USDA-FOREST SERVICE FS-2500-8 (7/08)
Date of Report: 09/02/08

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

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

B. Type of Action

[X] 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: Bridge Creek Fire

B. Fire Number: OR-OCF-0741

C. State: OR

D. County: Wheeler

E. Region: 06

F. Forest: Ochoco NF

G. District: Lookout Mountain Ranger District

H. Fire Incident Job Code: P6EG3Z

I. Date Fire Started: 08/07/08

J. Date Fire Contained: 08/25/08

K. Suppression Cost: 3.9 million as of 8/26/08

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): There are approximately 1.5 miles of handline and 1 mile of dozer line on National Forest System Lands that are currently being rehabilitated with waterbars and debris.
2. Fireline seeded (miles): Will seed both handlines and dozerline on National Forest System Lands. Seed has been ordered. Private land treatments are unknown at this time.
3. Other (identify): Safety zones, helispots, staging areas, and drop points rehabilitated. Road drainage installed where suppression activities warranted doing so.

M. Watershed Number: 1707020403 - Bridge Creek

N. Total Acres Burned: 4,880 as of 8/25/08
NFS Acres(2774.9) Other Federal (132.4) State ( ) Private (1972.3)

O. Vegetation Types: Dry White Fir (44%), Moist White Fir (28%), Sub-Alpine Fire (18%), Douglas Fir (5%), Non-forest scabs, meadows, shrub-steppe (5%), Juniper Woodland (<1%), Moist Pine (<1%).

P. Dominant Soils: Dominant soils are deep to very deep Andisols which have sandy loam volcanic ash over largely clayey subsoils. These soils primarily occur on the north and east slopes and in swales. On south facing slopes the dominant soils are moderately deep Vitrandic Argixerolls with less than 14 inches of ash. The non-forested scablands are largely Lithic Argixerolls.

Q. Geologic Types: Primarily made up of Picture Gorge Basalts (22%, aphyric and plagioclase pophyritic flood basalt with thin ashy sedimentary beds between the lower flows), the Clarno Formation (43%, andesitic lava flows, domes, breccia and small intrusive masses and lesser basaltic to rhyolitic rocks) and Landslide and Debris Flow deposits (35%, are composed of unconsolidated chaotic masses of angular blocks, chiefly mixtures of basalt and tuffaceous sedimentary rocks (Swanson, 1969) and are highly susceptible to mechanical and chemical weathering).

R. Miles of Stream Channels by Order or Class: Class I (0 mi), Class II (0.8 mi), Class III (2.14 mi), Class IV (4.8 mi)

S. Transportation System

Trails: 0 miles Roads: 5.4 miles (FS Maintenance Level (ML) 2 roads, does not include private or FS ML 1 roads)

PART III - WATERSHED CONDITION

A. Burn Severity by total and FS (acres):
TOTAL - 1322 (very low) 1889 (low) 1668 (moderate) 0 (high)
FS (Only) - 600 (very low) 876 (low) 1298 (moderate) 0 (high)
NOTE: The BARC map initially displayed 1,668 acres of high severity, but field testing of soils revealed that this acreage was more of a moderate severity. *Intensity* (and associated tree mortality) was very high (80-100%) throughout the majority of those areas initially classified as moderate and high severities by the BARC map.

B. Water-Repellent Soil by total and FS (acres): 88 acres (total); 65 acres (FS)

C. Soil Erosion Hazard Rating by total and FS (acres):
TOTAL ___ (low) ___ (moderate) __ (high) – Information not available on private land
FS (Only) 486 (low) 1915 (moderate) 368 (high)

D. Erosion Potential: 21.3 tons/acre (moderate) 1.25 tons/acre (low) 0.5 tons/acre (very low)

E. Sediment Potential: 13,632 cubic yards / square mile (moderate)
568 cubic yards / square mile (low)

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 7

B. Design Chance of Success, (percent): 75

C. Equivalent Design Recurrence Interval, (years): 25

D. Design Storm Duration, (hours): 0.5

E. Design Storm Magnitude, (inches): 0.43*

F. Design Flow, (cubic feet / second/ square mile): 55.2

G. Estimated Reduction in Infiltration, (percent): 0.7

H. Adjusted Design Flow, (cfs per square mile): <1

*NOTE: Although runoff is not predicted to increase from reduced infiltration, it is expected to increase as a result of decreased interception and evapotranspiration with high tree mortality.

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

- Human Life and Safety - Potential loss or injury of human life due to post-fire environmental conditions primarily due to hazard trees, debris flows, and landslides. Human life and safety is at a very high risk along the 2630-450 road (and associated spur roads) due to high tree mortality (90-100%) along the road and associated dispersed sites. Additional access roads from private land (with abundant recreation/hunting traffic) lead directly into this area.

- Property (roads, culverts, municipal water utilities) – There is a high risk of loss or damage to property due to post fire environmental conditions primarily due to increased flow magnitudes, culvert overtopping, debris flows, erosion, and landslides. Road and culvert failure within this fire area would be detrimental to anadromous fisheries and designated critical steelhead habitat areas, sensitive redband habitat and species, 303(d) temperature listed headwater streams and the City of Mitchell's Municipal Water Supply. Downstream private lands may also be impacted by preventable road/culvert failures.

- Water Quality – There is a high risk of degraded water quality in several headwater drainages. The threat is from increased sedimentation due to erosion on exposed soils and damage to streambanks from permitted and unpermitted livestock and motorized cross-country travel. The drainages of interest burned with high intensity (100% tree mortality) and moderate severity. There is also a threat of increased stream temperatures in headwater drainages to an already 303(d) temperature listed stream (Gable Creek). The riparian vegetation in these drainages was completely consumed from the fire and temperature increases from these drainages threaten the viability of designated steelhead species and habitat. In addition there are sensitive redband fisheries in these areas.

- Soil Productivity – There is potential loss in long term soil productivty (i.e. vegetative recovery) due to moderate burn severity on soils. There is a high threat of accelerated soil erosion due to exposed soils, damage from permitted and unpermitted livestock and motorized cross-country travel.

- Steelhead, Redband Trout, and Frog Habitat – There is potential in loss or degradation to designated and non-designated critical Steelhead habitat/species and Sensitive Redband Trout and Frog habitat/species due to increases in sedimentation and stream temperatures due to post-fire runoff, erosion and sediment delivery. Additional damage from permitted and unpermitted livestock and motorized cross-country travel threaten the viability of these values.

- Cultural Resources – There is potential loss or degradation to several cultural resource sites due to exposure from post-fire runoff and erosion and vegetation mortality (North Point Lookout Tree).

- Sensitive and Desirable Plant Communities – There is high risk to the loss or degradation to sensitive and desirable plant habitat and species due to post-fire conditions and spread of invasive species into and around the burned area and from both National Forest and private lands. There is an additional threat from the spread of invasive species due to increased access of area to motorized cross-country travel.

- Bridge Creek Wilderness – The wilderness value is at high risk to motorized travel into the Bridge Creek Wilderness. The wilderness is now readily accessible with motorized travel due to little vegetative resistance and limited wilderness boundary signs. The wilderness boundary on the north

and west ends parallel the 2630-450 road with a 30 to 200 foot offset. The adjacent Walton Snow Park is a high use winter snowmobile area. The value of maintaining a non-motorized wilderness is at risk.

- City of Mitchell Municipal Watershed – There is a risk of degraded water quality due to the post-fire runoff and erosion and motorized cross country travel. Potential damage also exists due to concentration of permitted and unpermitted livestock within the watershed. The greatest percentage of remaining forage is located within and around the municipal water intakes.

- Springs, Ponds and Wet Meadows – There is potential loss of unique habitat, reduced productivity and loss in water storage and/or water table elevation due to post-fire conditions including runoff, landslides and erosion. There is high risk of loss of these values from permitted and unpermitted livestock concentration in these areas, in addition to motorized cross-country travel.

B. Emergency Treatment Objectives:

The primary objective of this Burned Area Emergency Response Report is to recommend prompt actions deemed reasonable and necessary to effectively protect, reduce or minimize significant threats to human life and property and prevent the unacceptable degradation of resources. The application of these BAER treatments would minimize on-site and downstream damages to the identified values at risk. The emergency treatments being recommended by the Ochoco National Forest/BAER Team are specifically designed to achieve the following results.

Proposed Land Treatments

The objectives of the land treatments are to:

1. protect human health and safety by removing hazards, limiting access into unsafe areas and posting educational awareness signs
2. mitigate and prevent the spread of invasives from known sites in and around the burned area and from adjacent private lands
3. protect lands to allow for critical natural recovery that is essential for protection of designated and non-designated critical steelhead species/habitat and sensitive springs, ponds, and wet meadows and existing 303(d) listed streams (Gable Creek)
4. protect upslope soils from erosion, runoff and nutrient capital loss to aid in natural recovery
5. monitor potential vandalism of cultural resources
6. protect the non-motorized wilderness value
7. protect recommended BAER treatments

Proposed Road Treatments

The objectives of the road treatments are to:

1. reduce the high risk for accelerated surface runoff/failure, damaging National Forest roads within the Bridge Creek Fire area
2. reduce the potential for road related surface/mass erosion and accelerated sediment delivery to downstream critical fisheries habitat, high value water quality streams and private water supplies
3. improve culvert capacity to reduce the potential for road failure due to increased flows
4. remove hazards within the burned area while implementing recommended road treatments
5. prevent out-year drainage problems

Proposed Channel Treatments

The objectives of the channel treatments are to:

1. provide channel/floodplain roughness (that was burned in the fire) that will stabilize streambanks and dissipated stream energy to prevent further stream degradation in 303 (d) listed and anadromous streams.
2. accelerate recovery of stream shade and water quality in a 303 (d) listed stream with anadroumous fisheries

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

Land **80** % Channel **80** % Roads/Trails **90** % Protection/Safety **80** %

D. Probability of Treatment Success

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

E. Cost of No-Action (Including Loss): $1.1 million

F. Cost of Selected Alternative (Including Loss): $229,905

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Rob Tanner (Peggy Fisher – Trainee)

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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:

L1: Weed Treatment and Monitoring - National Forest lands and private lands adjacent to the fire are known to be infested with non-native invasive plants, including yellow starthistle, medusahead, and houndstongue. Herbicide control (where existing NEPA permits) and manual control of weeds in 2009 would mitigate spread of weeds throughout and around the fire area. This treatment would include post-fire non-native invasive plant (weed) “detection monitoring” as recommended in the FSM direction of BAER treatment of invasive plants in 2009. Monitoring of weeds and weed treatment areas in 2009 through 2011 would identify effectiveness of treatments. These treatments are essential to protecting lands to allow for critical natural recovery. Natural recovery is essential for protecting designated and non-designated critical steelhead species/habitat, sensitive springs, ponds, wet meadows and existing 303(d) listed streams (Gable Creek).

L2: Heli-Mulching - Straw mulching is recommended on 120 acres between FS Road 2630-450 and North Pisgah Spring (T 12S R21E Sec 32 NW ¼) and a headwater area to the north and east which encompass the headwaters of Gable Creek. Treatment would provide essential and immediate ground cover to prevent soil erosion and nutrient capital loss and to aid in natural recovery. Natural recovery is essential for protecting designated and non-designated critical steelhead species/habitat, sensitive springs, ponds, wet meadows and existing 303(d) listed streams (Gable Creek).

L3: Rebuild Forest Boundary Fence - Replacement of 5 miles of fence along Forest Boundary. Fence is essential to allow for critical natural recovery that is essential for protection of designated and non-designated critical steelhead species/habitat, sensitive springs, ponds, wet meadows and existing 303(d) listed streams (Gable Creek). The threat is from permitted and unpermited grazing. Boundary fence would also ensure protection from increased sedimentation and erosion and damage to recoverying vegetation associated with motorized cross-country travel entering from off the forest. In addition the fence would protect the recommeded BAER treatments from permitted/unpermitted grazing during the emergency stabilization period. Actual estimated cost to rebuild fence is $14,000/mile, but the forest is pursuing other funding sources to reduce the BAER costs to $7,000/mile.

L4: Resurvey Forest Boundary – This treatment would result in surveying 5 miles of Forest Boundary. This treatment will ensure the boundary fence (L3) is located on the legal description. Fire destroyed the fiberglass boundary posts. Accurate location of the boundary will prevent post-fire harvest trespass, road and trail encroachment, and assist with invasive species treatment.

L5: Repost Wilderness Boundary Signs – This treatment would include reposting 4 miles of wilderness boundary signs along a high motorized use area (2630-450 road) that had high intensity fire (little to no evidence of wilderness boundary remains). Boundary setback varies between 30-200' from adjacent road. Steel posts remain onsite, but the signs have been destoryed by fire. This area is also a high use area for snowmobiles as Walton Snow Park is nearby. Signage will alert recreationist of wilderness boundary, assist in preventing motorized trespass into the wilderness area and protect the non-motorized wilderness value.

L6: Rebuild Interior Allotment Fence – This treatment would involve replacing 0.5 miles of fence along the west end of the fire. This fence is essential to manage livestock and ensure natural recovery within the fire area. This fence would also allow protection of the treated areas during the emergency stabilization period.

Channel Treatments:

C1: In-Channel Felling – This treatment would involve directional tree felling into the stream on a tributary to Gable Creek. Treatment would be from North Pisgah Spring to the Forest Boundary. In-channel wood is essential to provide channel/floodplain roughness (which was burned in the fire) that will stabilize streambanks and dissipated stream energy to prevent further stream degradation in 303 (d) listed and anadromous streams. In channel wood would also provide needed shade until vegetation/riparian planting would be completed.

C2: Riparian Planting – Treatment would include willow planting on the upper portions of two Gable Creek tributaries. Plantings are essential to post-fire riparian vegetation recovery helping reduce streambank erosion, stream temperature increases and sedimentation in 303 (d) listed and anadromous headwater streams. There is no planting stock currently available for this site. In 2009, willows will be collected from various areas and elevations of the Ochoco National Forest and propagated at a nursery. In 2010, rooted cuttings would be planted at and downstream of North Pisgah Spring and in the drainage downstream of Masterson Spring. Treatment C1 would help mitigate potential adverse erosion/stream heating until riparian plants could be planted

Roads and Trail Treatments:

R1: Construct Vented Ford - Construct overflow dip on the 2630-450 road, over the existing culvert in the Nelson Creek drainage creating a maintenance-free crossing and reducing the anticipated potential for culvert overtopping and failure. This treatment would include cleaning the inlet and outlet of debris to increase flow capacity. Culvert failure within this area would be detrimental to anadromous and sensitive species/habitat. Downstream private lands may also be impacted by preventable road/culvert failure.

R2: Manage Road Surface Water – This treatment would involve cleaning the inlets and outlets of existing relief culverts along the 2630-450 road. This treatment would also include armoring outlets. Treatment would reduce the potential for detrimental impacts to anadromous and sensitive species/habitat downslope.

R3: Install Road Closure Gates - Install three road closure gates and associated boulders to effectively block motorized access into the fire perimeter. One gate would be located on the 2630-450 road appoximately 1 mile from the 2630 road. The other two gates would be located along private land entrances to the National Forest. Human life and safety is at a very high risk along the 2630-450 road (and associated spur roads) due to high tree mortality (90-100%) along the road and associated dispersed sites. Treatment PI, below, would complement this closure.

R4: Roadside Hazard Tree Removal - Removal of individual hazard trees along access routes to the construction sites identified under the various road treatments (i.e. #R1, #R2 & #R3). Treatment would be essential to reducing the risk/danger to the contractor while completing the above road treatments.

R5: Storm Patrol - Patrol the fire area during and immediately after storm events to repair, unplug, or aid in drainage of road drainage features. This patrol would occur primarily on the 2630-450 road to reduce the risk of catastrophic road drainage failure. Treatment would reduce the potential for detrimental impacts to anadromous and sensitive species/habitat downslope.

Protection/Safety Treatments:

P1: Install Area Closure and Warning Signs – This treatment would buy and install area closure and burned area hazard notification signs to inform the public of post-fire conditions and management actions taken to protect public safety. Monitoring of signs and replacement as necessary is included in this treatment. Treatment is essential and necessary to reduce public exposure to post fire hazards.

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.)

NOTE: Monitoring for invasive species, closure and warning sign posting/effectiveness, and roads (storm patrol) has already been included in the above treament proposals.

M1: Effectiveness Monitoring of L2, C1 and C2 – Effectiveness monitoring of heli-mulching, in-stream felling, and riparian planting would include photo points, sediment sampling, stream temperature sampling, fish population counts, and fish habitat inventory. Due to the active and dormant landslides within the fire perimeter, monitoring would also include landslide and debris movement. These monitoring efforts would be critical to establish the effectiveness of our treatments and to ensure protection of sensitive headwater areas.

M2: Heritage Resource Monitoring – Several cultural resources (i.e. lithic scatters, lookout tree, log trough) have been exposed by the fire. Treatments are not recommended, however the loss and/or degradation to these sites exists due to exposure from post-fire conditions and vegetation mortality (North Point Lookout Tree).

Part VI – Emergency Stabilization Treatments and Source of Funds Interim

Click red icons for notes.	NFS Lands					Other Lands				All
Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of Units	Fed $	# of Unit	Non Fed	Total $
						Click to Insert new line item belo				
A. Land Treatments										
L1: Weed Treatment: herbicide ('09)	days	$500	2	$1,000			$0		$0	$1,000
L1: Weed Treatment: manual ('09)	days	$250	5	$1,250			$0		$0	$1,250
L1: Weed Monitoring ('09-11)	days	$250	15	$3,750			$0		$0	$3,750
L2: Heli-Mulching	acre	$800	120	$96,000			$0		$0	$96,000
L3: Rebuild Forest Boundary Fence	mile	$7,000	5	$35,000			$0		$0	$35,000
L4: Survey Forest Boundary	mile	$6,000	5	$30,000			$0		$0	$30,000
L5: Repost Wilderness Boundary	mile	$2,000	4	$8,000			$0		$0	$8,000
L6: Rebuild Interior Allotment Fence	mile	$3,000	0.5	$1,500			$0		$0	$1,500
Subtotal Land Treatments				$176,500	$0		$0		$0	$176,500
B. Channel Treatments										
C1: In-Channel Felling	days	$600	3	$1,800			$0		$0	$1,800
C2:Riparian Propogation	plants	$2.20	1,750	$3,850						$3,850
C2:Riparian Planting	plants	$0.66	1,750	$1,155						$1,155
				$0			$0		$0	$0
Subtotal Channel Treatments				$6,805	$0		$0		$0	$6,805
C. Road and Trails										
R1: Construct Vented Ford	each	$2,500	1	$2,500			$0		$0	$2,500
R2: Manage Surface Water	mile	$3,200	1.3	$4,160			$0		$0	$4,160
R3: Install Road Closure Gates	each	$7,000	3	$21,000			$0		$0	$21,000
R4: Roadside Hazard Tree Removal	each	$75	80	$6,000						$6,000
R5: Storm Patrol	days	$320	2	$640			$0		$0	$640
Subtotal Road & Trails				$34,300	$0		$0		$0	$34,300
D. Protection/Safety										
P1: Area Closure & Warning Signs	each	$60	30	$1,800			$0		$0	$1,800
P1: Sign monitoring/reposting	days	$300	10	$3,000			$0		$0	$3,000
				$0			$0		$0	$0
Subtotal Protection				$4,800	$0		$0		$0	$4,800
E. BAER Evaluation										
BAER Assessment	---	---	---	$22,000	$0	---		---		$0
	---	---	---	---	$0	---		---		$0
Subtotal Evaluation				---	$0	---	$0	---	$0	$0
F. Monitoring										
M1: Monitor L2,C1,C2	days	$300	23	$6,900			$0		$0	$6,900
M2: Archaeological Monitoring	days	$300	2	$600			$0		$0	$600
Subtotal Monitoring				$7,500	$0		$0		$0	$7,500
G. Totals				**$229,905**	**$0**		**$0**		**$0**	**$229,905**

PART VII - APPROVALS

1. _____ _____
Forest Supervisor (signature) Date

2. /s/ Rick Brazell (for): 09/09/08
Regional Forester (signature) Date