USDA-FOREST SERVICE FS-2500-8 (6/06)

Date of Report: 11/08/10

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: Scott Mtn. Fire

B. Fire Number: OR-WIF-000182

C. State: OR

D. County: Linn

E. Region: 6

F. Forest: Willamette

G. District: McKenzie River RD

H. Fire Incident Job Code: P6FS24

I. Date Fire Started: Aug. 23, 2010

J. Date Fire Contained: 35% Nov. 08, 2010

K. Suppression Cost: $5.2 million

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): approx. 4 miles
2. Fireline seeded (miles): none
3. Other (identify):

M. Watershed Number: 1709000401 (Upper McKenzie River)

N. Total Acres Burned: Willamette NF (3,464)
NFS Acres (3,464) Other Federal ( ) State ( ) Private ( )

O. Vegetation Types: At the lower elevations, vegetation is primarily composed of mixed conifers consisting of Douglas-fir and mountain hemlock with an understory of bear grass and Oregon grape. In the upper elevations, vegetation types include lodgepole pine with scattered mountain hemlock and true fir. Understory vegetation at these elevations includes huckleberry, sedges, needlegrass, princess pine, lupine, squaw carpet, and pinemat manzanita.

P. Dominant Soils: Surface soils consist of a loamy sand texture as a result of basaltic ash deposits from nearby vents. These soils were originally classified as Typic Cryorthents or Cryandepts and would likely now fall into the ashy Vitricryand classification within the Andisol soil order.

Q. Geologic Types: The lower portions of the watershed feature Pleistocene glacial deposits. The upper portions of the watershed are dominated by basalt lava flows which originated from nearby shield volcanoes Belknap Crater and Scott Mountain.

R. Miles of Stream Channels by Order or Class: 1.6 miles of intermittent (Class IV) streams

S. Transportation System:

Trails: 3 miles (Deer Butte Trail and Hand Lake Trail) Roads: 0.6 miles (2649643, 2649666, 2649640)

PART III - WATERSHED CONDITION

A. Burn Severity-soils (acres): 693 (low) 1,732 (moderate) 1,039 (high)

B. Water-Repellent Soil (acres): 104

C. Soil Erosion Hazard Rating (acres): 3449 (low) 10 (moderate) 5 (high)

D. Erosion Potential: 3.44 tons/acre

E. Sediment Potential: 4 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

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

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

D. Design Storm Duration, (hours): 0.5hr.

E. Design Storm Magnitude, (inches): 0.67-0.77in.

F. Design Flow, (cubic feet / second/ square mile): 34-39cfsm

G. Estimated Reduction in Infiltration, (percent): none

H. Adjusted Design Flow, (cfs per square mile): 34-39cfsm

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Table 1. Summary Critical Values and Threats

Critical Value	Threat	Risk Determination
Human Life and Safety	post-fire hazards/danger trees	High
Property - Trail Infrastructure	trail damage from post-fire run-off due to fire consumption of wooden water drainage structures	High
Native Plant Communities	noxious weed infestation	High
Soils/Hydrology	impacts to soils and water quality	Low
Fisheries	impacts to ESA-listed fish and Critical Habitat	Low
Cultural Resources	loss or degradation of sites due to exposure from post-fire run-off and erosion; potential data loss and vandalism from illegal surface collection by forest users	High

Human Life and Safety

Post-fire conditions in the Mt. Washington Wilderness, specifically danger trees and unstable terrain, present a threat to public and employee safety. Deer Butte and Hand Lake trails are frequently used by recreationists, and Hand Lake trail is one of the main connecting trails within the Mt. Washington Wilderness. The probability of incident is possible and the magnitude of consequences is major, leading to a “high” risk determination.

Property – Trail Infrastructure

Though most of the area within the fire perimeter has a low Soil Erosion Hazard Rating, trails which are long, compacted lineal features have the potential to collect and concentrate overland flow. Water drainage structures constructed with wood materials that were installed to alleviate this situation were destroyed or damaged as a result of fire activity on approximately 3 miles of trails. Consequently, these trails are subject to further damage as a result of increased erosion. Without treatment, the probability of erosion damage is likely and the magnitude of consequences is moderate, leading to a “high” risk determination.

Native Plant Communities

Both the west and south flanks of the fire burned into areas that are near to roads and trails that are readily accessible and highly used by forest visitors. Prior to the fire, existing populations of non-native plants were documented in the vicinity of these access routes. The activity of the fire has resulted in substantial areas of exposed soil which are potentially vulnerable to invasion by the non-native species.
The probability of noxious weed infestation is likely and the magnitude of consequences is moderate, leading to a “high” risk determination.

Soils/Hydrology

Risk to soil and water quality is limited for most of the area within the fire perimeter. Porous soils and gentle topography over most of the area results in high rates of infiltration. During the winter, most of the area is frozen and/or covered in snow thereby reducing additional risk of degredation. However, where compaction has occurred and where slopes are steep, risk of soil degredation is high. Risk to water quality is expected to be low since there are few streams within the fire perimeter (1.6 miles of class IV streams) and the lake shorelines typcially have gentle slopes. Overall, the probability of impacts to soils and water quality is unlikely and the magnitude of consequences is moderate, leading to a “low” risk determination.

Fisheries

Bull trout and spring Chinook salmon, both listed as Threatened under the Endangered Species Act are found over 3.5 miles from the fire perimeter. The drainages out of the fire perimeter are predominantly spring-fed, low gradient, and have intermittent surface connection to listed fish habitat. Due to proximity, gradient and hydrology, the probability of impacts to listed fish and their habitat are unlikely and the magnitude of consequences is moderate, leading to a “low” risk determination.

Cultural Resources

The main risk is the loss or degradation of cultural resource sites due to exposure from post-fire run-off and erosion, resulting in potential archaeological data loss and vandalism from illegal surface collection by recreationist and other forest users. Protection of these resources are required by Federal law under the National Historic Preservation Act of 1966. Section 106 requires Federal agencies to take into account the effects of their actions on properties included in, potentially eligable or eligible for the National Register. This significance of these resources as defined in the Forest Plan states "Eligible cultural resources should be protected from natural deterioration caused by fire, flood, earthquake, precipitation, wind or other degradation." (Forest Plan Willamette National Forest, IV-87, 1990). The probability of loss is possible and the magnitude of consequences is major, leading to a "high" risk determination.

B. Emergency Treatment Objectives:

1. Protect the public and agency employees from identified threats by:
   a. posting hazard/warning or closure signs on trails and trailheads

2. Minimize destruction of property from indified threats by:
   a. restoring trail infrastructure consumed by fire (i.e. wooden water bars)
   b. stabilizing drainage on trails

3. Prevent unacceptable resource damage from identified threats by:
   a. monitoring to assess resource vulnerability and the need for noxious weed treatment
   b. monitoring to assess resource vulnerability and the need for cultural site protection

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

Land N/A % Channel N/A % Roads/Trails 80 % Protection/Safety 95 %

D. Probability of Treatment Success

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

E. Cost of No-Action (Including Loss): $945,000

F. Cost of Selected Alternative (Including Loss): $435,500

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Dave Kretzing; Kate Meyer (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.)

A. Land Treatments: None recommended

B. Channel Treatments: None recommended

C. Road and Trail Treatments:

Treatment #1 – Trail Drainage Control
Emergency stabilization is recommended on approximately 3 miles of the Deer Butte and Hand Lake trails. Wooden water drainage structures were destroyed or damaged as a result of fire activity. These structures need to be replaced, as soon as soil conditions are appropriate, so that improper drainage associated with the structures does not aggravate erosion and gullying on exposed soils adjacent to the trail. Emergency funds requested for this work would pay for waterbar installation, selective hazard tree felling for worker safety, and some bucking of logs for worker access along the trail. Treatments will be consistent with wilderness management objectives (FSM 2323.43b policy), and costs reflect crew time needed to carry in supplies and complete treatments without power equipment.

Recommendations for non-emergency rehabilitation include replacing trail marker and junction signs and re-establishing tread in the steeper and more severly burned portions of the fire area.

D. Protection/Safety Treatments:

Treatment #2 – Trail Hazard Signing
It is recommended that signs be installed to warn the public of increased hazard that has resulted from fire activity. Signs would be installed at 5 locations. The actual structures would consist of temporary posts and sign boards and warning signs. Four of 5 locations can be driven to while the 5th location requires a two-mile hike with materials to install the sign.

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.)

A. Monitoring:

Treatment #3 – Noxious Weed Monitoring
The goal is to prevent or reduce noxious weed establishment and invasion into the burned area through early identification of threat. Areas of the fire adjacent to roads, trails, and other areas of high human use that burned intensely, resulting in disturbed and exposed soils will be surveyed for new infestations.

While surveys would be conducted over the next 3 years, during the appropriate season to identify invasive species, funding with emergency funds is only requested for the first year. If surveys indicate that invasion is occurring, additional funding would be requested through other sources of rehabilitation funding.

Treatment #4 – Cultural Site Monitoring

De-vegetation of cultural sites can lead to erosion of subsurface site components on slopes above the creek and to increased surface collection by forest visitors due to increased surface visibility. There is a need to protect potentially significant prehistoric sites from data loss due to erosion or artifact collection. Monitoring of cultural sites within severely burned areas with potentially high public use in the fire area is recommended to determine if sites are being impacted due to increased visibility. An archaeologist will visit the sites with site records to record changes to the physical characteristics of soil movement within the site, look for signs of site disturbance by visitors, and document changes in surface artifact distribution and density.

Surveys would be conducted following spring run-off events for three years. Funding with emergency funds is only requested for the first year

Treatment #5 – Trail Drainage Control Effectiveness Monitoring

Rebuilt trail drainage control structures (Treatment #1) will be inspected following winter moisture and spring run-off events annually for three years to insure that they are effective, and to identify additional maintenance needs.

Treatment #6 – Trail Hazard Signing Effectiveness Monitoring

Trail hazard signing (Treatment #2) will be inspected and repared as needed in the fall, spring and summer for three years, to insure that they are legible and in good repair.

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

			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										
Subtotal Land Treatments										
B. Channel Treatments										
Subtotal Channel Treat.										
C. Road and Trails										
Trail Drainage Control	Mile	$5,600	3	$16,800						$16,800
Subtotal Road & Trails				$16,800						$16,800
D. Protection/Safety										
Trail Hazard Signing	Each	$330	5	$1,650						$1,650
Subtotal Structures				$1,650						$1,650
E. BAER Evaluation										
THSP Assessment Team	Days	$300	10		$3,000					$3,000
Subtotal Evaluation					$3,000					$3,000
F. Monitoring										
Noxious Weeds	Days	$350	6	$2,100						$2,100
Cultural Site	Days	$400	10	$4,000						$4,000
Trail Drainage Control	Days	$250	4	$1,000						$1,000
Trail Hazard Signing	Days	$250	4	$1,000						$1,000
Subtotal Monitoring				$8,100						$8,100
G. Totals				$26,550	$3,000					**$29,550**
Previously approved										
Total for this request				**$26,550**	**$3,000**					**$29,550**

PART VII - APPROVALS

1. _____ _____
Willamette Forest Supervisor (signature) Date

2. _____ _____
Regional Forester (signature) Date