

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: Rooster Rock Fire B. Fire Number: OR-DEF-0476
C. State: Oregon D. County: Deschutes
E. Region: R6 F. Forest: Deschutes National Forest
G. District: Sisters Ranger District H. Fire Incident Job Code: P6FPP0
Override 0601
I. Date Fire Started: August 2, 2010 J. Date Fire Contained: August 9, 2010
K. Suppression Cost: \$5,900,000
L. Fire Suppression Damages Repaired with Suppression Funds
 1. Fireline waterbarred (miles): 2.25 miles
 2. Fireline seeded (miles): none
 3. Other (identify): Two road culverts damaged during suppression were replaced
M. Watershed Number: (10th Field) 1707030107; 1707030106
N. Total Acres Burned: _____
 NFS Acres(1362) Other Federal () State () Private (4757)

O. Vegetation Types:

The forests in the fire area are dry ponderosa pine plant associations, with understories of bitterbrush, rabbitbrush, and sagebrush in the lower elevations and ceanothus and manzanita in higher elevations. Common understory plants include: lupine, Idaho fescue, thistleleaf peavine, arrowleaf balsamroot and lowly penstemon. Areas near water, such as Whychus Creek Canyon or along the intermittent Three Creeks have some aspen, riparian shrubs and plants, and a variety of trees species including white fir and Douglas fir. These forests historically experienced frequent low intensity fire (Fire Regime 1) and understories recover readily from a variety of fire intensities. Much of the fire area has been previously logged and large trees have been removed. Thick reproduction of young pine and mistletoe creating bushy branching trees helped the rapid fire spread.

P. Dominant Soils:

The primary soils within the fire perimeter consist of a moderately deep layer of pumiceous ash deposited on basaltic lava, glacial till or glacial outwash. The source of this tephra material is a complex of landforms associated with the Cascade Range immediately to the south and west of the fire. An older soil comprised of residuum is present underneath the surface airfall in some areas. Surface soils classify as ashy Vitricryands within the Andisol soil order with a loamy sand texture.

Q. Geologic Types:

The fire occurred on a geologic landscape associated with the volcanic activity of the Cascade Mountain range. Lava flows comprise the underlying bedrock that has been glaciated and covered with airfall ash. Glacial till and outwash associated with the last glacial epoch is present on the bedrock throughout the fire area.

R. Miles of Stream Channels by Order or Class:

Table: Miles of stream channels by flow regime and ownership.

Flow Regime	Ownership	Miles
Ditch	Private	1.1
Intermittent	Forest Service	0.7
Intermittent	Private	4.0
Perennial	Private	0.4
	Total	6.2

S. Transportation System

Trails: none Roads: Forest Service roads 9.72 miles/ Private roads 46.15 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 1492 (low) 4365 (moderate) 257 (high)

- B. Water-Repellent Soil (acres): zero
- C. Soil Erosion Hazard Rating (acres):
5014 (low) 1105 (moderate) 0 (high)
- D. Erosion Potential: 1.09 tons/acre
- E. Sediment Potential: 420 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period, (years): 5 yrs
- B. Design Chance of Success, (percent): 90%
- C. Equivalent Design Recurrence Interval, (years): 25 yrs
- D. Design Storm Duration, (hours): 0.5 hrs
- E. Design Storm Magnitude, (inches): 0.67 to 0.77 inches
- F. Design Flow, (cubic feet / second/ square mile): 81 to 94 cfs
- G. Estimated Reduction in Infiltration, (percent): 5%
- H. Adjusted Design Flow, (cfs per square mile): 86 to 99 cfs

PART V - SUMMARY OF ANALYSIS

- A. Describe Critical Values/Resources and Threats:

Soil Resource

Potential values at risk for the soil resource include the effects to short and long-term productivity from the consumption of surface organics and nutrients and/or subsequent erosion losses. Analysis of soil conditions within the Rooster Rock fire area concludes that direct effects from the fire on productivity are relatively minimal and potential effects on productivity as a result of erosion are low in most areas. Observations include:

- Areas that burned to a moderate or high severity are primarily located on gentle slopes and have a negligible increase in risk of overland flows as a result of hydrophobicity. Potential erosion loss from these conditions is low to moderate through the fall, winter and early spring until vegetative cover begins to return. Burn severity does not appear to be significant enough to inhibit the return of native annuals and perennials on site.
- Erosive loss from wind is low to moderate throughout the fire area until fall and winter moisture arrives. Losses would be expected to be localized and not significant enough to alter the productivity or vegetative recovery on site.

- The slopes in the Whychus canyon received a moderate intensity burn with mixed mortality and incomplete consumption of tree needles and ground cover. Although there is a risk of sediment delivery from the lower slopes in the Whychus canyon via the informal access trail below the burned slope, the total contribution area is very small and not appreciably extended up the steeper upper slope due to an estimated 35-50% surface rock content.
- There is a risk of localized sediment yield to Three Creek from slopes immediately adjacent to the stream channel. Emergency slope stabilization treatments are not proposed for this area due to the intermittent flow of the stream and the lack of downstream fisheries or human resources immediately at risk.

Hydrology

Three types of precipitation runoff events can occur in the Rooster Rock Fire area: snowmelt, convective, and rain-on-snow. Snowmelt runoff is not of concern as it is a low intensity, long duration event. Convective events, which are of short duration and high intensity, occur regularly in this area during the summer months and are also known to result in erosion. Rain-on-snow runoff could occur, particularly if significant frozen ground develops. The effects of rain-on-snow are similar to a high-intensity rainstorm since they can produce significant runoff and erosion, although runoff effects from a rain-on-snow event can be more severe depending on the amount of snow melt.

- Within the Rooster Rock fire perimeter, there are several roads that cross intermittent and ephemeral drainages on public and private land. Although peak flows are not expected to substantially increase, instream wood is predicted to increase over the next 10 years as trees die and fall over. The predicted increase in instream wood has increased the risk of road failure (i.e. property damage) from plugging culverts on at these road crossings.

Botany/Ecology

There are no known sites of rare plant species within the fire, however, the majority of the fire is on private lands that have not been surveyed. There are 2 populations of Peck's penstemon, a local rare endemic wildflower and a Region 6 Sensitive Plant Species near the fire area. One population is 1 mile west of the fire and the other is 1 mile northeast of the fire. There is a high probability that the plant could be found in drainages within the fire's perimeter. Peck's penstemon is well adapted to fire and burned populations have shown dramatic increases in density and flowering, even in areas of stand replacement fire with moderate soil burn effects.

There are known invasive species along access routes to the fire on Rd 16, Rd 1608 and Rd 4606. These roads have scattered populations of diffuse and spotted knapweed. Nonnative cheatgrass, mullein, and Russian Thistle, are also found in the old Delicious Fire area and knapweeds are common in the developed subdivisions north of the fire. There is a high probability that private timber lands within the fire area have invasive plant populations from past activities that are unmapped and untreated. These populations provide seed sources which can be carried into the fire area by vectors including wind, water, vehicles and animals.

The Sisters Middle School Fire Camp still has some populations of diffuse knapweed which has been pulled in previous years. However, soils in the fire camp may still contain weed seed that is viable for up to 7 years. Most firefighter vehicles and dozers arriving at the fire were not washed to remove weed seed. A Weed Wash Station was established several days into the fire to wash arriving and departing vehicles.

- Native plant communities may be degraded with the introduction and expansion of invasive plant populations. Native plant populations are at risk from invasive plant expansion. Due to the threat of life and property with the onset of the fire, no equipment was washed before entering the fire area. Known populations of invasive plants occur on travel routes going into the fire area and are likely to be present on unsurveyed private land.
- BAER Monitoring conducted in many recent wildfires on the Sisters Ranger District has shown that known invasive plant sites can expand rapidly in the favorable conditions following wildfires. Field observations have shown that even low severity burn areas can be invaded by invasive plants. Spotted and Diffuse Knapweed are common invaders. Many known invasive plant sites in fire areas have increased in size. Small sites and new starts have been reduced in size by early detection and control. Early detection of new starts or expansions is the most economical means of weed management. Establishment of new invasive plant populations will create a legacy of habitat degradation and increasing costs to control as well as affect future land management activities in the area.
- Suppression structures (dozerlines, roads, and safety zones) are also at high risk of weed invasion. These disturbed habitats are vulnerable to invasion by invasive plants and some may have been inadvertently seeded by contaminated vehicles.

Transportation/Engineering

The road system condition ranges from poor to good. Deferred road maintenance is evidenced by vegetation encroachment on the roadway, surface deterioration, and lack of drainage maintenance. The aggregate and cinder surfaced roads have been watered and bladed during the suppression activities for safety and road preservation. Portions of the traveled native surfaced roads, and roads modified by dozer line construction have developed a powdery ‘flour’ surface condition, and will need to be maintained to provide effective surface drainage over time.

- In order to protect the existing roadway investment it is important that the road system be kept operational and safe to administrative and public travel. For this reason, roadway treatments and prevention are being emphasized in this BAER request.

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 Deschutes National Forest BAER Team are specifically designed to achieve the following results.

- Mitigate and prevent the spread of invasive weeds from known sites in and around the burned area and from adjacent private lands.
- Protect human health and safety by removing hazards along roads.
- Reduce the risk of accelerated surface runoff damaging National Forest roads within the fire perimeter.

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

Land 90% % Channel no Rx % Roads/Trails 90% % Protection/Safety 90% %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90%	90%	90%
Channel	-	-	-
Roads/Trails	90%	90%	90%
Protection/Safety	90%	90%	90%

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

Current costs for invasive plant control are about \$186/acre for manual removal. Once a population is established seed are viable for up to 8 years and will require years of follow-up treatments. Costs over time (8 years) become at least \$1488/ acre. If 5% of the 1362 acres of federal lands on the Sisters RD in the wildfire become infested it could cost over \$100,000 to control established infestations. (1362 acres x 0.05=68 acres x \$1488/acre = \$101,332)

F. Cost of Selected Alternative (Including Loss):

\$5,500

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" 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 checked="" type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology
<input type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS

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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 – Detection of invasive plant introductions and possible treatments to protect native plant communities. The goal is to detect and prevent invasive plant establishment and invasion into the burned area. This would involve surveying the fire area for new infestations, and removal of any discovered seed sources by manual control to prevent spread and establishment. Private landowners in the area will also be contacted to encourage cooperative weed management. Improvements to roads and drainages as a result of recommended BAER treatments will need to be monitored for new infestations. The probability of completing treatment in the first year is high. Crews would complete the work next summer. The probability of treatment success is high. The plants are easily seen in bloom by road surveys or in vegetative conditions in walking surveys.

L2 – Extensive emergency treatments such as seeding, mulching or contour felling to minimize watershed scale sediment production or maintain productivity are not recommended for the following reasons:

- Although there is an elevated short-term risk of soil erosion within the fire perimeter following the loss of live vegetative cover and surface organics in areas mapped as having moderate and high effects to soils, the fire has not affected the soil resource substantially enough to alter productivity and the recovery of vegetation. No emergency mulching or slope stabilization treatments are recommended for the Rooster Rock fire to minimize soil erosion and the loss of productivity.
- Plant associations in this area include shrub (Manzanita and bitterbrush) and perennial grass components (fescue) that are likely to regenerate from root collar sprouts and seed caches and provide adequate soil cover over the next few growing seasons. Sprouting of annual forbs and grasses, as well as other perennial species, is also likely to occur at rates observed in other fires in the area over the last ten years.

- High natural infiltration rates, coarse surface textures and shallow slopes greatly reduce the risk of overland flows capable of sheet and rill erosion. Sediment production on a watershed scale is expected to be relatively minimal due to the limited contribution area defined by the gentle slopes within the burned area.

Channel Treatments:

C1 – No channel treatments are being recommended for the following reasons.

- Water (stream) temperatures in Three Creeks will not be affected by the fire because it is an intermittent stream and mostly dry when stream temperatures are of concern (summer). Melvin Creek may have some small elevated temperatures in the perennial portion on private land, however it is also intermittent in the lower reaches on private land and serves as an irrigation ditch to private property.
- The fire burned to within approximately 120 feet of Whychus Creek, on a relatively steep slope 30-40%. Most stream shade is cast within 100 feet of streams and with the mosaic burn that took place in this area, there are no expected measureable effects to water temperatures of Whychus Creek. The burned area adjacent to Whychus Creek is very short (paralleling the creek) and the topographic shade and remaining live trees will minimize any potential openings to additional solar input.

Roads and Trail Treatments:

R1 – Patrol the fire area during and immediately after storm events to repair, unplug, or aid in drainage of road drainage features.

Protection/Safety Treatments:

R2 – Danger tree mitigation along travel routes. Danger trees along travel routes were felled during the fire suppression, however, additional trees are expected to become danger trees over time. This treatment is designed to both monitor and treat new danger trees that may develop over the next year.

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.)

M1 – Results of the weed detection treatments #L1 will be monitored by writing a brief report documenting the results of the summer's surveys. This documents implementation and provides

valuable documentation of the weed risk from inadequate prevention measures, describes problem areas, and will provide data for future weed control in the area if needed.

Attachment:

Rooster Rock Fire Burnded Area Reflectance Classification (BARC) map.

Part VI – Emergency Stabilization Treatments and Source of Funds

Interim # 1

			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 Treatments	days	200	10	\$2,000	\$0		\$0		\$0	\$2,000
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Land Treatments				\$2,000	\$0		\$0		\$0	\$2,000
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										
R1 - Storm Patrol	days	300	8	\$2,400	\$0		\$0		\$0	\$2,400
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Road & Trails				\$2,400	\$0		\$0		\$0	\$2,400
D. Protection/Safety										
R2 - Danger Tree	road mi	200	3	\$600	\$0		\$0		\$0	\$600
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Structures				\$600	\$0		\$0		\$0	\$600
E. BAER Evaluation										
BAER Assessment		5848	1	---			\$0		\$0	\$0
Insert new items above this line!				---	\$0		\$0		\$0	\$0
Subtotal Evaluation				---	\$0		\$0		\$0	\$0
F. Monitoring										
M1 - Weed Treatments	report	500	1	\$500	\$0		\$0		\$0	\$500
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$500	\$0		\$0		\$0	\$500
G. Totals				\$5,500	\$0		\$0		\$0	\$5,500
Previously approved										
Total for this request				\$5,500						

PART VII - APPROVALS

1. _____
Forest Supervisor (signature) _____
Date _____
2. _____
Regional Forester (signature) _____
Date _____