Date of Report: 9/10/2010

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: Oak Flat

B. Fire Number: OR-RSF-010232

C. State: OR

D. County: Josephine

E. Region: 06

F. Forest: Rogue River-Siskiyou NF

G. District: Wild Rivers

H. Fire Incident Job Code: P6FQ9R

I. Date Fire Started: 08/13/2010

J. Date Fire Contained: 09/07/2010

K. Suppression Cost: $18,746,327

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 10 miles dozer line; 29 miles hand line, 50% complete
2. Fireline seeded (miles): 10 miles dozer line planned
3. Other (identify): numerous safety zones ripped, brush pulled back, to be seeded

M. Watershed Number: 1710031107

N. Total Acres Burned: 7494
NFS Acres(7494) Other Federal (0) State (0) Private (0)

O. Vegetation Types: Tanoak-Canyon liveoak-and/or Sadler's Oak; Douglas-fir-Canyon live oak; Douglas-fir/poison oak; White fir/Oregon grape; Jeffery pine/ultramafic; Douglas-fir-chinquapin-salal; Douglas-fir/ultramafic; Port-Orford cedar/salal; Tanoak/evergreen huckleberry.

P. Dominant Soils: Clayey skeletal & loamy-skeletal Lithic and Typic Xerochepts

Q. Geologic Types: Ultramafics, metasediments, metavolcanics, and conglomerate

R. Miles of Stream Channels by Order or Class: Class 1: 3.4 miles; Class 2: 0.9 miles; Class 3: 22.5 miles

S. Transportation System

Trails: 7.9 miles Roads: 29.7 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 2238 (low) 1931 (moderate) 121 (high)

B. Water-Repellent Soil (acres): 640

C. Soil Erosion Hazard Rating (acres):
1433 (low) 2365 (moderate) 3685 (high)

D. Erosion Potential: 3.4 tons/acre

E. Sediment Potential: 17,680 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 5-10

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

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

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 12

F. Design Flow, (cubic feet / second/ square mile): 62

G. Estimated Reduction in Infiltration, (percent): 10

H. Adjusted Design Flow, (cfs per square mile): 68

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Human Life and Safety

Human life and safety on or in close proximity to burned NFS lands.

Forest roads and trails within and adjacent to the burn perimeter have the greatest concern for human life and safety. Rock fall and snags are the direct threats to human life/safety.

- BAER Risk Assessment – High (Possible Probability of Damage or Loss and Major Magnitude of Loss)

Property

Buildings, water systems, utility systems, road and trail prisms, dams, wells or other significant investments on or in close proximity to the burned NFS lands.

Forest Roads Road #2512 (Sam Brown to Chrome Ridge), #2402 (Chrome Ridge Road) and #700 and over 7 miles of trail (Briggs Creek and Dutchy Creek) occur within or below the burned area. Drainage structures and fill slope repair (from burned out roots) sited along these routes are at risk of damage from water erosion, immediate roll out debris generated from within the burned area are also posing an immediate danger.

Trails capture increased surface runoff caused by the presence of burned areas and can suffer severe erosion and mass failures impacting trail systems. The trails within the fire perimeter parallel streams or cross mid-slope, increasing the risk of damage. In particular, Briggs and Dutchy Creek drainages are areas of concern because of the amount of terrain with moderate severity burn adjacent to these trail systems that will increase the potential for sediment movement within the trail prism.

Water systems for the Big Pine and Sam Brown campgrounds are from well sources that were not affected from the fire.

A Briggs Creek impoundment and water diversion for irrigation and domestic water for the Barr Mine private property is located near the north end of the fire perimeter. There could be the potential threat of increased peak flows that could damage the impoundment and water diversion infrastructure in Briggs Creek, as well as increased sedimentation off the hillslopes in the fire perimeter. However, the watershed above the impoundment diversion on Briggs Creek was delineated, and encompasses 1,972 acres (3.1 mi^2). Of this, 2 acres were affected by a low severity burn, and 3.5 acres were affected by a moderate severity burn. With less than 0.20 percent of the watershed above the diversion affected by a moderate severity burn, there is not expected to be any marked, measurable increase in peak flows or sedimentation outside the natural range of variability as a result of the fire that could have a negative impact to the impoundment structure or diversion infrastructure.

- BAER Risk Assessment for Roads and Trails – High (Possible Probability of Damage or Loss and Major Magnitude of Loss)
- BAER Risk Assessment for Barr Mine Water Systems along Briggs Creek – Intermediate (Unlikely Probability of Damage or Loss and Major Magnitude of Loss)

Natural Resources

Water used for municipal, domestic, hydropower, or agricultural supply or waters with special state or federal designations on or in close proximity to the burned NFS lands.

The character of the Illionois River Wild and Scenic River will not be affected (see also discussion for hydrologic function, below).

- BAER Risk Assessment – Low (Possible Probability of Damage or Loss and Minor Magnitude of Loss)

Soil productivity and hydrologic function on burned NFS lands.

Twelve percent (or 939 acres) of the soil resource is at risk for loss of long term soil productivity. These areas should be protected with natural processes.

There could be the potential threat of ash flows and increased peak flows that could cause streambank instability and damage to or loss of critical coho habitat, and impacts to the Illinois River. However, less than 5 percent of the Briggs Creek watershed experienced moderate or high severity impacts, and these areas are scattered and typically buffered by low and unburned areas downslope which provide effective buffers to stream systems for trapping soil movement. In addition, needle cast/leaf fall within the moderately burned areas was already providing substantive ground cover on most of the slopes observed during the BAER assessment, which further reduces this risk.

- BAER Risk Assessment – Low (Possible Probability of Damage or Loss and Minor Magnitude of Loss)

Critical habitat or suitable occupied habitat for federally listed threatened or endangered terrestrial, aquatic animal or plant species on or in close proximity to the burned NFS lands.

The magnitude of the effects to the spotted owl habitat from the fire is likely to be minor as only a very small amount of suitable and occupied stands (less than 1 percent) within these land allocations were lost due to the fire. The probability of short or long term damage or loss to the resource is very unlikely. It is likely that the vast majority of the fire has had beneficial effects to spotted owl sites and spotted owl suitable and designated critical habitats due to the large amount of low and moderate severity fire that, over the long term, will assist in ensuring fire resiliency throughout the fire area. No immediate actions for recovery are recommended and natural recovery will likely be attained quickly.

The likelihood of fish mortality from ash and sediment flows being generated from this fire is low. In past fires that burned with similar intensities within the area, such as Horse Mountain Fire and Biscuit Fire, very little to know fish mortality was observed. It is highly unlikely that the Oak Flat Fire, which had high proportions of low and moderate intensity fire within the watershed, would create any noticeable mortality in the immediate future. In the long term, riparian vegetation remained mostly intact. It is highly unlikely that there will be any significant increases in water temperature in Briggs Creek, so impacts to fish are not anticipated.

- BAER Risk Assessment For Critical Habitat– Low (Possible Probability of Damage or Loss and Minor Magnitude of Loss)

Native or naturalized communities on NFS lands where invasive species or noxious weeds are absent or present in only minor amounts.

The serpentine areas and the intact forested areas generally support a native flora with few introduced species and low densities of those, if present at all. Roadsides, non-serpentine meadows, clearcuts, and other disturbed areas in and around the fire area often support introduced plant species, sometimes many species and/or at high densities. State-designated noxious weeds (multiple species, multiple occurrences) are known to exist at specific locations in the general vicinity and are subject to hand-pulling treatments in most years.

The potential threat is the spread of non-native invasive plant species (particularly noxious weeds as designated by the Oregon Dept. of Agriculture) into the burned area. Noxious weeds known within 2 miles of the fire perimeter and fire lines are meadow knapweed, diffuse knapweed, medusahead, Scotch broom, starthistle, spotted knapweed, tansy ragwort, and Canada thistle. There is currently only one known noxious weed occurrence on the fire perimeter (meadow knapweed on the east edge). There are no currently known noxious weed occurrences within the fire area itself although it is likely that some are present.

- BAER Risk Assessment – High (Likely Probability of Damage or Loss and Moderate Magnitude of Loss)

Cultural and Heritage Resources

Cultural resources on NFS lands which are listed on or potentially eligible for the National Register of Historic Places.

No sites within the Oak Flat fire are listed on the National Register, no specific activities will be required to protect these other site.

- BAER Risk Assessment – Low (Possible Probability of Damage or Loss and Minor Magnitude of Loss)

B. Emergency Treatment Objectives:

The goal of the burned area emergency rehabilitation is to:

- Reduce threats to personal injury and/or human life on Forest Roads Road #2512 (Sam Brown to Chrome Ridge) #2402 (Chrome Ridge Road) and #700 and over 7 miles of trail (Briggs Creek and Dutchy Creek).
- Be active in the detection of the expected invasion of noxious weeds/invasive plants within the area, especially along and adjacent to Chrome Ridge Botanical Areas, Forest roads and trails, dozer and hand lines, helispots, spike camps and private land boundaries used by fire equipment.

- Minimize damage to system roads and trails within the Oak Flat fire boundary by cleaning existing drainage structures.
- Warn users of Forest roads and trails of hazards present in the burned area.

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

Land **N/A** % Channel **N/A** % Roads/Trails **70** % Protection/Safety **85** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Roads/Trails	85	75	70
Protection/Safety	85	85	85

E. Cost of No-Action (Including Loss): **SEE VAR Tool**

F. Cost of Selected Alternative (Including Loss): **SEE VAR Tool**

G. Skills Represented on Burned-Area Survey Team:

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

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H. **Treatment Narrative:**

Roads and Trail Treatments:

Road Drainage

Purpose of Treatment: The purpose of these treatments is to clean and maintain water drainage and road to accommodate increased water flows and associated bedload and debris, and restore road template drainage. The objectives for accommodating increased flows are to: 1) stabilize and protect the existing transportation facilities; 2) decrease the chances of washing road fill into adjacent streams; and 3) minimize road failure induced flooding that could impact human life and safety. Removal of immediate rock fall hazards also with emergency fill slope repair from burned out root within the road prism will also be conducted.

General Description: The emergency stabilization recommendations for Forest Roads 2512, 2402 and 700 are as follows:

1) Road drainage repair.
2) Fill slope repair.
3) Remove immediate roll out safety hazards.

Location (Suitable) Sites: Forest Roads 2512, 2402 and 700.

Design/Construction Specifications:

1) Survey, design, and contract administration by USFS.
2) Forest Service Specifications for Construction of Roads and Special Contract Provisions.

Trail Drainage Treatment

Purpose of Treatment: This trail treatment is needed to provide for maximum effectiveness of water bars to efficiently route water and sediment from the trails, thereby preventing erosion of trail surface and minimizing impacts to water quality and additional sedimentation. Predicted increases in surface runoff/overland flow are expected to erode soils from the burned area and deliver sediment to adjacent streams. Trails within burn perimeter are excellent conveyors for routing significant volumes of sediment to nearby streams if drainage facilities are not adequate to process increased runoff. In addition, the increased flows can erode trail tread, delivering even greater amounts of sediment to nearby steams.
General Description: Trail maintenance/construction on Briggs Creek, Dutchy Creek, Swede Creek and Phone trails near moderate and high burn severity areas to ensure increased runoff will not destroy trail tread and contribute sediment to steams impacting water quality and additional sedimentation.
Location (Suitable) Sites: Trails within burn perimeter are likely to contribute significant volumes of sediment to stream system if drainage facilities are not adequate to increased runoff. Within the fire perimeter, 6 miles of trail will be treated.

- 3.5 miles of the Briggs Creek trail #1132
- mile of the Dutchy Creek trail #1146
- mile of the Swede Creek trail #1135
- 0.5 mile of the Phone trail #1153

Design/Construction Specifications:

1. Construct Check Dams according to EM-7720-104 (drawing 915-2).
2. Construct Grade Dip according to EM-7720-104 (drawing 912-4).
3. Construct Waterbars according to EM-7720-104 (drawing 922-1 and 922-2).

Protection/Safety Treatments:

Road Hazard Signs

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 rock fall, debris flows, snags and flooding.
General Description: Install signs at key roads that enter or are within the burned area.
Location (Suitable) Sites:

1) Two hazard signs on FR 2512.

Design/Construction Specifications:

1) Road Signs: Reflectorized 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.

Trail Hazard Signs

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, rock fall and flooding.
General Description: Install signs at all trailheads and junctions that enter or provide access to trails in the burned area. Install signs at all trailheads that enter or are within the burned area or provide access to trails within the burn.
Location (Suitable) Sites:

1) 6 signs, Sam Brown Campground-Briggs Creek Trailhead, Sam Brown Horse Camp-Dutchy Creek Trailhead, Briggs Creek Trailhead at FR4105, Dutchy Creek Trailhead at FR610, Phone Trailhead at FR707 and Swede Creek Trailhead at FR707.

Design/Construction Specifications:

1) Trail Signs: Reflectorized signs 12"X18" trail signs, mounted on 4"x4"x8' posts at heights and distances mandated in USFS Handbook.

I. **Monitoring Narrative:**

Noxious Weed and Invasive Plant Detection Monitoring

The purposes of the monitoring are to prevent known noxious weed infestations from spreading and/or increasing in density, to detect and rapidly respond to new infestations associated with fire suppression/fire effects of the Oak Flat Fire and to prevent potential new infestations resulting from BAER emergency response action.

Detection monitoring will be at an intensity and frequency to identify the spread or occurrence of weed infestations following the fire event and recovery. Monitoring will be conducted for the next growing season (starting 2011) under BAER authorization. Monitoring needs following this period will be conducted under normal program authorities. A minimum of five years of monitoring should be implemented in combination between BAER and other program authorities. The following areas will be monitored for establishment or spread of noxious weed, if noxious weed infestations are identified an appropriate treatment will be implemented to eradicate or control the infestation (i.e. hand pulling, herbicide application, biological agent control, seeding of native species). Detection monitoring within the burned area will focus on areas that were disturbed by fire suppression resources.

Area Affected by Suppression Actions and the Burned Area:

- Spike camps
- Helispots
- Trailheads within and adjacent to the fire perimeter trailheads
- Dozer and hand lines associated with suppression.
- Temporary repeater sites
- Chrome Ridge Botanical Area
- York Creek Botanical Area

Part VI – Emergency Stabilization Treatments and Source of Funds **Initial Request**

			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										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$0	$0		$0		$0	$0
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Trail Treatments	Miles	$3,752	5	$18,760	$0		$0		$0	$18,760
Road Treatments	Miles	$344	11	$3,780	$0		$0		$0	$3,780
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$22,540	$0		$0		$0	$22,540
D. Protection/Safety										
Road Hazard Signs	Each	$480	2	$960	$0		$0		$0	$960
Trail Hazard Signs	Each	$329	6	$1,974	$0		$0		$0	$1,974
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$2,934	$0		$0		$0	$2,934
E. BAER Evaluation										
Assessment Team	Report	$14,000	1	---	$14,000		$0		$0	$14,000
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$14,000		$0		$0	$14,000
F. Monitoring										
Noxious Weed Detection	Days	$281	32	$9,000	$0		$0		$0	$9,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$9,000	$0		$0		$0	$9,000
G. Totals				$34,474	$14,000		**$0**		**$0**	**$48,474**
Previously approved										
Total for this request				**$34,474**						

PART VII - APPROVALS

1. _____ _____
Forest Supervisor (signature) Date

2. _____ _____
Regional Forester (signature) Date