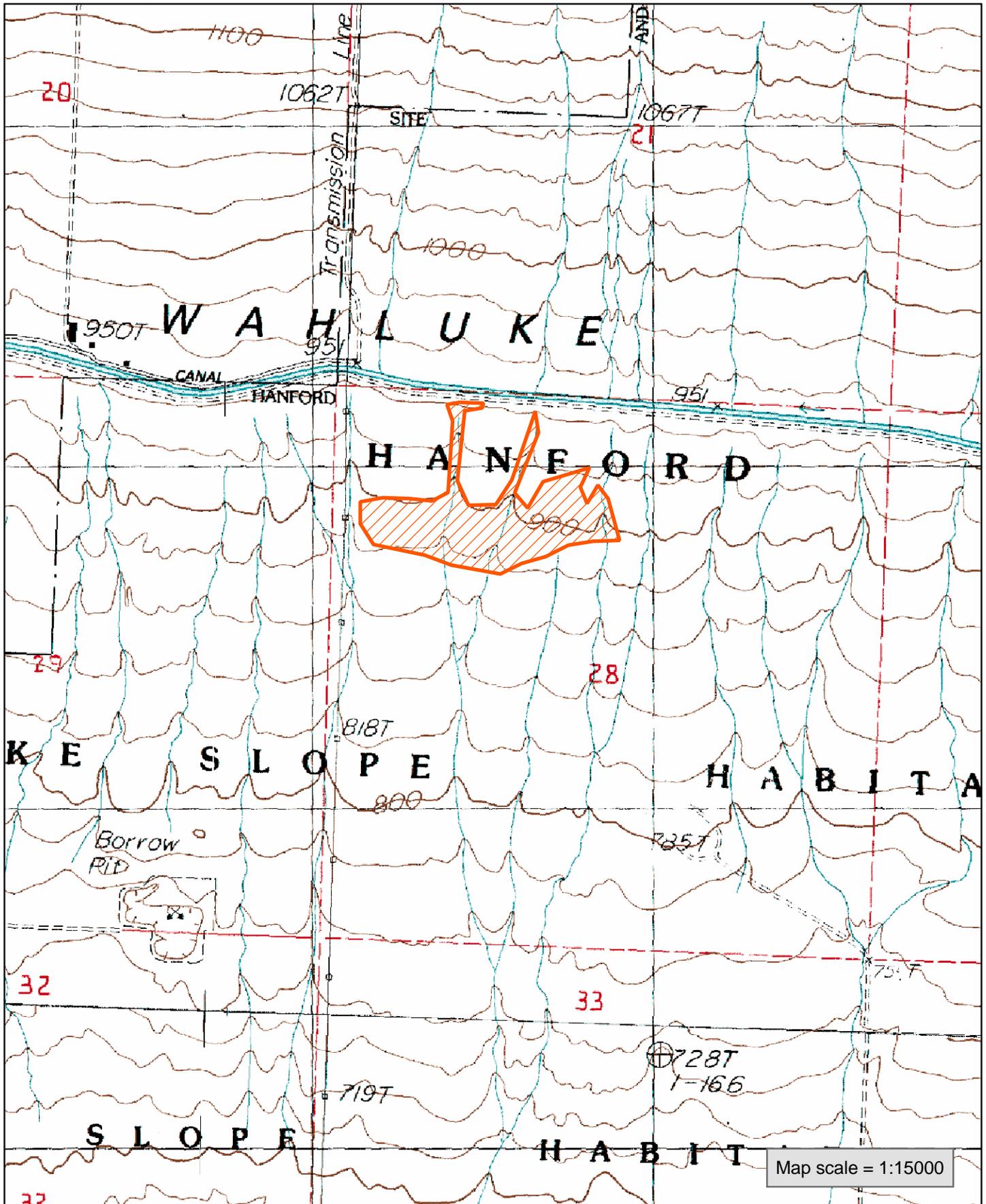
## **APPENDIX III - MAPS**

- **Fire Perimeter**

# Fuji Fire - June 5, 2004

## Hanford Reach National Monument

T15N, R26E, S28



**APPENDIX IV - PHOTO DOCUMENTATION**



Suppression Impacts- Diskline and IA engine disturbance



36 Acres of Spiny Hopsage/Wyoming Big Sagebrush/Sandberg's Bluegrass impacted by fire. High risk of non-native invasive species expansion within the fire area.





Low fuel moisture contributed to high shrub mortality. Recovery of species after fire is not historically good. Protection of remaining community in this area from degradation by cheatgrass and other non-natives is important to protect biological diversity and wildlife habitat connectivity.

Spiny Hopsage is a globally significant species that has been dramatically impacted within its range by wildfire. Recovery of species after fire is not historically good. Protection of remaining community in this area from degradation by cheatgrass and other non-natives is important to protect biological diversity and wildlife habitat connectivity.