

Date of Report:

**BURNED-AREA REPORT**

(Reference FSH 2509.13)

**PART I - TYPE OF REQUEST**

## A. Type of Report

- ☒ 1. Funding request for estimated emergency stabilization funds  
☐ 2. Accomplishment Report  
☐ 3. No Treatment Recommendation

## B. Type of Action

- ☒ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)  
☐ 2. Interim Report # \_\_\_\_\_  
    ☐ Updating the initial funding request based on more accurate site data or design analysis  
    ☐ Status of accomplishments to date  
☐ 3. Final Report (Following completion of work)

**PART II - BURNED-AREA DESCRIPTION**A. Fire Name: Burnt FireB. Fire Number: ID-BOD-000120C. State: IdahoD. County: ValleyE. Region: Intermountain, R4F. Forest: Boise NF, Salmon-Challis NFG. District: Cascade R.D.H. Fire Incident Job Code: P4C17JI. Date Fire Started: July 30, 2006J. Date Fire Contained: August 10, 2006K. Suppression Cost: ~\$4,000,000

L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 12  
2. Fireline seeded (miles): 0  
3. Other (identify): roads waterbarred 5.5 miles

M. Watershed Number: 170602080602 & 170602080603N. Total Acres Burned:           NFS Acres (**2,120**)    Other Federal (None)    State (None)    Private (None)

O. Vegetation Types: Warm Dry Subalpine Fir, Cool Dry Douglas fir, and Persistent Lodgepole Pine. Burned area includes Whitebark Pine on most of the upper drainage ridges.

P. Dominant Soils:           Q. Geologic Types: Idaho Batholith granitic rock

R. Miles of Stream Channels by Order or Class: 4.8 total miles split between A and B types

S. Transportation System

Trails: 3.2 miles      Roads: 7.5 miles

### **PART III - WATERSHED CONDITION**

A. Burn Severity (acres): 473 (low) 281 (moderate) 114 (high)

B. Water-Repellent Soil (acres): 395

C. Soil Erosion Hazard Rating (acres):  
    \_\_\_ (low)    \_\_\_ (moderate)    \_\_\_ (high)

D. Erosion Potential: 3.28 tons/acre

E. Sediment Potential: 517 cubic yards / square mile

### **PART IV - HYDROLOGIC DESIGN FACTORS**

A. Estimated Vegetative Recovery Period, (years): 3

B. Design Chance of Success, (percent): 95

C. Equivalent Design Recurrence Interval, (years): 5

D. Design Storm Duration, (hours): 1

E. Design Storm Magnitude, (inches): 0.51

F. Design Flow, (cubic feet / second/ square mile): 25

G. Estimated Reduction in Infiltration, (percent): 8

H. Adjusted Design Flow, (cfs per square mile): 35

### **PART V - SUMMARY OF ANALYSIS**

A. Describe Critical Values/Resources and Threats:

The Burnt Fire started on July 30, 2006 and burned about 2,120 acres. The Burnt Fire is located in the Burnt Log Creek watershed, a tributary to Johnson Creek, which is a major tributary of the South Fork Salmon River. It is about 28 miles northeast of Cascade, Idaho. The burned area is characterized by steep upper glaciated slopes ranging from 40 to 60 percent which are moderately dissected by first and second order streams. The elevation ranges from 6,670 to 8,520 feet along the Frank Church--River of No Return Wilderness and Pistol Creek Ridge.

1. Human Life and Safety. The Burnt Fire burned a trailhead (Pistol Lake Trail) that accesses the Frank Church--River of No Return Wilderness and the Summit Trail. This trail system is one of the easiest and closest access points to the Pistol Creek Ridge. With the high volume of use of the

recreational area and facilities, there will be a moderate level of risk to forest visitors from falling snags for many years. This risk has been identified on about 3.2 total miles of trail within the burned area. The Pistol Lake Trail and Summit Trail are very popular because of their high scenic quality and make up about 2.1 miles of the trail system. Burned conditions have increased the risk to life and safety to visitors using both the trail and road system. Most of the hazard trees along these trails were removed to provide safe access for firefighting operations, however, some hazards trees still remain. Both systems travel through areas located adjacent to moderate and high severity burned slopes. Normal storm frequencies and magnitudes can more easily initiate rill and gully erosion on the trail. These “minor” events can cause trail or road washouts making for hazardous access along steep slopes and putting the safety of users at risk. Another trail, the McClure Trail was also impacted by the Burnt Fire, however, the portion (1.1 miles) of this trail that is within the burned area receives very little use.

2. **Property.** There are many roads within the area and there are about 7.5 miles of road below hillslopes that have been determined to exhibit moderate to high severity conditions with hydrophobic soils. These hillslope conditions will increase the risk of flooding and debris flows that would cause damage to the existing drainage facilities.
3. **Critical Natural Resources.** There are two critical natural resources to consider within the Burnt Fire burned area that include:
  - a. **Aquatic Resources** - Aquatic Resources – Burntlog Creek, E.F. Burntlog Creek, and all tributaries support Federally listed species (bull trout and steelhead/rainbow trout) and other species (chinook salmon, sockeye salmon, and westslope cutthroat trout) occur downstream. The Burntlog Creek drainage is designated critical habitat for chinook salmon although none have documented. Bull trout and steelhead/rainbow trout have been documented in the E.F. and Burntlog Creeks and the Burntlog Creek watershed is thought to be a stronghold with excellent habitat conditions for bull trout. The Upper Burntlog and Lower Burntlog subwatersheds have been identified as Aquatic Conservation Strategy subwatersheds with a high priority for restoration and recovery of water quality and fisheries habitat.
  - b. **Noxious Weeds** – There are no known weed infestations identified within the burned area, nor within the area utilized for fire suppression support activities. However, there are known weed infestations along the routes traveled between Cascade and Landmark. This area has a lower risk for noxious weed establishment, but the soil disturbance and fire retardant drops within riparian areas during suppression activities will result in an increase of risk until native vegetation is able to re-establish itself to pre-fire conditions. This could take up to 5 years with the higher elevations and shorter growing seasons.

#### B. Emergency Treatment Objectives:

The goal of the burned area emergency rehabilitation is to:

- Reduce the risk of failure to trail system, road system, and sedimentation to fish habitat downstream.
- Reduce threats to personal injury and/or human life of visitors.
- Prevent the spread of invasive plant species into new locations.

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

Land **70** % Channel **NA** % Roads/Trails **90** % Protection/Safety **90** %

#### D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	40	0
Channel	NA	NA	NA

Roads/Trails	99	97	95
Protection/Safety	90	90	90

E. Cost of No-Action (Including Loss): \$575,000

F. Cost of Selected Alternative (Including Loss): **\$270,000**

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> <a href="#">Hydrology</a>	<input type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input type="checkbox"/> Range
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology
<input checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input type="checkbox"/> GIS

Team Leader: T.J. Clifford

Email: tjclifford@fs.fed.us Phone: 208-365-7007 FAX: 208-365-7037

#### H. Treatment Narrative:

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Land Treatments (Not implemented within initial request. Developed as alternative treatment):

#### **Mulch**

General Description: Straw mulch is applied to the ground by helicopter as a continuous cover to replace ground cover lost in the fire. Plan treatment of 200 acres at a cost of \$250 for a total of \$50,000. Assume low cost/ac of \$250 based on no material cost for available WoodStraw.

Location (Suitable) Sites: 0-50 percent slopes with moderate or high severity burns along the burned tributary within the fire perimeter. No mulch will be applied to areas that have live vegetation.

Design/Construction Specifications: Treat 200 acres by helicopter or by hand crew (where accessible).

- 1) Slopes between 0 to 50 percent.
- 2) Where needle cast is not expected.
- 3) Straw must conform to Idaho State Department of Agriculture (ISDA) Certified Noxious Weed Free Standards. Suitable straw includes WheatStraw, barley, rice, and wheat grasses. The straw should be dry and baled this year for easier application. All bales are to be tagged as "State certified weed free hay" prior to delivery. All straw shall be subject to additional testing to ensure compliance of IDSA standards. Moisture content of straw is not to exceed 12 percent at time of delivery. Straw shall be free of mold.
- 4) The rate of application is determined by qualified individuals who have been trained in the principles of BAER treatments. The rate of application is approximately 2,000 pounds per acre. This is about 35-40 (50-80 pound) straw bales per acre, spread 1/4 inch deep, if evenly distributed (approximately 3 straw shafts deep).
- 5) Storage. The straw bales should be delivered early to the staging area and kept dry. This may require use of canvas tarps or plastic covers to protect from precipitation and condensation.

Purpose of Treatment: Aerial straw mulch treatments will provide a protective organic mulch cover important in reducing/eliminating soil erosion and subsequent sediment delivery to the adjacent

streams. The areas of proposed treatments occur on high severity burn areas that are absent of ground cover and hillslope obstructions needed to regulate soil erosion and loss of ash (only source of nutrient capital for decades), which reduces the sediment delivery to the streams that have or contribute to aquatic habitat. Mulching reduces downstream peak flows by absorbing and slowly releasing accelerated overland runoff due to bare soil, hydrophobic soils and compacted soils. Mulching even small areas at the source of floodwaters, and other areas critical to slope stabilization, can protect much larger downstream areas from the cumulative effects of hill slope runoff. Mulching also helps to secure seeds that are either stored in the soil that may otherwise be eroded offsite and maintains a favorable moisture and temperature regime for seed germination and growth.

#### Channel Treatments:

NA

#### Roads and Trail Treatments:

##### **Culvert Replacement**

##### General Description:

- 1) Replacement or remove culverts in two locations that are at risk for flooding and/or debris flows. Existing culverts at two locations will be replaced with larger diameter pipes. There are seven sites that will include installing armored drivable dips over the culvert to prevent diversion potential during overflow events.
- 2) Remove trees and debris from roadway and culvert inlets.

##### Location (Suitable) Sites: (see map in project files)

- 1) Mapped intermittent and perennial crossings on FDR 447.
- 2) Mapped intermittent and perennial crossing on FDR 448.

##### Design/Construction Specifications:

- 1) Survey, design, and contract administration by USFS.
- 2) Forest Service Specifications for Construction of Roads and Bridges and Special Contract Provisions.
- 3) Specifications include partial cost, operation and maintenance of a mobile vehicle washing station to clean support vehicles needed for this treatment. Sawtooth National Forest has available wash station for BAER treatments.

Purpose of Treatment: The purpose of these treatments is to increase culvert capacities to accommodate increased water flows and associated bedload and debris, restore road template drainage, and decrease the chances of washing road fill into adjacent streams.

#### Protection/Safety Treatments:

##### **Major Hazard Signs**

General Description: Install signs to warn visitors about hazards within burned areas at all roads and trailheads that enter or provide access to trails in the burned area.

Location (Suitable) Sites: Install a sign on the 447 road just prior to entering the burned area and install a sign at the trailhead for the Pistol Lake Trail near the end of the 448 road.

Design/Construction Specifications: Reflectorized wood backed signs (3' x 6') with letter size according to USFS Handbook specifications mounted on 4"x4"x8' posts at heights and distances mandated in USFS Handbook.

Purpose of Treatment: Ensure maximum visibility and readability of signs warning visitors of the hazards to human life and safety that exist in burned area. Signs are intended to emphasize the increased hazards from falling burned trees, and potential for debris flows and flooding.

## **Minor Hazard Signs**

General Description: Install signs to warn visitors about hazards within burned areas at all roads and trailheads that enter or provide access to trails in the burned area.

Location (Suitable) Sites: Install signs on just prior to entering the burned area on trails and roads that travel through the burned area.

Design/Construction Specifications: Reflectorized wood backed signs (2' x 2') with letter size according to USFS Handbook specifications mounted on 4" x 4" x 8' posts at heights and distances mandated in USFS Handbook.

Purpose of Treatment: Ensure maximum visibility and readability of signs warning visitors of the hazards to human life and safety that exist in burned area. Signs are intended to emphasize the increased hazards from falling burned trees, and potential for debris flows and flooding.

## **Hazard Tree Removal**

General Description: Remove trees along trails or within a tree height of trails and trailheads within the burned area. Most of the trees have been removed to provide safe operations during fire suppression efforts. This treatment is meant to survey the area for any further hazard and remove if necessary.

Location (Suitable) Sites: Along the Pistol Lake Trail and the Summit Trail within the burned area and within a distance of about 75 feet to each side of the trail.

Design/Construction Specifications: A certified faller will remove hazard trees within 75 feet (or appropriate tree height) to either side of system roads and trails. Specific trees would be flagged as hazard trees by a certified silviculturist and/or faller utilizing established guidelines for hazard tree identification along recreational trails. Guidelines identify a hazard tree as a tree that poses an immediate hazard and is within range of falling on the target of concern (trail or trailhead). Only trees identified as meeting the hazard tree guidelines would be removed.

Purpose of Treatment: To provide safety to public and employees utilizing trail systems.

### **I. Monitoring Narrative:**

(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

#### **Noxious Weed Monitoring**

The purpose of Noxious Weed Monitoring is early detection of noxious weed introduction in the burned area and suppression sites as a result of suppression or wildfire activity. Early detection of noxious weed infestations will minimize the spread and initiate rapid treatment to new infestations associated with fire suppression/fire effects. Noxious weed species and invasives found during the monitoring will be treated at time of identification.

Authorized individuals will conduct all monitoring to insure compliance with specific, detailed requirements (intensity, frequency, funding, timing, length of time, locations, etc). Monitoring will be conducted following established R4 Monitoring methods.

Monitoring will be done at intensity and frequency to identify spread or occurrence of weed infestations following the fire event and recovery. Monitoring will be accomplished by a two-person crew or contract crew over a 2-day period. Initial monitoring will take place after the fire (beginning late summer/fall of 2006). Additional monitoring may be requested depending what is found within the burned area.

Monitoring areas include all sites disturbed by the fire suppression activities such as helibases, helispots, drop points, heliwater spots, spike camps, and fire camp. Monitoring will also include riparian areas that have received fire retardant drops due to fertilizing effects of retardant.

**Part VI – Emergency Stabilization Treatments and Source of Funds**
**Interim #**

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units	Non Fed \$	
<b>A. Land Treatments</b>										
Mulch (Woodstraw)	ac	250	0	\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Land Treatments</b>				\$0	\$0		\$0		\$0	\$0
<b>B. Channel Treatments</b>										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Channel Treat.</b>				\$0	\$0		\$0		\$0	\$0
<b>C. Road and Trails</b>										
Culvert Replacement	ea	1200	9	\$10,800	\$0		\$0		\$0	\$10,800
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Road &amp; Trails</b>				\$10,800	\$0		\$0		\$0	\$10,800
<b>D. Protection/Safety</b>										
Major Hazard Signs	ea	300	2	\$600	\$0		\$0		\$0	\$600
Minor Hazard Signs	ea	100	5	\$500	\$0		\$0		\$0	\$500
Hazard Tree Removal	mile	800	3.2	\$2,560	\$0		\$0		\$0	\$2,560
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Structures</b>				\$3,660	\$0		\$0		\$0	\$3,660
<b>E. BAER Evaluation</b>										
<b>All Costs</b>	day	1800	5	\$0	\$9,000		\$0		\$0	\$9,000
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
<b>Subtotal Evaluation</b>				\$0	\$9,000		\$0		\$0	\$9,000
<b>F. Monitoring</b>										
Noxious Weeds	day	500	2	\$1,000	\$0		\$0		\$0	\$1,000
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Monitoring</b>				\$1,000	\$0		\$0		\$0	\$1,000
<b>G. Totals</b>				\$15,460	\$9,000		\$0		\$0	\$24,460
Previously approved										
<b>Total for this request</b>				<b>\$15,460</b>						

**PART VII - APPROVALS**

- /s/Richard A Smith  
Forest Supervisor (signature)

08/18/2006  
Date
- /s/ William P. LeVere for  
Regional Forester (signature)

08/21/2006  
Date



**Burnt Fire BAER Assessment**  
**2120 Acres**  
**August 12, 2006**

