Date of Report: January.2009

BURNED-AREA REPORT
(Reference FSH 2509.13)

Poe Cabin Fire Complex

Wallowa-Whitman National Forest Lands
Hells Canyon National Recreation Area

2009 Interim Report and Supplemental Funding Request

PART I - TYPE OF REQUEST

A. Type of Report

1. Funding request for estimated emergency stabilization funds
[x] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

[x] 2. Interim Report # 1
[x] Updating the initial funding request based on more accurate site data or design analysis
[x] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Poe Cabin

B. Fire Number: ID CMS 043014

C. State: ID

D. County: Idaho

E. Region: R6-R1

F. Forest: Wallowa-Whitman and Nez Perce

G. District: Hell's Canyon NRA; Slate Creek R.D.

H. Fire Incident Job Code: PNDR8R

I. Date Fire Started: 18-Jul-07

J. Date Fire Contained: n/a

K. Suppression Cost: >$13.2M

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 3.0 (as of 8/27)
2. Fireline seeded (miles): 0.4 (as of 8/27)
3. Other (identify): 72.0 (fire perimeter)

M. Watershed Number: 17060101 Snake River below Hell's Canyon Dam, Idaho & Oregon; 17060209 Lower Salmon; Idaho

N. Total Acres Burned: 58,700

NFS Acres(48,309) Other Federal (1,514) State (1,465) Private (6,338)

O. Vegetation Types: Grassland; ponderosa pine; mixed douglas fir – grand fir

P. Dominant Soils: gravelly-silt loam; gravelly loam; silt loam

Q. Geologic Types: Grande Ronde basalt; metasediments and igneous intrusives of Wallowa terrane

R. Miles of Stream Channels by Order or Class: Order 1: 181; Order 2: 95; Order 3: 44; Order 4; 19

S. Transportation System

Trails:37.5 miles Roads:86.5 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 43,408 (low) 8,624 (moderate) 4,571 (high) 2,097 (unburned)

B. Water-Repellent Soil (acres): highly variable; 17% of soils tested were highly water repellent, but this appears to be an inherent characteristic of these soils

C. Soil Erosion Hazard Rating (acres):
36,850 (67%) (low) 7,064 (13%) (moderate) 4,466 (8%) (high)

D. Erosion Potential: 6 - 11 tons/acre (based on ERMIT/WEPP runs for highest burn severity areas)

E. Sediment Potential: 11.8 tons/square mile (Upper Deer Creek sub-watershed - First year postfire NEZSED run); 4,000 – 7,500 cubic yards per square mile locally from areas of high burn severity

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3 (grassland), 20+ (timber)

B. Design Chance of Success, (percent): 80

C. Equivalent Design Recurrence Interval, (years): 10

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 1.4 (NOAA Atlas 7 - 1973)

F. Design Flow, (cubic feet/second/square mile): 21.3 (Kirkwood Cr – Prefire StreamStats)

G. Estimated Reduction in Infiltration, (percent): 20

H. Adjusted Design Flow, (cubic feet/second/square mile): 26.6 (Kirkwood Cr – Postfire StreamStats)

PART V - SUMMARY OF ANALYSIS

The initial Poe Cabin 2500-8 report and analysis included national forest system lands on the Wallowa-Whitman National Forest in Region 6 and the Nez Perce National Forests, in Region 1. In this report narrative descriptions of treatment needs were provided for each Forest and labeled accordingly. Part VI of that request was broken into separate tables for each Forest (Table VI-a for the Wallowa-Whitman N.F. & Table VI-b for the Nez Perce National Forest). Each table displays the treatment costs and funding requested by the respective forest.

The interim reports will be submitted from each Forest separately. The Nez Perce N.F. will submit a report and supplimental funding request to Region 1 through Nick Gerhardt, NPNF Team Leader. The Wallowa Whitman N.F. will submit an interim report and supplimental funding request to Region 6 through Paul Boehne, Forest BAER coordinator.

A. Describe Critical Values/Resources and Threats: The Poe Cabin fire burned approximately 58,700 acres of national forest (Nez Perce N.F. [3,015 acres]; Wallowa-Whitman N.F. [46,260 acres]), State (1,420 acres) , BLM (1,514 acres) , and private lands (6,388 acres). Roughly 70% of the fire area consists of grasslands that burned at low intensity. About 8 percent of the fire area burned at high intensity and the majority of these areas were in timber – either ponderosa pine, or mixtures of ponderosa pine, Douglas fir, grand fir and subalpine fir. All of the lands within the Wallowa-Whitman National Forest are part of the Hell's Canyon Recreation Area (HCNRA); less than 2% of the fire area is within the Hell's Canyon Wilderness. Lands managed by the Nez Perce National Forest within the fire area are located in the Lower Salmon River sub-basin.

Snake River - Hell's Canyon National Recreation Area (HCNRA). The HCNRA is a nationally important recreation area centered on the Snake River, a designated Wild and Scenic River. Bunchgrass grasslands, of which the HCNRA has one of the largest contiguous areas in the western U.S., comprise about 70% of the fire area. Upper slopes and north-facing canyons are timbered with ponderosa pine, douglas fir, grand fir, and sub-slpine fir, in order of increasing elevation. The topography is steep and rugged with total relief of over 6,000 feet between the Snake River and the ridgeline at Cold Springs Mountain, which forms the drainage divide between the Snake and Salmon rivers.

Riparian areas contain black cottonwood, Netleaf hackberry, white alder, water birch, Lewis' mock orange, black hawthoorne, red osier dogwood, Rocky Mountain maple, common snowberry, and chokecherry. Burn intensity and are burned within riparian areas is highly variable. Riparian areas in parts of Kirkwood Creek burned at high intensity. The riparian area of High Range Creek, at the north end of the fire, is largely intact.

In general, 90% or more of the area of tributary streams within the HCNRA are burned. On average, 67% of the area burned at low severity, and less than 10% of individual drainages burned at high severity. An exception is Kirkwood Creek where about 14% of the area burned at high severity.

Hydrology /Soils

Debris flows are possible from any of the tributary streams if rainfall intensity is high enough. This risk has been elevated by the fire. Over most of the fire, this risk should abate within one to three years. Some headwater areas of Kirkwood Creek burned hot and will be potential debris flow source areas for several years following the fire. Debris flows are also possible in Big Canyon, Kurry Creek, Klopton Creek, Corral Creek, and Kirby Creek. Debris flows present some risk to Deer Creek Road above Pittsburgh Landing, but little risk to structures within the Kurry Creek drainage, which includes Pittsburg Landing, a major recreation use site within the canyon. There is a low to moderate risk to structures, and an elevated risk of sedimentation that would affect the water supply, at Kirkwood Ranch. The risk to structures and the water system at Kirby Bar appears minimal. The water systems that supply the Circle-C Ranch and Pittsburgh Landing were largely unaffected by the fire.

Roads/Trails

The Deer Creek Road #493 accesses the Pittsburg Landing recreation area. On the Snake River side, postfire risks include filling of culverts and diverting water down the road. A 36-inch plastic pipe melted on a spur road. Road #2060 is located in the upper reaches of Kirkwood Creek and several tributaries which drain directly to the Snake River. Two 24-inch culverts were identified as at risk from postfire streamflows along this road. Road #1819 was assessed and found to have only basic maintenance needs. Several spur roads located between these roads were not assessed as of 9/1/07.

Fisheries

At least 14 named streams enter the Snake River from within the fire perimeter, all of which are potentially fish-bearing. Some of these stream may only be accessible to fish during times of high flow on the Snake River. The largest streams, from north to south, include High Range Creek, Big Canyon Creek, Kurry Creek Klopton Creek, Corral Creek, Kirby Creek, and Kirkwood Creek. Several of these streams are spawning and rearing habitat for steelhead-redband trout. The Snake River contains populations of steelhead, spring and fall chinook salmon, bull trout, white sturgeon, smallmouth bass, and several native, non-game fish species.

Noxious Weeds

Noxious and invasive plant specious that are known to exist within the HCNRA include Spotted knapweed (*Centaurea maculosa*), Scotch thistle (*Onopordum acanthium*), Diffuse knapweed (*Centaurea diffusa*), Yellow starthistle (*Centaurea solstitalis*), Hoary cress (*Cardaria draba*), Sulfer cinquefoil (*Potenilla recta*) and Rush skeletonweed (*Chondrilla juncea*). The ability of these species to spread following fire is well established in the literature. Grasslands, which tend to be sites of lower intensity fire, are particularly susceptible and comprise roughly 70% of the area of the Poe Cabin Fire within the HCNRA. The risk of weed expansion and loss of ecological integrity due to the expected spread of noxious weeds is very high.

Archeology/Heritage Resources

There are 166 known heritage resource sites within the HCNRA portion of the Poe Cabin Fire, including three identified during the BAER assessment. The majority of known sites are at low elevation along the Snake River; about 25 sites are occur at widely distributed locations in predominantly upland settings. At least 16 historic structures burned at nine sites within the Poe Cabin fire. One documented site is at increased risk of runoff and erosion following the fire and measures are proposed in this document to protect that site.

Salmon River (NPNF, BLM, state, private):

For additional information on affected lands located on the Salman River, please reference the Interim Poe Cabin 2500-8 Report submitted by the Nez Perce N.F.

B. Emergency Treatment Objectives:

Land Treatments:

(L4) Mulching with weed-free straw to reduce postfire runoff and erosion is recommended in upper Deer Creek and national forest and private lands. One objective is to reduce soil loss to maintain site productivity. A second objective is to reduce sediment yield and deposition in Deer Creek, which supports resident and anadromous fisheries.. A third objective is to reduce runoff to several at-risk culverts and ditchlines on the Deer Creek Road and several private crossings of Deer Creek.

(D3) A recording electronic precipitation gage was installed near Pittsburg Saddle on August 31, 2007. Its objective is to characterize postfire storm events in order to help determine flood and debris flow responses and effectiveness of land treatments.

No traditional land treatments are proposed in the Kirkwood Creek drainage although watershed is believed to be at elevated risk of surface erosion and has the potential to produce damaging debris flows.

Inventory and treatment of weed spread will be needed within the Poe Creek fire perimeters.
(The initial Poe Cabin 2500-8 lacked a land treatment narrative for addressing noxious weeds although they did propose and execute treatments through the budget page.)

Channel Treatments:

Protection of a prehistoric cultural resource site along a tributary to Kurry Creek is recommended. The objective is to protect the site from postfire erosion events.

No other channel treatments are proposed.

Road/Trails:

(C1-C4) Replacement and upgrading of four culverts on national forest system roads is recommended. In all cases, one objective is to prevent resource damage from loss of fill material into streams. In two cases, stream capture into the ditchline is also possible. In one case, a melted culvert needs to be replaced to provide for public safety. Enhanced storm patrols and maintenance of drainage features are recommended on all fire-affected roads. The objective is to pre-emptively avoid resource damage and enhance public safety.

(C5) Waterbarring of the national forest road system in upper Deer Creek is recommended to prevent concentration of water flow, reduce erosion and compliment the effectiveness of the mulch treatments. One saturated fill on an abandoned road segment will be removed to reduce the potential of slope failure into a tributary of Deer Creek.

(C1-C5) The Deer Creek Road #493 is owned and maintained by the Deer Creek Highway District. It is the major access road into Hells Canyon NRA. Recommendations to reduce effects of postfire runoff have been discussed with the District. These include replacement of several at-risk culverts, installation of several drain dips, and enhanced storm patrols. The objectives are to reduce resource damage and enhance public safety.

Protection/Safety:

(D1 - D3) Most of the road treatments described above would also contribute to public safety. Replacement of road hazard signs is recommended on the Deer Creek Road with the objective of warning drivers of hazardous conditions. A contact has been made with the National Weather Service Missoula office to provide timely watches and warnings of potential postfire flash floods and debris flows. The objective is to warn the public of hazards related to postfire storm events.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:

Land **80** % Channel **80** % Roads/Trails **80** % Protection/Safety **99** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	75	80	90
Channel	90	90	90
Roads/Trails	80	95	95

Protection/Safety	90	90	90
Noxious Weeds			
Spotted Knapweed	80	70	70
Yellow Starthistle	80	80	70
Rush Skeltonweed	70	60	60
Diffuse Knapweed	80	70	70
Medusahead	60	60	60
Dalmatian toadflax	70	60	60

E. Cost of No-Action (Including Loss): **$1,203,476** (Implied minimum value of market and non-market values)

F. Cost of Selected Alternative (Including Loss): **$236,850 (total); $126,050 (Wallowa-Whitman N.F.; R6); $110,800 (Nez Perce N.F.; R1)**

G. Skills Represented on Burned-Area Survey Team:

[x] Hydrology	[x] Soils	[x] Geology	[x] Range	[ ]
[x] Forestry	[x] Wildlife	[ ] Fire Mgmt.	[x] Engineering	[ ]
[x] Contracting	[ ] Ecology	[x] Botany	[x] Archaeology	[ ]
[x] Fisheries	[x] Research	[ ] Landscape Arch	[x] GIS	

Implementation Team Leader - Jerold Hustafa - jhustafa@fs.fed.us
Assistant Implementation Team Leader Leigh Dawson lddawson@fs.fed.us

Assessment Team Leader: Bob Gecy Email: rgecy@fs.fed.us

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H. (Original 2008) Treatment Narrative:

Land Treatments:

Mulching with weed-free straw to reduce postfire runoff and erosion is recommended in upper Deer Creek and national forest and private lands. One objective is to reduce soil loss to maintain site productivity. A second objective is to reduce sediment yield and deposition in Deer Creek, which supports resident and anadromous fisheries.. A third objective is to reduce runoff to several at-risk culverts and ditchlines on the Deer Creek Road and several private crossings of Deer Creek.

A recording electronic precipitation gage was installed near Pittsburg Saddle on August 31, 2007. Its objective is to characterize postfire storm events in order to help determine flood and debris flow responses and effectiveness of land treatments.

No land treatments are propsed in the Kirkwood Creek drainage although watershed is believed to be at elevated risk of surface erosion and has the potential to produce damaging debris flows.

(L1 - L2) Inventory and treament of weed spread will be needed within the Poe Creek fire perimeters.
(The initial Poe Cabin 2500-8 lacked a land treatment narrative for addressing noxious weeds although they did propose and execute treatments through the budget page.)

2009 Interim Report / Accomplishment Update

(L4 & F2) The Mulching of Upper Deer Creek was accomplished by the Nez Perce N.F.

(D3) The precipitation gage was installed by the National Weather Service

(L1-L2) Inventory and treatment of noxious weeds in ID on the HCNRA.
During fiscal year 2008 3,400 acres within HCNRA and the Poe Cabin fire boundaries were inventoried for noxious weeds. Areas inventoried included the high use travel ways within HCNRA such as the Snake River, Kirkwood Road, Deer Creek Road and the Pittsburg Landing area, and the Big Canyon Rd. In addition, 108 acres of noxious weeds were chemically treated. Many spread sites of rush skeletonweed, yellowstar thistle, and Scotch thistle were identified. The Rush Skeleton weed populations exploded post fire, which will require additional inventory and treatment in upcoming years. Puncturevine and Sulfur cinquefoil populations were also observed to be exhibiting explosive expansions.

As the funding for Poe; Cabin BAER projects was distributed in intervals throughout the winter, it significantly increased the difficulty of implementing weed treatment contracts and agreements. This resulted in the loss of some late fall and early spring survey and treatment opportunities. This resulted in less effective treatments and greater potential for spread. Additional funds will be needed for monitoring effectiveness, additional treatment, and to continue inventory within the Poe Cabin fire boundaries.

Channel Treatments:

HCNRA: Initial Report

Protection of a known prehistoric cultural resource site is recommended at a site on Deer Creek Road about 1 mile east of Pittsburgh Landing. The site is located within and on an alluvial fan and is now exposed in the banks of a deeply incised ephemeral channel. Bank height is roughly six feet and lateral erosion of the channel threatens to undercut the bank and expose or erode the cultural site. The rate of erosion is expected to increase as the upstream watershed has been completely burned. The proposed treatment is to armour the toe of the unstable bank for a distance of 50-100 feet with rocks of sufficient size to prevent deterioration of the site. The treatment consists of armoring the toe of an unstable bank in an ephemeral draw in which 100 percent of the upstream area has burned. An unstable bank resulted from downcutting related to construction of the road to Pittsburg Landing and is at enhanced risk due to postfire flash floods. Erosion of the bank will result in damage or loss of a documented heritage resource site.

2009 Interim Report / Accomplishment Update

Post fire monitoring indicated that erosion control of the archaeological site was not needed and therefore recommended treatments were not necessary.

Roads and Trail Treatments - HCNRA- Initial Report:
(C1-C5)
Replacement of a melted 36-inch culvert on a spur road across Kurry Creek is recommended to prevent loss of fill material into the stream and to protect the safety of potential users of the site. The site is currently closed to vehicle traffic as the fill material is unlikely to support the weight of a vehicle until the culvert is replaced. In the south part of the fire, replacement of two 24-inch culverts on Road #2060 in the headwaters of Kirkwood Creek is recommended to reduce potential loss of fill material. In one case, stream capture into the ditchline is also possible. Replacement and upgrade of one 24-inch culvert on Road #672 is recommended to prevent loss of fill material and stream capture into the ditch. Both culverts are undersized with respect to other culverts in the same area. In addition, the watersheds above both pipes are now 80-100% burned. Failure of either culvert would result in excess erosion and sediment delivery to Kirkwood Creek. Enhanced storm patrols and maintenance of drainage features are also recommended on all fire-affected roads during the first winter and spring runoff seasons following the fire.

Installation of new drainage features (rolling dips and/or water bars) and repair of exsiting drainage features, including cleanout of the existing roadside ditch, is recommended along about 3 miles of the Kirkwood Road. The intent is to prevent further deterioration of the road surface and to decrease the risk of road-related

sediment delivery to Kirkwood Creek. It is expected that post-fire erosion will accelerate road surface erosion without treatment.

2009 Interim Report / Accomplishment Update
(C1-C5)
All culverts have been replaced as identified in the initial BAER report. This included Kurry Creek, Kirkwood Creek, and Caribou Creek. In addition, the Kirkwood Road maintenance was completed.

- Nez Perce N. F. completed the work in Upper Deer Creek.
- The Deer Creek Highway District completed the work on Deer Creek Rd. #493.

Protection/Safety Treatments:
HCNRA: Initial Report

Replacement of road hazard signs is recommended on the Deer Creek Road.

(D1) Placement of flood hazard signs is recommended at the top and bottom of Kirkwood Road to warn users of the increased risk of flooding and the potential for debris flows. A similar warning sign is proposed at the beginning of the Big Canyon road.

2009 Interim Report / Accomplishment Update
(D1)
During fiscal year 2008, flood hazard signs were installed at the top and the bottom of the Kirkwood road to warn users of the increased risk of flooding and debris flows due to the past fire activity. A identical sign was placed near Pittsburg Saddle on the Deer Creek Rd. 493.

I. Monitoring Narrative: Initial Report

(F1) for Treatment L2. All treatment effectiveness monitoring will be done in compliance with the regional direction as outlined in the R6 EIS for Invasive Plant Program, Preventing and Managing Invasive Plants, Appendix M. As part of this monitoring, we will evaluate the changes in distribution or spread, and the reduction percentage of invasive plant infestation post treatment. It will also document the overall reduction in size of weed infestation

In order to accomplish these monitoring objectives, we will set up the monitoring plots and/or transects in select representative weed infestations. This monitoring will assist in detecting the increased density of weeds post fire. They also provided us a tool to detect weed spread. We will also use these plots for treatment effectiveness monitoring as well. They will provide data on changes of distribution, spread and density. They will also indicate the reduction in target weed population and the potential for the recovery of native vegetation.

Other weed sites will be monitored with ocular and photo documentation. This type of monitoring will be done on a larger scale and detect overall changes in infestation reduction and treatment effectiveness. The percentage of weeds killed and the remaining weeds will be documented. We will also document the overall percentage of native vegetation that could reseed in available niches.

The third form of monitoring will be based on the actual amount of chemical applied. This information will be documented via the applicator spray records. In addition, the Oregon Department of Agriculture will continue to monitor for the treatment effectiveness of biological control agents. This will be done by detecting the present of biological agents and the associated plant damage.

2009 Interim Report / Accomplishment Update

(F1) Immediately following the fire, weed monitoring plots were established within the Poe Cabin Fire perimeter. A biological agent release detection plot had been established pre fire. Both plots were read to record biological agent survival and to detect a rate of weed spread. Additional monitoring included photo documentation and comparison of weed site data records.

Treatment C2. The road and culvert treatments will be evaluated by storm patrols for effectiveness (correct sizing, proper installation and function, plugging) at the onset of the first significant rain event and or at the onset of snowfall and during spring thaw in the first winter following the fire. Culverts will be re-cleaned as needed.

A recording precipitation gage was installed near Pittsburg Saddle on August 31, 2007. Its purpose is to characterize postfire storms in order to understand postfire flood and debris flow responses and to help determine the effectiveness of postfire treatments. The instrument has been provided at no cost by the National Weather Service. Funding is requested to allow periodic download and processing of collected data.

BAER treatments will be monitoring for 1 to 2 years after implementation to determine effectiveness and maintenance needs. Techniques would include photo points, field observations and point-line transects to assess adequacy of ground cover following treatment.possible ground cover line transects.

2009 Interim Report / Accomplishment Update

(F2) The Road and culvert treatments went in late in the 2008 field season, so engineering is requesting monitoring funding to check structure performance to assure BAER objectives are met.

The National Weather Service will be responsible for monitoring the Pittsburg Saddle precipitation gage.

(F1)We would like to install additional monitoring plots within the Poe Cabin fire perimeters. These plots would be based on existing FIA plots, if possible, or new BAER plots if needed. The purpose of these plots would be to evaluate the density increase and spread of invasives post fire.

Part VI - Emergency Stabilization Treatments and Source of Funds

Interim Supplemental Funding Request #1, FY 2009

TABLE VI-a TREATMENT COSTS FOR WALLOWA-WHITMAN NATIONAL FOREST

			NFS Lands				Other Lands				All
		Unit	# of		Other		# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$		units	$	Units	$	$
A. Land Treatments											
L1- Weed Detection	acres	$3	15,000	$45,000	$0			$0		$0	$$45,000
L2- Weed Treatment	acres	$350	180	$63,000	$0			$0		$0	$63,000
L3 - Competive Seed Mix	lbs/acre			$4,000	$0			$0		$0	$4,000
Insert new items above this line!											
Subtotal Land Treatments				$112,000	$0			$0		$0	$112,000
B. Channel Treatments											
B1 - Site Protection	site										

Insert new items above this line!											
Subtotal Channel Treat.											
C. Road and Trails											
C1 Erosion control on Kirkwood Road	miles										
C2 Culvert upgrade	ea										
C3 Culvert upgrade	ea										
C4 Install drain dips	miles										
Insert new items above this line!											
Subtotal Road & Trails											
D. Protection/Safety											
D1 Warning sign	ea										
D2 Storm patrols	days										
Insert new items above this line!											
Subtotal Structures											
E. BAER Evaluation											
Team								$0		$0	$0
Insert new items above this line!											
Subtotal Evaluation				$0	$0			$0		$0	$0
F. Monitoring											
F1 weed treatment effectiveness				$5,000	$0			$0		$0	$5,000
F2 culvert function				$2,000				$0		$0	2,000
Insert new items above this line!											
Subtotal Monitoring				$7,000	$0			$0		$0	$7,000
G. Totals				$119,000	$0			**$0**			**$119,000**
Previously approved				126,050							
Total for this request				**$119,000**							

PART VII - APPROVALS

1. /s/ Betty A. Mathews — 3/23/2009
   Forest Supervisor (signature) — Date

2. Calvin N. Joyner (for): — 3/23/2009
   Regional Forester (signature) — Date