

**Saddle Mountain Lakes Fire
May 19, 2006
Hanford Reach National Monument
BURNED AREA EMERGENCY STABILIZATION PLAN**



AGENCY/UNIT: U.S. Fish and Wildlife Service, Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge

LOCATION: Grant County, Washington

DATE: May 19, 2006

PREPARED BY: Hanford Reach National Monument ESR Team

Submitted By: _____ Date: _____
Gregory M. Hughes, Project Leader

BURNED AREA EMERGENCY STABILIZATION PLAN

Saddle Mountain Lakes Fire

Hanford Reach National Monument

REVIEW AND APPROVAL -- US Fish and Wildlife Service

I. EMERGENCY STABILIZATION PLAN CONCURRENCE

- Concur**
- Concur with Revision**
- Disapproved**

Explanation for Revision or Disapproval:

Gregory M. Hughes, Project Leader, Hanford Reach National Monument

Date

II. Regional Fire Management Coordinator: Concurrence that this plan fits the technical definition for use of Burned Area Emergency Stabilization funding and policy guidelines.

Regional Fire Management Coordinator, Region 1, USFWS

Date

III. EMERGENCY STABILIZATION PLAN APPROVAL

- Concur**
- Concur with Revision**
- Disapproved**

Explanation for Revision or Disapproval:

Regional Director, Region 1

Date

EXECUTIVE SUMMARY

Introduction

This plan has been prepared in accordance with provisions contained within 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 (ESR) recommendations for all lands burned within the Saddle Mountain Lakes fire perimeter and downstream impact areas including public lands administered by the U.S. Fish and Wildlife Service. The primary objectives of the Saddle Mountain Lakes Fire Burned Area Emergency Stabilization (ES) Plan are:

- 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 and downstream impacted areas in accordance with approved land management plans and policies, and all relevant federal, state, and local laws and regulations.

Emergency Stabilization

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 on May 25, 2006, an analysis was conducted to include: suppression impacts, vegetation impacts, and fire effects on known threatened and endangered (T&E) species and their habitats. An archeological assessment is being coordinated with the Regional Office and no ground disturbing activities will take place until all cultural clearances are obtained. The wildlife biologist/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, and other species of management concern to the HRNM.

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 photo documentation; Appendix IV contains Supporting Documentation; and Appendix V contains the ESR Plan maps respectively.

Fire Background

The Saddle Mountain Lakes Fire, Number 13580-9141-CLP6 was reported on May 19, 2006 at approximately 1145 hours. The fire was started by a lightning strike during the passing of an unstable weather front approximately ¾ of a mile off of a BPA powerline easement road on the Saddle Mountain NWR. The fire demonstrated low to moderate fire intensity on less than 50% of the fire area. The Saddle Mountain Lakes fire burned approximately 26 acres in Wyoming Big sagebrush/ Bitterbrush and native bunch grasses. The fire exhibited moderate residence time as it crept through the native bunch grasses and individual plants of sagebrush/bitterbrush and relatively short residence time through pockets of cheatgrass. Winds were light and did not appear to contribute to the spread of the fire.

Firefighters from Hanford Fire, Grant County, and the USFWS (Hanford Reach NM, Mid-Columbia NWR) responded to the incident. Ground disturbance within the shrub-steppe plant community was moderate (i.e., access road to get to the fire and vehicles tracks through the fire area to treat hot spots) that were employed to prevent the loss of additional acres. Dry conditions, mature sagebrush/bitterbrush community, and the forecasted weather (winds >50 mph) had the potential to result in extreme fire

behavior, lofting fire brands, and high potential for fire spread. The immediate need was to contain the fire to prevent further spread.

Suppression forces accessed the fire from the BPA power line easement, and around and through the fire site thereby creating wheel track trails. These have compacted soils, increased the potential for noxious weed establishment and spread, and negatively impacted native vegetation and micro-biotic crusts.

A wet line was put in around the fire, which was contained at approximately 1325 hours.

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

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

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

The Saddle Mountain Lakes Fire burned approximately 26 acres of public lands (Appendix V). Fire suppression impacts included: approximately ¾ mile of access road to the fire and 3 miles of wheel track trails around the fire perimeter and through the fire site, and the potential spread of noxious weeds, including Russian and diffuse knapweed, rush skeletonweed, kochia, Russian thistle, and puncture vine.

The entire fire has been mapped by the BAER Team for burn severity. Within the fire site, approximately 50 percent of the fire area is classified as low burn severity with 50 percent mapped as moderate/high burn severity. This attests to the fires' slow spread through light fuels (native bunch grasses) and moderate 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.

In areas that were a shrub-steppe vegetation community prior to the fire, approximately 50% of all plant and litter cover that was present in the burn area was consumed by the fire. The loss of this vegetative cover has exposed fine sand and sand/loam soils to ablation. Nearly all soils (Timmerman loamy sand and Quincy loamy fine sand) within the burn area have a fairly high risk of wind erosion (Appendix V); however, sandy soils within the access road (Quincy fine sand) are especially susceptible.

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

Emergency Stabilization Treatments:

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

Specifications were developed for all actions meeting the requirements for Emergency Stabilization (ES) funding.

Other resource impacts assessed as a result of the Saddle Mountain Lakes fire included a review of cultural sites impacted, and impacts to wildlife and vegetation resources.

An archeological inventory will be conducted on all suppression lines and known cultural sites within the fire area. Further cultural resource damage assessments will be required prior to implementation of ground disturbing stabilization actions.

Federal T&E plant species listed as occurring in or having habitat within Grant County have not been previously mapped within the fire area.

Listed wildlife species existing within and/or utilizing the fire area include 8 species of concern, including ferruginous hawk, loggerhead shrike, and sagebrush lizard (Appendix V).

Vegetation resources provide valuable wildlife forage and habitat, watershed protection, and comprise a visually pleasing landscape. Generally speaking, bunchgrass communities experienced greater than 50% vegetative loss. On approximately 50% of the fire area, in upland shrub-steppe zones, complete consumption of vegetative resources was observed (Appendix V). The primary vegetative concerns are the recovery of the shrub-steppe plant community (Wyoming big sagebrush and antelope bitterbrush) and control of non-native species and noxious weed invasion (Appendix V).

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 microbial 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 Draft 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 National Monument.
- 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:

- Seeding of native species to pre-wildfire conditions to prevent the establishment and re-establishment of non-native invasive plants (Appendix V).

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

- Prior to the completion of emergency stabilization, treatments 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. Burned Area Emergency Response and Rehabilitation plans for each fire will be reviewed by the Fire Analysis Committee. A final plan will be submitted to Region for establishing an account.
- 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)

BURNED AREA EMERGENCY STABILIZATION PLAN**Saddle Mountain Lakes Fire-Hanford Reach National Monument**

PART A FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	Saddle Mountain Lakes	Jurisdiction	Acres
Fire Number	13580-9141-CLP6	<u>USFWS, Hanford Reach NM</u>	26
Agency Unit	US Fish and Wildlife Service Hanford Reach National Monument		
Region	Region 1		
State	Washington		
County(s)	Grant		
Ignition Date/Manner	May 19, 2006 Natural / Lightning		
Zone	Pacific Northwest		
Date Contained	May 19, 2006		
Date Controlled	May 19, 2006		

PART B NATURE OF PLAN

Type of Plan (check one box below)

Initial Submission	X
Update and Revising Initial Submission	X
Supplying Information For Accomplishment To Date On Work Underway	
Different Phase Of Project Plan	
Final Report (To Comply With The Closure Of The EFR Account	

EMERGENCY STABILIZATION OBJECTIVES

- Locate and stabilize severely burned conditions that pose a direct threat to human life, property, or critically important cultural and natural resources.
- Recommend post-fire emergency stabilization prescriptions that prevent irreversible loss of natural and cultural resources.
- Develop monitoring specifications designed to document relative effectiveness of emergency stabilization treatments or whether additional emergency stabilization treatments are required.

**BURNED AREA EMERGENCY STABILIZATION PLAN
Saddle Mountain Lakes Fire**

PART C - TEAM ORGANIZATION

BAER TEAM MEMBERS

POSITION	TEAM MEMBER / AGENCY
Team Leader	Heidi Newsome, Mike Ritter USFWS
Operations	Robert Little, USFWS
Vegetation	Heidi Newsome, Kevin Goldie, USFWS,
Soil and Watershed	Kevin Goldie, USFWS
Wildlife	Heidi Newsome, Kevin Goldie, USFWS
Cultural	Regional Office, Portland
Environmental Compliance	Heidi Newsome USFWS
GIS	Lindsey Hayes, Kevin Goldie USFWS
IT / Documentation	Heidi Newsome, Kevin Goldie USFWS

PRIMARY SUPPORT PERSONNEL

Hanford Reach NM Deputy Project Leader	Mike Ritter, USFWS
Project Leader	Greg Hughes, USFWS
Outdoor Recreation Planner	Paula Call, USFWS

PART D - SUMMARY OF APPROVAL AUTHORITIES

US FISH AND WILDLIFE SERVICE

ACTIVITIES REQUIRING NATIONAL OFFICE APPROVAL (Emergency Stabilization Requests (Charged to ES)).	Cost
#1, Non-Native Invasive Species Control- Integrated Pest Management	\$15,998
#2, Ecological Stabilization, Native Seeding	\$6,333
SUBTOTAL	
	\$22,331

PART E - SUMMARY OF ACTIVITIES

The SUMMARY OF ACTIVITIES table identifies emergency stabilization costs charged or proposed for funding from fire suppression emergency stabilization funding sources. The total cost of the treatments excluding the costs absorbed by the fire (fire crew, labor and associated overhead) is displayed as either Fire Suppression Rehabilitation (**SR**), Emergency Stabilization (**ES**), Rehabilitation (**R**), or Agency Operations/Other (**OP/O**).

PART E – US FISH AND WILDLIFE SERVICE

No.	TREATMENT SPECIFICATION	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
					SR	ES	R		
#1	Non-Native Invasive Species Control- Integrated Pest Management	Acres	\$616	26		ES		C	\$15,998
#2	Ecological Stabilization, Native Seeding	Acres	\$520	10.5		ES		P	\$6,333
								TOTAL	\$22,331

**BURNED AREA EMERGENCY STABILIZATION PLAN
Saddle Mountain Lakes Fire**

PART F - SPECIFICATION

SPECIFICATION TITLE:	Non-native invasive species control- Integrated Pest Management	JURISDICTIONS:	USFWS-HRNM
PART C: LINE ITEM:	#1- Non-native invasive species control- Integrated Pest Management	FISCAL YEAR:	2006, 2007
ESR REFERENCE #:	8.3.2.1 Non-native Invasive Plant Control	SPECIFICATION TYPE:	F, ES

I. WORK TO BE DONE

A. Provide a Brief General Description of Treatment
Control noxious weed infestations remaining within Saddle Mountain Lakes Fire area prior to seed-set and maturation. Control new infestations in spring of 2007. Current weed species observed include Rush skeletonweed (<i>Chondrilla juncea</i>), Russian knapweed (<i>Acroptilon repens</i>), diffuse knapweed (<i>Centaurea diffusa</i>), puncturevine (<i>Tribulus terrestris</i>), kochia (<i>Bassia 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. Control Cheatgrass (<i>Bromus tectorum</i>) that germinates in fall of 2006 and spring of 2007 to reduce competition with native species recovery and reseeding efforts.
B. Describe Specific Treatment Location or General Description of Suitable Sites for Treatment
Control all visible noxious weed populations along the access roads, tracked vehicle trails and disturbed sites within the fire area. Control sites identified include the access road and vehicle trails within the fire area. Control non-native invasive species, such as cheatgrass, within the fire perimeter to decrease competition for native grass seeded species.
C. Provide and Number Detailed Design/Construction Specifications
1. Control known populations of noxious weeds as identified in USFWS and DOE monitoring surveys prior to seed set in accordance with guidelines contained within ALE and DOE management plans and approved Environmental Assessments.
2. Recommended herbicide for rush skeletonweed, diffuse knapweed, kochia, and Russian thistle, within upland shrub-steppe areas, is Transline (Cloparylid) @ 1pt/gallon spot treatment and 2,4-D @ 2 pt./gallon in broadcast application. Recommended herbicide for cheatgrass control is Roundup PRO® (glyphosphate). Application at low concentrations (3.5 oz.-1 pint/acre) during late winter-early spring will minimize damage to native species. Surfactant will be required as an adjuvant to these weed treatments.
3. Roadside and small infestations will be treated by backpack spraying or truck/ATV mounted sprayer. Non-native invasive species control within interior of fire area will be treated using a backpack sprayer or ATV mounted sprayer.
4. Winds in the area to be sprayed should be less than 10 MPH (constant).
5. Applicator will be state certified.
7. Locate, map, and document (using photography, topographic maps, and Global Positioning System--GPS--technology), new weed occurrences within burned area. Document percent control or kill of noxious weeds.
D. Describe Purpose of Treatment Specification – What Resource will be Protected
Protect the ecological integrity and site productivity of shrub-steppe plant communities within the Monument and DOE lands in accordance with established management plan guidelines.
E. Describe Treatment Effectiveness Monitoring
Spot checking of noxious weed sites to ensure control methods are meeting management objectives. A staff person from the HRNM will visit sites controlled bi-weekly after initial treatment; this is especially important for weed populations that are sprayed to ensure effectiveness of herbicide application. If both spring and summer/fall applications are used then visits will occur during both these times.

II. LABOR, EQUIPMENT, MATERIALS, AND OTHER COST:

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	COST/ITEM
Maintenance Laborers (2) x \$24/hour x 120 hours per treatment x 2 treatment periods x 1 year (Backpack sprayer)	\$11,520
Wildlife Biologist (GS-11) x \$ 21.68/hour x 80 x 2 treatment monitoring periods x 1 year – treatment monitoring	\$3,469
TOTAL PERSONNEL SERVICE COST	\$14,989

EQUIPMENT PURCHASE, LEASE, OR RENTAL (Item @ Cost/Hours or Cost/Day or # Days X # Fiscal Years = Cost/Item) Note: Purchase requires written justification that demonstrates cost/item benefits over lease or rental.	COST/ITEM
Misc. Spray nozzles, hoses, backpack sprayer, equipment repair	\$300
TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST	\$300

MATERIAL AND SUPPLIES (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item)	COST/ITEM
Roundup Pro- 7 gallons (1pt./ac x 26 ac.) @ \$35.10/gallon (fall and spring treatments)	\$246
2,4-D Amine- 7 gallons (2 pt/ac x 26 ac.) @ \$12.50/gallon	\$88
MSO or MVO Surfactant – 1 gallon @ \$ 19.00	\$19
TOTAL MATERIAL AND SUPPLY COST	\$353

TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item)	COST/ITEM
4 X 4 Pickup @ .445/mile x 200 miles/day x 2 days x 2 fiscal year	\$356
TOTAL TRAVEL COST	\$356

CONTRACT COST (Labor or Equipment @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item)	COST /ITEM
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
2006	Acres	\$307.65	26	\$7999	FS, ES	P,C
2007	Acres	\$307.65	26	\$7999	FS, ES	P,C
TOTAL	Acres			\$15,998		
FUNDING SOURCES F= Fire Suppression ESR = Emergency Stabilization & Rehab. OP/O = Agency Operating Fund EWP = Emergency Watershed Program		SPECIFICATION TYPE ES = Emergency Stabilization R = Rehabilitation FS = Fire Suppression		METHOD OF COMPLETION P = Agency Personnel Services C = Contract EFC = Emergency Fire Contract FC = Crew Labor Assigned to Fire		

SOURCE OF COST ESTIMATES

Put Letter (P,M,T,C, or F) Next to Appropriate Cost Estimate Source (1-5) Below	
1. Estimate obtained from 2-3 independent contractual sources.	M
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	

4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required – cost charged to Fire Suppression Account (not tracked in plan)	
P = Personnel Services M = Materials/Supplies T = Travel C = Contract F = Suppression	

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

List Relevant Documentation and Cross-References within ESR Plan Refer to Vegetation Assessment- Appendix I; and Noxious Weed Maps -Appendix V. Refer to Invasive Plant Species Inventory and Management Plan for the Hanford Reach National Monument (2003).

IV. TOTAL COST BY JURSDICTION

JURISDICTION	UNITS TREATED	COST
USFWS	26	\$15,998
TOTAL COST	26	\$15,998

**BURNED AREA EMERGENCY STABILIZATION PLAN
Saddle Mountain Lakes Fire**

PART F - SPECIFICATION

SPECIFICATION TITLE:	Ecological Stabilization- Native Seeding	JURISDICTIONS:	USFWS-HRNM
PART C: LINE ITEM:	#2- Ecological Stabilization- Native Seeding	FISCAL YEAR:	2007
ESR REFERENCE #:	8.3.2.3 Revegetation	SPECIFICATION TYPE:	ES

I. WORK TO BE DONE

A. Provide a Brief General Description of Treatment																				
Apply native seed mix through drill seeding and ATV broadcast seeder within the fire area to stabilize ecological integrity of native shrub steppe community, prevent invasion by noxious weeds and non-native species.																				
B. Describe Specific Treatment Location or General Description of Suitable Sites for Treatment																				
The Saddle Mountain Lakes Fire area (26 acres) is located in the Saddle Mountain National Wildlife Refuge management unit of the Hanford Reach National Monument (see Appendix V – Maps).																				
C. Provide and Number Detailed Design/Construction Specifications																				
<p>1. Purchase native seed mix: in appropriate amounts to stabilize soils and ecological function according to the following specifications for native seed mix.</p> <p>Seed Mix: (12 acres – shrub-steppe management areas):</p> <table> <tr> <td>Indian Ricegrass (<i>Oryzopsis hymenoides</i>) (Nez Par)</td> <td>3 lbs/ac PLS</td> </tr> <tr> <td>Sandberg's bluegrass (<i>Poa sandbergii</i>) (Hanford)</td> <td>4 lbs/ac PLS</td> </tr> <tr> <td>Needle and Thread (<i>Stipa comata</i>)</td> <td>1 lb/ac PLS</td> </tr> <tr> <td>Thickspike Wheatgrass (Schwendimar) (<i>Elymus lanceolatus</i>)</td> <td>2 lbs/ac PLS</td> </tr> <tr> <td>Sand dropseed (<i>Sporobolous cryandurs</i>)</td> <td>0.5 lbs/ac PLS</td> </tr> <tr> <td>Bluebunch Wheatgrass (<i>Agropyron spicatum</i>)</td> <td>2 lbs/ac PLS</td> </tr> <tr> <td>Yarrow (<i>Achillea millefolium</i>)</td> <td>0.5 lbs/ac PLS</td> </tr> <tr> <td>Wyoming Big sagebrush (<i>Artemisia tridentata var. wyomingensis</i>)</td> <td>0.2 lbs/ac PLS</td> </tr> <tr> <td>Antelope bitterbrush (<i>Purshia tridentata</i>)</td> <td>0.1 lbs/ac PLS</td> </tr> <tr> <td>Winterfat (<i>Ceratoides lanata</i>)</td> <td>0.2 lbs/ac PLS</td> </tr> </table>	Indian Ricegrass (<i>Oryzopsis hymenoides</i>) (Nez Par)	3 lbs/ac PLS	Sandberg's bluegrass (<i>Poa sandbergii</i>) (Hanford)	4 lbs/ac PLS	Needle and Thread (<i>Stipa comata</i>)	1 lb/ac PLS	Thickspike Wheatgrass (Schwendimar) (<i>Elymus lanceolatus</i>)	2 lbs/ac PLS	Sand dropseed (<i>Sporobolous cryandurs</i>)	0.5 lbs/ac PLS	Bluebunch Wheatgrass (<i>Agropyron spicatum</i>)	2 lbs/ac PLS	Yarrow (<i>Achillea millefolium</i>)	0.5 lbs/ac PLS	Wyoming Big sagebrush (<i>Artemisia tridentata var. wyomingensis</i>)	0.2 lbs/ac PLS	Antelope bitterbrush (<i>Purshia tridentata</i>)	0.1 lbs/ac PLS	Winterfat (<i>Ceratoides lanata</i>)	0.2 lbs/ac PLS
Indian Ricegrass (<i>Oryzopsis hymenoides</i>) (Nez Par)	3 lbs/ac PLS																			
Sandberg's bluegrass (<i>Poa sandbergii</i>) (Hanford)	4 lbs/ac PLS																			
Needle and Thread (<i>Stipa comata</i>)	1 lb/ac PLS																			
Thickspike Wheatgrass (Schwendimar) (<i>Elymus lanceolatus</i>)	2 lbs/ac PLS																			
Sand dropseed (<i>Sporobolous cryandurs</i>)	0.5 lbs/ac PLS																			
Bluebunch Wheatgrass (<i>Agropyron spicatum</i>)	2 lbs/ac PLS																			
Yarrow (<i>Achillea millefolium</i>)	0.5 lbs/ac PLS																			
Wyoming Big sagebrush (<i>Artemisia tridentata var. wyomingensis</i>)	0.2 lbs/ac PLS																			
Antelope bitterbrush (<i>Purshia tridentata</i>)	0.1 lbs/ac PLS																			
Winterfat (<i>Ceratoides lanata</i>)	0.2 lbs/ac PLS																			
<p>2. Seed Mixture Selection and Certification: 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 to its origin. Columbia Basin derived and grown seed is required, where practical, for all native grass, forb and sagebrush species.</p>																				
<p>3. Delivery: Deliver certified weed-free seed sold on pure live seed basis. Deliver to Hanford Reach National Monument. Storage: 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>4. Timing of Seeding Application: Seeding should occur in December 2006, or no later than late January 2007. Application Rate: Seed will be applied at the above rates, on a PLS/acre basis.</p>																				
<p>5. Application Method: Drill Seeding and ATV broadcast spreader</p>																				
D. Describe Purpose of Treatment Specification – What Resource will be Protected																				
To promote ecological recovery of native shrub/steppe ecosystem to prevent invasion by non-native species and noxious weeds, and to stabilize soils.																				
E. Describe Treatment Effectiveness Monitoring																				
Monitor to determine effectiveness and if a second seeding is needed. See specification Effectiveness Monitoring.																				

II. LABOR, EQUIPMENT, MATERIALS, AND OTHER COST:

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	COST/ITEM
2-Maintenance Personnel x \$24/hour x 40hours x 1 week (Drill seeding and broadcast seeding)	\$1,920
TOTAL PERSONNEL SERVICE COST	\$1,920

EQUIPMENT PURCHASE, LEASE, OR RENTAL (Item @ Cost/Hours or Cost/Day or # Days X # Fiscal Years = Cost/Item) Note: Purchase requires written justification that demonstrates cost/item benefits over lease or rental.	COST/ITEM
TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST	

MATERIAL AND SUPPLIES (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item)	COST/ITEM
Native Seed Mix @ \$235/ac x 10.5 acres	\$2,468
Cultipack rings, bearings, grease, oil, fuel (seeding operations)	\$1,000
TOTAL MATERIAL AND SUPPLY COST	\$3,468

TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item)	COST/ITEM
Equipment Mobilization @ \$100/day x 5 days	\$500
4 X 4 Pickup @ .445/mile x 200 miles/day x 5 days	\$445
TOTAL TRAVEL COST	\$945

CONTRACT COST (Labor or Equipment @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item)	COST /ITEM
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
2007	Acres	\$603	10.5	\$6,333	FS, ES	P,C
TOTAL	Acres	\$603	10.5	\$6,333	FS, ES	P,C
FUNDING SOURCES F= Fire Suppression ESR = Emergency Stabilization & Rehab. OP/O = Agency Operating Fund EWP = Emergency Watershed Program		SPECIFICATION TYPE ES = Emergency Stabilization R = Rehabilitation FS = Fire Suppression		METHOD OF COMPLETION P = Agency Personnel Services C = Contract EFC = Emergency Fire Contract FC = Crew Labor Assigned to Fire		

SOURCE OF COST ESTIMATES

Put Letter (P,M,T,C, or F) Next to Appropriate Cost Estimate Source (1-5) Below	
1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P,M
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required – cost charged to Fire Suppression Account (not tracked in plan)	
P = Personnel Services M = Materials/Supplies T = Travel C = Contract F = Suppression	

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

List Relevant Documentation and Cross-References within ESR Plan
Please refer to Vegetation and Wildlife Assessments

IV. TOTAL COST BY JURSDICTION

JURISDICTION	UNITS TREATED	COST
USFWS	10.5	\$6,333
TOTAL COST	10.5	\$6,333

PART G - POST-EMERGENCY STABILIZATION REQUIREMENT

Anything recommended?

HANFORD REACH NATIONAL MONUMENT

APPENDIX I RESOURCE ASSESSMENTS

- **CULTURAL RESOURCE ASSESSMENT (pending)**
- **WILDLIFE RESOURCE ASSESSMENT**
- **VEGETATION RESOURCE ASSESSMENT**
- **OPERATIONS RESOURCE ASSESSMENT**

BURNED AREA EMERGENCY STABILIZATION PLAN

Saddle Mountain Lakes Fire

WILDLIFE RESOURCE ASSESSMENT

I. OBJECTIVES

- Assess effects of fire and suppression actions to Threatened, Endangered, Proposed and other significant state and federal agency listed species and their habitat, including birds, mammals, amphibians, reptiles, fish and insects.
- Initiate Emergency Section 7 Consultation as required by the Endangered Species Act.
- Assess effects of fire and suppression action to habitat improvements.
- Assess effects of proposed emergency stabilization actions to listed species and habitat.

II. ISSUES

- 8 agency (state and/or federal) listed wildlife species occur within the fire area, most of which are dependent on the shrub-steppe plant community.
- Potential effects to these species from the fire, suppression actions and potential post fire effects to shrub-steppe obligate species.
- Potential effects to these species from proposed emergency stabilization actions.

III. OBSERVATIONS

A. Background

The purpose of this Burn Area Emergency Stabilization (BAER) Wildlife Assessment is to document the effects of the fire, suppression actions, proposed emergency stabilization work, and potential post fire erosion, to all federally and state listed, agency sensitive and culturally significant mammals, birds, amphibians, reptiles, fish, invertebrates, and their habitats which may occur within or downstream from the fire area. This assessment also includes documentation on Emergency Section 7 Consultation, as required by the Endangered Species Act, with U. S. Fish and Wildlife Service. The species list for the fire area was developed by Heidi Newsome, Wildlife Biologist, U. S. Fish and Wildlife Service (FWS), Hanford Reach National Monument/Saddle Mountain NWR. Species occurrence discussed in this assessment is based on formal surveys and habitat inventories conducted prior to the Saddle Mountain Lakes Fire, and post fire reconnaissance. Documents, inventory data, sighting records, vegetation maps and other species specific information referenced in this report are on file at the Monument office.

The Hanford Site is located in the Pacific Flyway. Habitats within the fire area serve as resting areas for neotropical migratory birds. The Hanford site includes habitat for many wildlife species, including 40 mammals, 246 birds, 4 amphibians, 9 reptiles, 49 butterfly taxa, 318 species of moths, and 52 taxa of aquatic macro invertebrates. Species diversity on the Hanford Site can be attributed to the size, diversity and relatively undisturbed condition of the native shrub-steppe habitat.

B. Reconnaissance Methodology

Information used in this assessment is based on a review of relevant literature, agency management planning documents, agency wildlife sighting and habitat inventory data, communication with FWS, personal communication with agency biologists (listed at end of report), and reconnaissance of the fire area on May 25, 2006. Habitat information and mapping for the various species is based on agency

records and post fire reconnaissance. Reconnaissance and analysis included review of other fires in the area to assess effects to species and vegetative recovery.

C. Findings

To better understand the species and habitat information discussed in this wildlife assessment, it is important to review the Saddle Mountain Lakes Fire BAER Vegetation and Soils Resource Assessments. These reports contain more detailed descriptions of pre-fire vegetation, post-fire vegetative recovery estimates, and effects to the watersheds.

The purpose of this assessment is to discuss the potential effects of the fire, suppression actions and proposed emergency stabilization activities to federally and state listed and sensitive species which occur within the fire area. Effects to general wildlife species are not discussed. This assessment is not intended to definitively answer the many questions of effects to specific species that are inevitably raised during an incident such as the Saddle Mountain Lakes Fire. The focus of this assessment is to determine the potential for immediate, emergency actions that may be necessary to prevent further effects to these species. Because the species discussed in this assessment have ranges or territories which extend beyond the fire area, it may be important to include information at a larger scale, across land ownership boundaries, for species which may require assessment for long term needs.

BIOLOGICAL EVALUATION

Direct effects as described in this report refer to mortality or disturbances that result in flushing, displacement, harassment or mortality of the animal. Indirect effects refer to modification of habitat and/or effects to prey species.

SHRUB-STEPPE DEPENDENT WILDLIFE SPECIES

The community of plants and animals found in this area represents one of the largest remaining examples of the shrub-steppe ecosystem that once covered the Columbia River Basin. Termed a biological treasure, the Monument contains rare, rich and diverse shrub steppe ecosystem flora and fauna that has been lost elsewhere due to habitat conversion, fragmentation and application of pesticides. The shrub-steppe ecosystem supports an unusually high diversity of native plant and animal species, including significant breeding populations of nearly all steppe and shrub-steppe dependent wildlife. This area serves a critical role in contributing to the local, regional, national and international ecological integrity of the shrub-steppe ecosystem.

While fire has played an integral role in the history of the shrub-steppe environment, the region's historical fire regime has been greatly altered from socio-political and economic factors. Coupled with the arrival of invasive species and noxious weeds, this has weakened the natural recovery processes of the shrub steppe ecosystem from disturbance events such as fire. Several areas considered sensitive shrub-steppe plant communities were located within the fire perimeter. These vegetation communities provide rare and unique habitat that is critical for meeting FWS regional, national and ecosystem goals and objectives. Managing for biological integrity in this area necessitates that actions be taken to mitigate the ecological effects increasing fire frequency and intensity, and invasion of exotic species.

The Saddle Mountain Lakes Fire resulted in negative effects to plant communities through removal of approximately 50 percent of the sagebrush, antelope bitterbrush and associated plant cover. Sagebrush is a food source and/or provides nesting, resting, thermal and escape cover for a wide variety of species. Other value for wildlife includes the thick canopy which protects understory vegetation that can be a valuable food source for wildlife. Wildlife species occurring in and/or utilizing the fire area that are dependent on the sagebrush shrub-steppe and have federal or state listing status include: Ferruginous hawk, loggerhead shrike, sage sparrow, sage thrasher, black tailed jack-rabbit, striped whipsnake, and sagebrush lizard.

Wildlife Species of Concern:

Saddle Mountain Lakes Fire Species List

On August 16, 2005, current species lists for the Saddle Mountain Lakes Fire area (Grant County) were obtained from U. S. Fish and Wildlife, Ecological Services Office, Wenatchee, Washington. The Hanford Reach National Monument was declared on June 9, 2000. At that time, President Clinton directed the FWS to manage the Hanford Reach National Monument to protect all of the species associated with the shrub-steppe ecosystem. Included in the Memorandum of Understanding between FWS and DOE for management of the Hanford Reach National Monument, the primary objective of the FWS is to ensure that the Monument is operated and managed for the protection and preservation of the native shrub-steppe habitat and its associated wildlife species. The federal agencies are also charged with managing for species of importance to the Native American Tribes. Therefore, the following species are included in this assessment. This list was developed by Heidi Newsome. For plant species of concern see Vegetation Assessment.

<u>SPECIES</u>	<u>LISTING STATUS</u>
Ferruginous hawk, <i>Buteo regalis</i>	FSC/ST
Loggerhead shrike, <i>Lanius ludovicianus</i>	FSC/SC
Sage sparrow, <i>Amphispiza belli</i>	FSC/SC
Sage thrasher, <i>Oreoscoptes montanus</i>	FSC/SC
Black-tailed jackrabbit, <i>Lepus californicus</i>	SC
Striped whipsnake, <i>Masticophis taeniatus</i>	SC
Sagebrush lizard, <i>Sceloporus graciosus</i>	FSC/SC
Mule deer, <i>Odocoileus hemionus</i>	TI

The following listed species were identified as occurring, or having habitat within Franklin and/or Grant County. Through post fire reconnaissance and consultation with local experts, it was determined that these species were not affected by the fire because they have no habitat within or adjacent to the fire area, and/or inventories prior to the fire determined absence, or the fire is outside of the species range or season of use. For plant species of concern see the Vegetation Assessment.

Bald eagle, <i>Haliaeetus leucocephalus</i>	T/ST
Bull trout (<i>Salvelinus confluentus</i>)	
– Columbia River distinct population segment	T/SC
California floater (<i>Anodonta californiensis</i>), mussel	FSC/SC
Columbian sharp-tailed grouse (<i>Tympanuchus phasianellus columbianus</i>)	FSC/ST
Burrowing Owl (<i>Athene cunicularia</i>)	FSC/SC
Giant Columbia spire snail (<i>Fluminicola columbiana</i>)	FSC/SC
Kincaid meadow vole (<i>Microtus pennsylvanicus kincaidi</i>)	FSC
Long-eared myotis (<i>Myotis evotis</i>)	FSC
Northern goshawk, <i>Accipiter gentilis</i>	FSC/SC
Long-billed curlew, <i>Numenius americanus</i>	FSC/SM
Pallid Townsend's big-eared bat, <i>Corynorhinus townsendii pallescens</i>	FSC/SC
Northern leopard frog (<i>Rana pipiens</i>)	FSC/SE
Pacific lamprey (<i>Lampetra tridentata</i>)	FSC
Redband trout (<i>Oncorhynchus mykiss</i>)	FSC
River lamprey (<i>Lampetra ayresi</i>)	FSC
Western brook lamprey (<i>Lampetra richardsoni</i>)	FSC
Columbia clubtail (<i>Gomphus lynnae</i>), dragonfly	FSC
Washington ground squirrel, <i>Spermophilus washingtoni</i>	C/SC
Pygmy rabbit, <i>Brachylagus idahoensis</i>	E/SE
Greater sage grouse, <i>Centrocercus urophasianus</i>	FSC/ST
Elk, <i>Cervus elaphus</i>	TI

KEY TO LISTING STATUS:

E	FEDERAL ENDANGERED
T	FEDERAL THREATENED
C	FEDERAL CANDIDATE
FSC	FEDERAL SPECIES OF CONCERN
SC	STATE CANDIDATE
SE	STATE ENDANGERED
ST	STATE THREATENED
SS	STATE SENSITIVE
SM	STATE MONITOR
TI	TRIBAL IMPORTANCE

FERRUGINOUS HAWK

Ferruginous hawks are a federal species of concern, a federal Migratory bird of Conservation Concern (USFWS 2002) and a state Threatened species. Ferruginous hawks are migratory raptors that occur on the Hanford site during the breeding season from early March through August. The incubation period is 28-33 days with fledging at 44-48 days from the date the egg is laid. There are three known historical nest locations within 6 miles of the fire area (Appendix V). The fire area is well within the foraging area for these nesting territories. The records of the nests in these areas are from 1983, 1992, and 1998. However, nesting raptors are not monitored every year, and historic nest locations may be re-used in later years. Ferruginous hawks do demonstrate nest site fidelity, returning to the same nesting territories in subsequent years. The fact that these territories were not used during this season does not mean that they would not be viable in future years. Many territories in Eastern Washington are unoccupied due to the current decline in the population of Ferruginous hawks in Washington. Available nesting territories are not currently thought to be limiting the population and, if the population rebounds, currently unoccupied areas may become occupied (Watson 2003). Ferruginous hawks are sensitive to human presence, and will abandon their nests if subject to human encroachment. Activities (especially noisy ones) near nesting sites should be limited during the breeding and fledging season.

Ferruginous hawks prey on a variety of mammals, birds, reptiles and insects, depending upon local area and prey abundance. These hawks may forage up to 15 km (approximately 9 miles) from their nest site; however, nest success may be greater in areas where abundant forage is in close proximity to the nest location. Areas where prey densities are high generally have greater successful nesting attempts. The average home range size of Ferruginous hawk in Washington state may be as large as 7,660 acres (31 sq. km = 11 sq. miles), based on hawks traveling considerable distances to forage (WDFW 1996).

FIRE IMPACTS: The entire 26 acres of the Saddle Mountain Lakes Fire can be considered Ferruginous hawk habitat. Impacts to Ferruginous hawks from the Saddle Mountain Lakes Fire are indirect and include a reduction of habitat diversity that supports prey for Ferruginous hawks, reduction of habitat for foraging and nesting Ferruginous hawks, and reduced potential for this historic nesting area to be re-occupied in future years. The Washington Department of Fish and Wildlife considers the Ferruginous hawk a priority species for management and recognizes that they benefit from land-use practices that ensure an adequate prey base. WDFW recommends that Landowners/managers should protect shrub-steppe and grassland habitats that harbor significant populations of small mammals and other prey (Richardson et. al. 2004). Further, WDFW recommends reseeding of native plant species after chaining or burning to promote habitat stability and to benefit Ferruginous hawk prey populations (Richardson et al. 2004, Olendorff 1993). Therefore, stabilization of the habitat lost in the Saddle Mountain Lakes fire in and around the historic nest location is essential, to support an abundance of prey species, and to develop critical foraging and nesting habitat for the Ferruginous hawk.

LOGGERHEAD SHRIKE

The Loggerhead shrike is a neo-tropical migrant species that breeds on the Monument. Loggerhead shrikes are a federal species of concern, listed as a Migratory bird of Conservation Concern (USFWS 2002), and are a state Candidate for listing as a Threatened species. It is likely that there were breeding

territories in the fire area based on habitat prior to the fire and the fact that this area has not been systematically surveyed for shrikes.

Loggerhead shrikes are common on the Hanford site from early March until the end of August. After August numbers are reduced but individuals have been sited through early November. Loggerhead shrikes require mature sagebrush, or other shrubs, for breeding and foraging habitat. Shrikes are most abundant in habitats of relatively high horizontal and vertical structural diversity (Poole 1992). This species builds its nest within shrubs, and requires some sort of shrub or other habitat feature when foraging for impaling its prey. The species is well known for its unusual and complex behavior of impaling prey on sharp objects in conspicuous places or wedging prey in narrow V-shaped forks (Yosef 1996). The primary prey items of this species are insects (e.g., beetles, grasshoppers), although small mammals, small birds, and lizards are also taken as prey (Yosef 1996). Loggerhead shrikes are highly territorial, and they exhibit a high level of nest site/territory fidelity. Poole (1992) found that shrikes defended territories averaging 34.4 acres (4.9 ac) on the Hanford Site in Washington. Also on the Hanford Site, of 113 territories studied, 96% were reoccupied the following season (Poole 1992). Shrikes remain in breeding territories as fledglings for 3-4 weeks after leaving the nest. This post fledging period is the time of highest mortality for shrikes, when young birds are weak fliers and are vulnerable to predation (Poole 1992). The Saddle Mountain Lakes fire burned during this critical time period.

The Loggerhead shrike is one of the few North American passerines whose populations have declined continent wide in recent decades (Yosef 1996), and in Washington Breeding Bird Survey data for the Columbia River Basin shows a significant decline in the shrike population over the last 26 years (Vander Haegen 2004). Burning and wildfires may create the greatest risk to local shrike populations because the damage is immediate and regeneration to pre-burn condition may take up to 30 years (Harniss and Murray 1973).

FIRE IMPACTS: The 26 acres of shrub-steppe habitat that was burned in the Saddle Mountain Lakes fire could be considered high quality breeding habitat for Loggerhead shrikes. Impacts from the Saddle Mountain Lakes fire to the shrikes are likely indirect and include greater mortality to fledgling young in the fire area due to loss of hiding cover, loss of prey base, loss of habitat for nesting and foraging, and loss of structural diversity of habitat required for shrike utilization of the area. Because shrikes exhibit fidelity to nesting territories, individuals that attempt to return to former territories in subsequent breeding seasons will find them void of nesting cover and structure. Additionally, displacement of individual breeding pairs into other areas may increase inter- and intra-specific competition for nesting territories. If suitable habitat areas were already occupied by breeding pairs, displaced pairs may not be able to locate territories, or will be forced to utilize marginal habitat types. Breeding success would likely decline for pairs that have been displaced by fire impacts to their breeding habitat.

The Washington Department of Fish and Wildlife considers the shrike a priority species for management and provides the following management recommendations for loggerhead shrike habitat: retain shrub-steppe communities, especially big sagebrush and mixed shrub communities, avoid wildfires and activities that may increase invasion by exotic vegetation, avoid management activities that increase cheatgrass invasion or increase risk of wildfire (Vander Haegen 2004, Leu and Manuwal 1996). Stabilization of the habitat within the fire area is critical for Monument management of this declining species.

SAGE SPARROW

Sage sparrows are a federal Migratory bird of conservation concern (USFWS 2002), and a state Candidate for listing as a threatened species. Sage sparrows are a migratory sparrow present in the Columbia Basin during the breeding season from early February until the end of September. Sage sparrows prefer semi-open habitat with evenly spaced shrubs 1-2 meters high (Martin and Carlson 1998). This species is associated with sagebrush throughout its range. Sage sparrows forage on the ground for seeds and invertebrates. On the HRNM/SMNWR, sage sparrows are abundant in areas that retain big sagebrush communities. The Hanford Site, along with the Yakima Training Center to the west, supports the largest contiguous habitat patches in Washington for this state Candidate species. Exceptional habitats with apparent high densities of Sage Sparrows are found in big sagebrush stands along the base of the Saddle Mountains, throughout sagebrush habitats on the Columbia River plains, and within Central

Hanford. Sage sparrows are confirmed breeders on the site, and they frequently raise more than one brood per season. They are territorial and exhibit site fidelity to nesting territories. Flocks of juveniles are frequently observed along roadsides from late May throughout the beginning of August.

FIRE IMPACTS: The 26 acres of shrub-steppe habitat that was burned in the Saddle Mountain Lakes fire could be considered high quality habitat for sage sparrow (see Avian Habitat map). Adult sage sparrows had probably initiated their first or second nesting effort; these nests were probably destroyed by the fire. Although sage sparrows are mobile animals, their individual behavioral site fidelity to their nesting territories may have increased their susceptibility to direct loss during the fire. The big sagebrush vegetation within the burn area experienced mortality of 50 percent of the sagebrush plants. Therefore, available sage sparrow habitat in the fire area was reduced by half as a result of the fire. Due to the loss of shrub cover, surviving adult birds with established territories likely returned to an altered habitat condition. Because sage sparrows exhibit fidelity to nesting territories, individuals that attempt to return to former territories in subsequent breeding seasons will find them void of nesting cover and structure. Additionally, displacement of individual breeding pairs into other areas may increase inter- and intraspecific competition for nesting territories. If suitable habitat areas were already occupied by breeding pairs, displaced pairs may not be able to locate territories, or will be forced to utilize marginal habitat types. Breeding success would likely decline for pairs that have been displaced by impacts to their breeding habitat from the fire.

The increasing frequency and intensity of range fires in Great Basin pose significant threat to native grasses and shrubs. Historically, fires were infrequent, and perennial grasses and shrubs were not adversely affected. With increased fire frequency, native plants are killed and seed reservoirs of grasses and shrubs are depleted and replaced with exotic annuals, such as cheatgrass (*Bromus tectorum*). Sage Sparrows abandon former habitats once invaded by cheatgrass (Martin and Carlson 1998). Thus, replacement of native vegetation by cheatgrass in areas disturbed by the fire will decrease the available habitat for sage sparrows. Because sage sparrows require open areas and bare ground for foraging, changes in vegetation structure and loss of sagebrush due to the fire will impact foraging by sage sparrows. Stabilization of this area to prevent the spread of cheat-grass and to replace lost shrub habitat is essential to maintain this area for sage-sparrows.

SAGE THRASHER

Sage thrashers are a neotropical migratory bird species present on the Hanford Reach National Monument in low numbers from early April through September. The Washington State Candidate Sage Thrasher is found at Hanford primarily in patches of big sagebrush and three-tip sagebrush. The sage thrasher is a species that is highly dependent on healthy shrub-steppe communities comprised of tall, dense sagebrush (*Artemisia* spp.). Sage thrashers are closely associated with sagebrush and are considered obligates of sagebrush communities (Vander Hagen 2003).

In order to maintain sage thrasher populations, shrub-steppe communities should be left in reasonably undisturbed condition and fragmentation should be minimized. Management activities that increase cheatgrass invasion or increase risk of wildfire also must be avoided (Vander Hagen 2003) Burning may lead to serious negative impacts to local sage thrasher populations because the damage is immediate and regeneration to pre-burn condition may take up to 30 years (Harniss and Murray 1973).

FIRE IMPACTS: Sage thrashers are mobile animals and would have been able to move out of the fire area. Dense sage areas on the Wahluke Unit of the Monument provide sage thrasher habitat. A total of 26 acres of sage brush habitat within the burned area experienced a mortality of 50 percent of the sagebrush plants. The reduction of sagebrush within the fire area may have long term impacts for sage thrashers. Long term effects would include displacement of sage thrashers from the burn area. It is anticipated that this species will not return until the sagebrush recovers to maturity and provides the necessary habitat structure to support sage thrashers. It is unknown if potential re-colonizing populations exist nearby.

SAGEBRUSH LIZARD

The sagebrush lizard is a federal species of concern and a state candidate species for listing as a threatened species. Sagebrush lizards emerge from hibernation in April. Mating occurs in April and May, and females lay their eggs in June, burying them in loose soils at the base of a shrub. Hatching normally occurs in August (Storm and Leonard 1995). Recent research in Oregon suggests that the Sagebrush Lizards are limited to habitats that have sandy soils. In Washington, all recently confirmed sites are associated with sand dunes or other sandy habitats (Hallock and McAllister 2005). All of the fire area qualifies as habitat for the sagebrush lizard, based on soils and vegetation types. The Washington Department of Fish and Wildlife recommends that any activities that alter these habitats, such as conversion to agriculture and/or activities that promote the invasion of cheat grass (*Bromus tectorum*), are likely detrimental to Sagebrush Lizard populations (Hallock and McAllister 2005). Therefore, preventing encroachment by cheat grass post fire is important in maintaining the habitat for Sagebrush lizards within the fire area. Stabilization of the fire area with native grass species will be important for management of this species.

FIRE IMPACTS: The 26 acres of shrub-steppe habitat within the fire perimeter of the Saddle Mountain Lakes fire could be considered high quality sagebrush lizard habitat. The lizard young were probably still eggs, and it is likely that within the fire area, young of the year were lost during the Saddle Mountain Lakes fire. Adult lizards may have also been lost in the fire because they seek shelter within shrubs. Shrubs have longer fire residency times and burn hotter than surrounding grasses, and therefore lizards may have experienced direct mortality. Those adult lizards that survived the burn are probably now exposed to predation as removal of the shrubs would remove any hiding cover. Greater predation by avian and other predators post-fire is expected, which will reduce the population of sagebrush lizards in the fire area. Because little detail is known about the life history and habitat requirements of this species, protecting the lizard's habitat (based on the few known requirements) is important to managing for the population on the Monument. Preventing the invasion of cheat grass post-fire is also essential for maintaining the population of sagebrush lizards within the fire area.

STRIPED WHIPSNAKE: Striped whipsnakes occur in the Columbia Basin of Central Washington up to 1,985 feet elevation. The striped whipsnake is a long slender snake that is dark above with alternating light and dark stripes down the length of the body. Adults range in size from 90 to 180 cm total length. This species is rare throughout most of the Washington portion of its range. Striped whipsnakes have been documented in Washington only 26 times. In the last decade, only 3 observations have been reported. This species occurs in low elevation arid regions with scattered vegetation, and open rocky areas. Mating occurs in the spring with eggs being deposited in June, and hatching in the late summer or early fall. This species has been documented to occur on HRNM/SMNWR within the Saddle Mountain National Wildlife Refuge management unit. Little is known about the habitat requirements in Washington. The areas of Grant County where they occur have relatively undisturbed shrub-steppe habitat with a low cover of cheatgrass.

FIRE IMPACTS: The entire 26 acres of shrub-steppe habitat that burned during the Saddle Mountain Lakes fire can be considered striped whipsnake habitat. If present during the fire, striped whipsnakes could have experienced mortality if unable to move quickly or find a burrow. Those that survived would experience temporary displacement. Eggs exposed to heat would have been rendered unviable. Suppression actions may have exposed nest sites to environmental conditions and predators and/or destroyed nest sites. Prey species are primarily lizards, but may include rodents, bats, frogs, birds, and other snakes. Habitat within the fire area for any of these species was reduced. Therefore, prey species may be less available for the striped whipsnake until the habitat recovers and is repopulated by the various prey species. Invasion of cheat grass into the fire area will reduce the likelihood that this area would recover into habitat that could support striped whipsnakes.

BLACK-TAILED JACK RABBIT

The entire 26 acres of the Saddle Mountain Lakes fire can be considered black-tailed jackrabbit habitat. The black-tailed jackrabbit was once abundant throughout the Columbia Basin. Recent precipitous declines in populations of these hares have raised concerns regarding their distribution and status throughout the region. This species is closely associated with the sagebrush steppe ecosystem. Black-tailed jackrabbits rely on sagebrush structure for breeding sites and hiding cover, and require sage-brush

vegetation as forage during winter months. Black-tailed jackrabbits breed from late February to mid-July, with gestation lasting 41 to 47 days (Flinders and Chapman 2003). They can have two to six litters per year, with local populations likely tending towards the low end of this scale (Flinders and Chapman 2003). Hares, unlike rabbits, do not use burrows. They place their young in shallow depressions in the soil called forms. Jackrabbits are generally solitary and primarily nocturnal. They are vulnerable to predators including, coyotes, bobcats, foxes, hawks, owls, and snakes. Loss of habitat due to agricultural and human development has impacted jackrabbit populations. The fragmentation and isolation of populations residing within remnant habitat areas has probably increased their vulnerability to stochastic events (e.g. severe weather, disease, fire, etc.) and has limited the re-colonization of areas that could potentially support jackrabbit populations.

FIRE IMPACTS: Black-tailed jackrabbits are known to be relatively fast moving animals. Because these animals are highly mobile, it is anticipated that they would have been able to move out of the way of the fire. However, recently birthed young were likely consumed in the fire as they would not have been able to flee. The loss of sagebrush structure and cover reduces the amount of hiding cover for this species, and will increase the vulnerability of jackrabbits to predation. Impacts to the local jackrabbit population will also affect those animals that prey on jackrabbits, as jackrabbit numbers decrease there will be less forage for other animals that prey upon jackrabbits.

MULE DEER

Mule deer are a common resident ungulate of the Hanford area. The area of highest density is along the Columbia River. The deer population in the Hanford area is relatively stable. Mule deer are primarily browsers and rely on riparian vegetation and bitterbrush for browse.

FIRE IMPACTS: Mule deer are highly mobile animals, and it is anticipated that they were able to move out of the affected area during the fire. Recently born fawns may not have been able to move out of the way of the fire, however no mortality of deer fawns was documented during post fire reconnaissance. The greatest impact to mule deer within the burn area is loss of available forage. Regrowth of grasses in upland areas is not anticipated until fall rains begin, possibly in November. Mule deer may forage outside of the burn area. Additionally, deer may also experience some nutritional stress due to loss of forage due to the fire. Lactating does may be at the greatest risk of this type of stress because of the energy demands that lactation produces.

IV. RECOMMENDATIONS

A. Fire Suppression:

Determinations of effect: The fire, suppression actions and proposed emergency stabilization had no affect to the federally listed species, due to the fact that no federally listed species occur within the fire area. Therefore there is no need for emergency Section 7 Consultation for the Saddle Mountain Lakes Fire emergency stabilization.

B. Emergency Stabilization:

Recommendations with Specifications:

- #1 - Non-native Invasive species control-Integrated Pest Management. This specification is critical, as mentioned above in wildlife species assessments, to stabilize the ecological integrity and condition of the burned area and to create a trajectory of recovery that will eventually result in viable habitat conditions for all 8 of the listed species addressed above.
- #2 – Ecological Stabilization-Native Seeding. This specification is critical, as mentioned above in wildlife species assessments, to stabilize the ecological integrity and condition of the burned area and to create a trajectory of recovery that will eventually result in viable habitat conditions for all 8 of the listed species addressed above

C. Management recommendations (Non-Specification Related):

- Permanent photo points and monitoring plots should be established in key wildlife habitat locations to monitor habitat recovery. This should be coordinated with the vegetation monitoring as recommended in the Saddle Mountain Lakes Fire BAER Vegetation Report.
- Small mammal monitoring should be conducted using live traps and should be expanded as needed to determine prey species abundance for the various fire affected species. Reptile monitoring should be conducted and should be expanded as needed to determine potential effects of the fire and associated habitat loss on reptiles.

V. References:

Flinders, J.T. and J.A. Chapman. 2003. Black-tailed Jackrabbit. Pages 126-146 *in* Feldhamer, G.A., B.C. Thompson and J.A. Chapman, editors. Wild mammals of North America: biology, management, and conservation. Johns Hopkins University Press, Baltimore, Maryland, USA.

Hallock, L.A. and K.R. McAllister. 2005. *Sagebrush Lizard*. Washington Herp Atlas.
<http://www.dnr.wa.gov/nhp/refdesk/herp/>

Hallock, L.A. and McAllister, K.R. 2005. *Striped Whipsnake*. Washington Herp Atlas.
<http://www.dnr.wa.gov/nhp/refdesk/herp/>

Harniss, R. O. and R. B. Murray. 1973. *30 years of vegetal change following burning of sagebrush-grass range*. J. Range Manage. 26:322-325.

Leu, M. and D. A. Manuwal. 1996. *Habitat requirements, status, and management of the loggerhead shrike of the Yakima Training Center*. Final Report, College of Forest Resources, University of Washington, Seattle, Washington, USA.

Martin, J. W., and B. A. Carlson. 1998. *Sage Sparrow (Amphispiza belli)*. *In* The Birds of North America, No. 326 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Nordstrom, Noelle. 2004. Burrowing owl (*Athene cunicularia*). *In* E. M. Larsen, J. M. Azerrad, and N. Nordstrom, editors. Management Recommendations for Washington's Priority Species, Volume IV: Birds [Online]. Available <http://wdfw.wa.gov/hab/phs/vol4/buow.pdf>

Olendorff, R. R. 1993. *Biology and management of ferruginous hawk (Buteo regalis): a review*. Occasional Papers Number 1. Raptor Research and Technical Assistance Center, U.S. Bureau of Land Management, Boise, Idaho, USA.

Poole, L. 1992. *Reproductive success and Nesting Habitat of Loggerhead shrikes in Shrub-steppe communities*. Masters Thesis. Oregon State University, Corvallis, Oregon. 69 pgs.

Richardson, S., M. Whalen, D. Demers, and R. Milner. 2004. Ferruginous hawk (*Buteo regalis*). *In* M. Larsen, J. M. Azerrad, and N. Nordstrom, editors. Management Recommendations for Washington's Priority Species, Volume IV: Birds [Online]. Available <http://wdfw.wa.gov/hab/phs/vol4/feruge.htm>

Storm, R. M and W. P Leonard, Eds. 1995. *Reptiles of Washington and Oregon*. Seattle Audubon Society, Seattle, Washington.

The Nature Conservancy of Washington. 1999. *Biodiversity Inventory and Analysis of the Hanford Site*, Final Report 1995-1999.

U.S. Fish and Wildlife Service. 2002. *Birds of conservation concern 2002*. Division of Migratory Bird Management, Arlington, Virginia. 99 pp.

Vander Haegen, Matthew. 2004. Loggerhead Shrike (*Lanius ludovicianus*). In E. M. Larsen, J. M. Azerrad, and N. Nordstrom, editors. Management Recommendations for Washington's Priority Species, Volume IV: Birds [Online]. Available <http://wdfw.wa.gov/hab/phs/vol4/losh.pdf>

Vander Haegen, Matthew. 2003. Sage Thrasher (*Oreoscoptes montanus*). In E. M. Larsen, J. M. Azerrad, and N. Nordstrom, editors. Management Recommendations for Washington's Priority Species, Volume IV: Birds [Online]. Available http://wdfw.wa.gov/hab/phs/vol4/sage_thrasher.pdf

Vander Haegen, Matthew. 2003. Sage Sparrow (*Amphispiza belli*). In E. M. Larsen, J. M. Azerrad, and N. Nordstrom, editors. Management Recommendations for Washington's Priority Species, Volume IV: Birds [Online]. Available http://wdfw.wa.gov/hab/phs/vol4/sage_thrasher.pdf

Washington Department of Fish and Wildlife. 1996. *Washington state recovery plan for the Ferruginous hawk*. Olympia, WA 63 pgs

Watson, J.W. 2003. *Scientists seek reasons for declining Ferruginous hawk population*. Fish and Wildlife Science; an on-line science magazine, Washington Department of Fish and Wildlife.

Yensen, E. and P.W. Sherman. 2003. *Ground Squirrels*. In Wild Mammals of North America: Biology, Management and Conservation. Feldhamer, G.A., B. C. Thompson and J. A. Chapman, Eds., Second Edition. The Johns Hopkins University Press, Baltimore, Maryland, USA.

Yosef, R. 1996. *Loggerhead Shrike (Lanius ludovicianus)*. In The Birds of North America, No. 231 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.

VI. Agency Biologists

Kevin L. Goldie, Wildlife Biologist, USFWS, Hanford Reach NM

Heidi L. Newsome, Wildlife Biologist, USFWS, Hanford Reach NM

Heidi L. Newsome, Wildlife Biologist, USFWS (509) 371-1801 ext. 223

BURNED AREA EMERGENCY STABILIZATION PLAN

Saddle Mountain Lakes Fire

VEGETATION RESOURCE ASSESSMENT

OBJECTIVES

- Evaluate and assess fire and suppression impacts to vegetation resources and identify values at risk associated with vegetation losses.
- Identify and locate threatened and endangered plant species impacted by fire and/or suppression actions.
- Determine emergency stabilization and monitoring needs supported by specifications to aid in vegetation recovery and soil stabilization.
- Evaluate the potential for invasive species encroachment into native plant communities within the fire area.
- Provide management recommendations to assist in vegetation recovery, watershed stabilization, site productivity and species habitat protection.

II. ISSUES

- Protection and enhancement of other resource values including site productivity, wildlife habitat, vegetation resources, cultural resources and watershed stability.
- Determine impacts of fire to three state listed threatened, endangered and sensitive plant species and/or habitat.
- Management strategies which provide for the stabilization, natural regeneration and recovery of impacted areas.
- Immediate stabilization of denuded (i.e. vegetation has been removed) soils that may impact ecological function
- Monitoring of the planting/seeding effectiveness of emergency stabilization 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 vegetation resources within the Saddle Mountain Lakes Fire area, Saddle Mountain Unit of the Hanford Reach National Monument (Monument). The burned area consists of approximately 26 acres of contiguous area, 26 of which were within the boundaries of the Monument. The vegetation resources can be described as Columbia Basin shrub-steppe plant communities, many of which are considered high-quality or sensitive vegetation. 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 vegetation and soil resources; will discuss re-vegetation processes and future monitoring criteria, and will outline management considerations for recovery of vegetation resources.

A. Reconnaissance Methodology and Results

Ground reconnaissance was conducted on May 25, 2006. Photographs were taken and are in the photo documentation section of this plan. The fire burned in a mosaic pattern on approximately 100% of the fire area, which experienced a 90-100% vegetation mortality of the grass layer and less than 10% loss in the shrub layer. The fire consumed 50% of the standing biomass of shrubs, grasses, and forbs and due to the low intensity of the fire heat scorch and subsequent mortality of additional shrubs is very low. Some blowing dust and ash was observed in areas, especially on the access road to the fire and along vehicle trails around and within the fire area.

The Monument contains many endemic plant communities and species that have been lost or significantly reduced throughout all or a significant portion of their range. Sensitive plant communities have been defined as those that are foundation plant communities, representing historic conditions within the Columbia Basin eco-region and have been identified as either state ranked, globally rare, or ecologically significant within western shrub-steppe environments. The Saddle Mountain Lakes Fire impacted 26 acres of plant communities identified as sensitive and ecologically significant, and may be irreplaceable or irrevocably damaged. Stabilization of these areas is critical to protect and prevent further degradation to these areas.

Literature and GIS data 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. Soils:

Soils within the fire area consist of slackwater fines from Pleistocene floods, sandy clay, sandy loam, and previously stabilized eolian dune systems. The Pasco Basin, and the entire region, is underlain by Miocene-aged basalt that is thousands of feet thick. While the basalt is exposed along the margins of the basin along uplifted anticlines, outcrops in the study area occur only near the crest of the Saddle Mountain anticline, which forms the northern edge of the basin. At lower elevations, the basalt is deeply cloaked beneath ancient sediments deposited by lakes and rivers that flowed into the basin between 8.5 and 3.4 million years ago (Ringold Formation, Late Miocene to Pliocene) and then by loads of sediment deposited during cataclysmic floods that occurred over a period of more than 1.5 million years (Hanford Formation, Pleistocene; Bjornstad and others 2001).

The Ringold Formation is comprised mostly of sand, silt and clay in its upper layers, some of which are cemented by calcium carbonate (Lindsey 1996). At its maximum level, Ringold sediments filled the basin to at least approximately 275 meters elevation. Remnant uplands at this elevation are the Overlook, NIKE and Simmons benches¹, which are located near the east margin of the study area. Between these three benches and Saddle Mountain, the Ringold was carved into a drainage basin by an ancestral river as it flowed west across the study site to join the Paleo-Columbia River (Fecht and others, 2004). The lowest, incised channel(s) of this ancestral river was filled with sand-dominated sediments (Fecht and others, 2004). The sediments in the channel are equivalent in age to the Ringold lacustrine deposits and/or to Ringold paleosols.

Subsequently, between 3.4 and 2.0 million years ago a major drop in the base level occurred, which caused regional downcutting (Baker and others 1991). As a result, the Columbia River migrated eastward and began incising the Ringold Formation to create the White Bluffs and expanded the flood channelways (Baker and others 1991). Along the White Bluffs, the incised, sediment-filled Paleo-river channel was exposed at three sites: north of Saddle Mountain Lake, above Locke Island, and south of the Wiehl ranch (Fecht and others, 2004). The sand-dominated sediment in these exposures has less integrity than the surrounding White Bluffs matrix, and it is currently the primary source of material for active dune sets in the study area. The sandy substrate is typically stabilized to some extent by

vegetation, except locally along dune ridges and in blowout dunes. The effectiveness of vegetation to stabilize sandy sites likely fluctuates over time in response to precipitation patterns, fire, physical disturbance, herbivory, and other changes in species dominance.

The Saddle Mountain Lakes Fire has removed approximately 50% of all vegetative cover over 26 acres. The soils underlying the Saddle Mountain lakes Fire area are composed primarily of loamy sand (21 acres) and loamy fine sands (5 acres).

2. Vegetation:

The Saddle Mountain Lakes Fire burned approximately 26 acres of federal lands south of Highway 24 in the center of the Saddle Mountain National Wildlife Refuge management unit of the 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 Monument. 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:

Wyoming Big Sagebrush/Antelope Bitterbrush/Sandberg's Bluegrass/Cheatgrass: Wyoming big sagebrush is the dominant shrub, although bitterbrush (*Purshia tridentata*) occurs at varying levels. Sandberg's Bluegrass (*Poa secunda*) mixed with cheatgrass (*Bromus tectorum*) dominates the understory. While they often commingle, *P. secunda* and *B. tectorum* are frequently ecologically separated on a fine scale (Easterly, R. and D. Salstrom. 2004.). With Sandberg's bluegrass dominant over cheat grass in the interdune areas, areas with specific microclimates with slightly higher moisture, for example, in specific micro-topographic areas, or in areas under shrubs. Cover of shrubs is generally relatively light, with a mosaic of openings in shrub canopy. Gray and green rabbitbrush (*Chrysothamnus nauseosus*, *C. viscidiflorus*), spiny hopsage (*Grayia spinosa*), and Indian ricegrass (*Oryzopsis hymenoides*) also occur in areas with finer-textured substrates.

Wyoming Big Sagebrush/Sandberg's bluegrass/Cheatgrass: This community is primarily composed of Big sagebrush with an understory dominated by Sandberg's bluegrass (*Poa secunda*) mixed with cheatgrass (*Bromus tectorum*). While they often commingle, *P. secunda* and *B. tectorum* are frequently ecologically separated on a fine scale (Easterly, R. and D. Salstrom. 2004.). With Sandberg's bluegrass dominant over cheat grass in the interdune areas, areas with specific microclimates with slightly higher moisture, for example, in specific micro-topographic areas, or in areas under shrubs.

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 foot-hold 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.

3. Rare Plants

A current USFWS species list for the county and GIS data layers for the Monument were consulted. Listed plant species that have occurrences within Grant County include;

Threatened:

Ute Ladies'-tresses (*Spiranthes diluvialis*)

Candidate:

Northern wormwood (*Artemisia campestris* ssp. *borealis* var. *wormskioldii*)

Species of Concern:

Gray Cryptantha (*Cryptantha leucophaea*)

Hoover's desert-parsley (*Lomatium tuberosum*)

Wanapum crazyweed (*Oxytropis campestris* var. *wanapum*)

The above listed species were identified as occurring, or having habitat within, Franklin or Grant County. However, through post fire reconnaissance and consultation with local experts, it was determined that these species were not affected by the fire because they have no habitat within or adjacent to the fire area, and/or inventories prior to the fire determined absence, or the fire is outside of the species range.

None of the above listed species have populations of/or individual plants that have been documented to occur within the fire area. Further the habitat requirements of Ute Ladies'-tresses and Northern wormwood are restricted to natural riparian areas along the Columbia River or within natural wetland springs, none of this habitat type occurs within the fire area. Hoover's desert parsley occurs only on talus habitats, none of which exist in the fire area. Wanapum crazyweed is known only from one location in Washington well outside of the fire area.

The only listed plant with potential habitat within the fire area is Gray cryptantha. Gray cryptantha occurs on sandy substrate along the Columbia River within the Columbia Basin physiographic province. Associated species include pale evening-primrose (*Oenothera pallida*), needle-and-thread grass (*Stipa comata*), bitterbrush (*Purshia tridentata*), big sagebrush (*Artemisia tridentata*), Sandberg's bluegrass (*Poa secunda*), snow buckwheat (*Eriogonum niveum*), sulfur penstemon (*Penstemon attenuatus*), crouching milk-vetch (*Astragalus succumbens*), hoary chaenactis (*Chaenactis douglasii*), and cheat grass (*Bromus tectorum*). The taxon is basically restricted to sand dunes that have not been completely stabilized, i.e., areas where there is still some movement of sand. It would appear to be dependent on the strong winds of the region and the availability of open sand. Hanford specific inventories for rare plants from 1994 through 1999 conducted by the Nature Conservancy did not document any Gray cryptantha populations or individual plants within the fire area.

4. Vegetation/Structural Impacts

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

- a) Creation of an approximately 3/4 mile access road (1.25 acres based on 14 foot width) on previously undisturbed sites.
- b) Impacts to native microbiotic crust, shrub and grass species during suppression and mop-up activities.
- c) Vegetation losses due to fire intensity.
- d) Loss of the organic litter layer on approximately 70% percent of the fire area.

Generally speaking, most sagebrush and bunchgrass communities experienced 80% vegetation loss of above ground cover. On approximately 50% of the fire area, complete consumption of vegetation resources was observed; most shrub, grass, and forb species and organic material on the soil surface was consumed indicating extreme fire intensity.

A mosaic burn pattern within the shrub-steppe vegetation was observed and mapped on approximately 100% of the fire area. However, in these areas some loss of shrubs is still predicted to occur due to mortality from heat produced by the fire.

Most of the forb species were consumed. Although the fire burned at varying intensities across the landscape, in most cases the residency time of the fire was short enough so as not to damage the soil, existing root systems, or reduce native seed banks in the known habitats of these plants. Burying of native seeds through wind deposition of soils now threatens the natural regeneration of native species in sandy soil types.

Negative impacts resulting from vegetation losses include a reduction in wildlife habitat, forage for wildlife species, visual quality degradation, increased non-native species invasion, bare soils, and reduced species diversity. The loss of wildlife habitat and potential impacts to Threatened and Endangered Species are discussed further within the Wildlife Assessment.

Ground disturbing impacts to Monument property resulted from the creation of fire breaks using bull dozers and disks, and engines driving off road during suppression efforts. A complete inventory was conducted of disked lines and dozerlines on the fire area and emergency stabilization needs assessed (see Operations assessment).

B. Vegetation Recovery

Revegetation of the fire area through natural processes will take between 7-30 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, aggressive annual/biennial species such as Russian thistle, kochia, and diffuse knapweed, and aggressive perennial species such as Russian knapweed, rush skeletonweed, and puncture vine. 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 eliminates spiny hopsage altogether, and bitterbrush 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.

1. Noxious Weed Establishment

Invasive alien plant species pose one of the most serious threats to the native biodiversity, wildlife habitat, and scenic values which the Hanford Reach National Monument was declared to protect, and for which the entire Hanford Site is well known (Soll et al. 1999). At Hanford, and elsewhere in western North America, invasive and noxious alien plant species compete against and reduce habitat available for rare plant taxa and native plant species in general. Weeds alter ecosystem structure and function, disrupt food chains and other ecosystem characteristics vital to wildlife (including rare and endangered species), and can dramatically alter key ecosystem processes such as hydrology, productivity, nutrient cycling, and fire regime. Conditions created by wildfire favor the spread of many noxious weed species (Evans, J.R., J.J. Nugent, and J.K. Meisel, 2003).

The establishment of invasive species and noxious weeds which will compete with native vegetation recovery is likely. During field assessment inventories, the vegetation specialist recorded sightings of Russian (*Acroptilon repens*) and diffuse knapweed (*Centaurea diffusa*), rush skeletonweed (*Chondrilla juncea*), kochia (*Bassia scoparia*), puncturevine (*Tribulus terrestris*), and Russian thistle (*Salsola kali*) infestations. Several of these species are located within the fire area, and the others are very near to the

fire area or in roads used to access the area by fire suppression personnel (Appendix V).

All of the above non-native plants and noxious weeds spread vigorously, and are a threat to the burned area. Each of these species is currently located along existing road systems and/or in areas within or near the fire. It is imperative to treat known populations prior to seed-set in order to reduce the expansion potentials of these populations into the fire area. Immediate treatment of these populations is recommended.

The fire area presents a disturbance, and has created new open sites for weed invasion. Coupled with the added nutrients from the ash, a fertile bed for the rapid colonization and spread of non-native species has been created. Upon the discovery of new noxious weed populations, accurate population information should be collected through the use of Global Positioning Systems (GPS) to determine infestation size, original source and potential control methods. Control efforts will be implemented in accordance with the Invasive species management plan guidelines and protocols.

The current Weed Inventory and Management Plan (2003) has prioritized the weed species that exist on the Monument based on the following criteria; their aggressiveness, level/size of infestation, degree of ecological threat or impact, value of habitat surrounding weed infestations, and effectiveness of available control technologies. Priority 1 species that pose the greatest threat and require immediate control that are within the fire area include diffuse knapweed, rush skeletonweed, and puncturevine. Priority 2 species do not spread quite as rapidly as Priority 1 species, but are still of great concern. Priority 2 species in the fire area include Russian knapweed. Priority 3 species are all other invasive species that are perceived as slightly less likely to threaten Monument resources but are still of concern. Priority 3 species within or near the fire area include kochia and Russian thistle.

Inventories throughout the Monument have only searched approximately 30,000 acres (>12000 ha) of the 195,000 acre Monument for targeted invasive plant species. Inventories have focused on areas where noxious weeds had been previously reported, on special habitats (e.g., natural springs) where certain target species are expected to occur, and in disturbed lands and corridors. Thus, not all of the Monument lands have been surveyed for noxious weeds. The inventory was conducted primarily on shrub-steppe uplands and around natural springs. Aquatic environments associated with irrigation wasteways and artificial impoundments on the North Slope have NOT been included in surveys to date. Riparian habitats surrounding these features were only partially surveyed, and invasive species associated with these habitats are undoubtedly substantially underreported in the current Monument database. The area of the fire may have further populations of noxious weeds that are currently undocumented. Immediate surveys of the area are important to document any previously unknown infestations.

The U.S. Fish and Wildlife Service uses an Integrated Pest Management (IPM) approach to treat targeted invasive plant species on the Hanford Reach National Monument. Manual, mechanical, biological, cultural (e.g., prescribed fire, competitive plantings), and chemical treatment methods will be used within the fire area to achieve prioritized weed control objectives. Invasive species managers will draw upon the full range of appropriate control technologies to develop integrated treatment plans for target species at selected priority sites. Treatment methodologies will be based upon the best information available from weed management literature and professional experience, tailored to the characteristics of the particular species and site.

2. Revegetation

Concern has been expressed over the loss of vegetation cover on the sandy soils of the Saddle Mountain Fire area. Stabilization and re-vegetation of those areas as needed to ensure ecological function. Revegetation in the area should be conducted in order to protect soils in the area, to reduce the change due to further erosion and degradation. Wind erosion is highly likely in this area. Additionally, because the site is at high risk from non-native species and noxious weeds, re-vegetation 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. Fire Suppression:

Suppression account - Reseed all disturbed areas resulting from suppression actions with native seed species to protect the ecological integrity of the area. Seeding will be postponed until fall of 2006 or until such time as adequate moisture provides a firm seedbed for stabilization actions.

B. Emergency Stabilization : (specification related)

The following recommendations are offered to assist in the timely recovery of the Saddle Mountain Lakes Fire:

-1 Non-native Invasive Species Control-Integrated Pest Management- Identify and treat non-native invasive species within the Saddle Mountain Lakes fire area, and control infestations in areas adjacent to the Saddle Mountain Lakes Fire area utilizing integrated pest management techniques.

#-2 Ecological Stabilization- Native 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, stabilize soils and reduce erosion that threatens public safety and site degradation.

C. Management Recommendations (non-specification related)

- Protect area from further disturbance during recovery.

VI. References:

Easterly, R. and D. Salstrom. 2004. Current vegetation map of Saddle Mountain, Wahluke and Ringold Units, Hanford Reach National Monument. SEE botanical consulting, Report to the U.S. Fish and Wildlife Service.

Evans, J. R., J.J. Nugent, and J. K. Meisel. 2003. Invasive Plant Species Inventory and Management Plan for the Hanford Reach National Monument. Report to U.S. Fish and Wildlife Service, The Nature Conservancy of Washington, Seattle, Washington.

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

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

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

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.

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.

Heidi L. Newsome, Wildlife Biologist - Hanford Reach National Monument 509-371-1801 ext. 223

BURNED AREA EMERGENCY STABILIZATION PLAN

Saddle Mountain Lakes Fire

OPERATIONS ASSESSMENT

I. OBJECTIVES

- Identify, inventory, and map fire suppression impacts on jurisdictions affected by the fire.
- Specify 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.

II. ISSUES

- Potential impacts to critical natural and cultural resources from suppression actions.
- Soil disturbance on highly erodible soils from fire suppression activities.

III. OBSERVATIONS

A. Background

Please refer to fire history summary.

B. Reconnaissance Methodology and Results

On May 19, 2006 HRNM staff began evaluating resource impacts caused by the suppression effort on lands and physical improvements with the Saddle Mountain Lakes Fire area. Team members did reconnaissance from the ground and obtained information from suppression forces.

C. Findings

The Saddle Mountain Lakes Fire burned approximately 26 acres on the Hanford Reach National Monument. Approximately 1-1.25 miles of access road into the fire and 3 miles within the fire area were created to stop the fire.

Suppression line treatments are 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. All treatments to stabilize these areas will be done according to methods described in the Hanford Site Biological Resource Management Plan (HSBRMP, 1996). A complete cultural resource assessment will be completed on all suppression lines within the fire (refer to Cultural Resources Assessment).

There are two types of suppression impacts to be considered:

- The access road into the fire area that were used for suppression actions are now almost impassible due do the amount of lose powdery soils resulting from the destruction of soil structure in the upper horizons. These roads will be stabilized as weather permits (accumulation of adequate moisture).
- Vehicles trails around and through some of the perimeter of the fire area are almost impassible due do the amount of lose powdery soils resulting from the destruction of soil structure in the upper horizons. These roads will be stabilized as weather permits (accumulation of adequate moisture).

IV. RECOMMENDATIONS

A. Management (non-specification related)

- Continue to review treatment specifications with operators and other personnel associated with implementation of the BAER Plan to insure suppression specifications are clearly understood for protection of sensitive resources and land productivity. Ensure proper accounting procedures are followed in the repair of suppression related impacts through suppression accounts.
- 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
Regional Office Archaeologist, FWS
Heidi Newsome, Wildlife Biologist, FWS
Kevin Goldie, Wildlife Biologist, FWS

VI. REFERENCES

USDI, 1995. BAER Field Team Leader Reference Book
DOE, 1996. Hanford Site Biological Resource Management Plan

Robert Little, Maintenance Foreman -USFWS

BURNED AREA EMERGENCY STABILIZATION PLAN

Saddle Mountain Lakes Fire

HANFORD REACH NATIONAL MONUMENT

APPENDIX II ENVIRONMENTAL COMPLIANCE

- **Environmental Compliance Considerations and Documentation**
- **NEPA Environmental Screening Checklist and Categorical Exclusion**

APPENDIX II - ENVIRONMENTAL COMPLIANCE

ENVIRONMENTAL COMPLIANCE CONSIDERATIONS, DOCUMENTATION, AND CONSULTATIONS

Saddle Mountain Lakes Fire Burned Area Emergency Stabilization Plan

FEDERAL, STATE, AND PRIVATE LANDS ENVIRONMENTAL COMPLIANCE RESPONSIBILITIES

All projects proposed in the Saddle Mountain Lakes Fire Burned Area Emergency Stabilization (ES) 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 and monitoring actions described in this plan for all jurisdictions affected by the Saddle Mountain Lakes 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 determined that actions proposed in the Saddle Mountain Lakes Fire BAER Plan within the boundary of the Hanford Reach National Monument 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 treatment under NEPA.

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 Saddle Mountain Lakes Fire, as proposed in the Saddle Mountain Lakes Fire ES 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 SADDLE MOUNTAIN LAKES BURNED AREA EMERGENCY STABILIZATION PLAN

This section documents consideration given to the requirements of specific environmental laws in the development of the Saddle Mountain Lakes 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 Saddle Mountain Lakes 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 Saddle Mountain Lakes 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.** Treatments and actions proposed within wetland areas will “minimize the destruction, loss or degradation of wetlands, and preserve and enhance the natural and beneficial values of 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 Department of Energy at the Hanford Site, no treatments are proposed that would affect contaminated sites. There are no known contaminated sites on other jurisdictions affected by the Saddle Mountain Lakes Fire.
8. Clean Water Act. The BAER Team Environmental Protection Specialist has determined that treatments prescribed in the Saddle Mountain Lakes Fire burned area will have no impacts to water quality within wetland areas. The wetland area within the fire perimeter is a irrigation return wasteway, therefore the wetland is artificial in nature. The water flowing through the wetland does eventually return to the Columbia River, however, treatments proposed within the wetlands would have no impact to water returning to the river. Impacts would not differ significantly from routine water use practices for the area. Long-term, treatments proposed in this plan would be expected to have a beneficial impact to water quality through stabilization of ash and soils, and treatment of invasive species within the Saddle Mountain Lakes Fire burned area.
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 Saddle Mountain Lakes Fire burned area will have short-term minor impacts to air quality that would not differ significantly from routine land use practices for the area. Long-term, treatments proposed in this plan would be expected to have a beneficial impact to air quality through stabilization of ash and soils within the Saddle Mountain Lakes Fire burned area.

E. CONSULTATIONS

Department of Energy, Hanford National Laboratory

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.

- Relates to other actions with individually insignificant but cumulatively significant environmental effects.
- Adversely effects properties listed or eligible for listing in the National Register of Historic Places
- Adversely affect a species listed or proposed to be listed as Threatened or Endangered.
- Threaten to violate any laws or requirements imposed for the "protection of the environment" such as Executive Order 1 1 988 (Floodplain Management) or Executive Order 1 1 990 (Protection of Wetlands).

National Historic Preservation Act

Ground Disturbance:

- None
- Ground disturbance did occur and an archeological assessment/inventory will be conducted.

A NHPA Clearance Form:

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

Other Requirements

(Yes) (No)

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

I have reviewed the proposals in the Saddle Mountain Lakes 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.

ES Team Environmental Protection Specialist

Date

Project Leader, Hanford Reach National Monument

Date