USDA-FOREST SERVICE FS-2500-8 (7/08)

Date of Report: July 9th, 2009

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

[] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

[X] 2. Interim Report # __
[X] 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: Wizard

B. Fire Number: OR-DEF-1056

C. State: OR

D. County: Jefferson

E. Region: 6

F. Forest: Deschutes

G. District: Sisters Ranger District

H. Fire Incident Job Code: P6EL1J (0601)

I. Date Fire Started: September 25, 2008

J. Date Fire Contained: October 4, 2008

K. Suppression Cost: $3,850,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fire line water barred (miles): 1 to date
2. Fire line seeded (miles): none to date
3. Other (identify): __

M. Watershed Numbers:
170703010905 (Headwaters Metolius River 1155 ac)
170703011004 (Upper Fly Creek 394 ac)
170703011005 (Lower Fly Creek 297 ac)

N. Total Acres Burned: 1,846
NFS Acres (1,846) Other Federal (0) State (0) Private (0)

O. Vegetation Types: The Wizard Fire has four PAG types: Mixed Conifer Dry 16 ac, Mixed Conifer Wet 779 ac, Ponderosa Pine Dry 767 ac, and Ponderosa Pine Wet 284 ac. Approximately 1/2 of the fire is located on the steep West facing slope of Green Ridge above the Metolius River. The remaining portion of the fire is located on top of Green Ridge and slightly off the moderate East slope draining towards Fly Creek. Shrubs are

antelope bitterbrush and manzanita. Common under story plants include: Lupine, Idaho fescue, thickleaf peavine, arrowleaf balsamroot and lowly penstemon.

P. Dominant Soils: Surface soils are predominately basaltic ash with shallow profiles and high rock contents. Soil types include Soil Resource Inventory (SRI) map units #37 - moderate productivity, high sensitivity (16 ac); #62 - high productivity, moderate sensitivity (771 ac); #88 - high productivity, moderate sensitivity (697 ac), and #90 - high productivity, low sensitivity (362 ac).

Q. Geologic Types: Bedrock primarily consists of basaltic andesites. The west face of Green Ridge is a steep fault scarp adjacent to the Metolius Basin and is comprised of numerous Pliocene aged ash, andesite and basalt flows from an older Cascade Range

R. Miles of Stream Channels by Order or Class: 11.66 (all class 4 streams)

S. Transportation System

Trails: 1.18 miles Roads: 9.32 miles

PART III - WATERSHED CONDITION

A. Burn Severity by total (acres): 1,180 (low) 667 (moderate) 0 (high)

B. Water-Repellent Soil by total and FS (acres): 0

C. Soil Erosion Hazard Rating by total and FS (acres):
779 (low) 369 (moderate) 697 (high)

D. Erosion Potential: 0.09 tons/acre (Fly Creek tributary)
17.19 tons/acre (Metolius tributary drainage)

E. Sediment Potential: 0.3 cubic yards / square mile (Fly Creek tributary drainage)
206 cubic yards / square mile (Metolius tributary drainage)
___ cubic yards / square mile ( )

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): 90

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

D. Design Storm Duration, (hours): 0.5

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

F. Design Flow, (cubic feet / second/ square mile): 81 to 94

G. Estimated Reduction in Infiltration, (percent): 5

H. Adjusted Design Flow, (cfs per square mile): 86 to 99

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The following summary describes conditions that warrant emergency rehabilitation actions. The initial assessment and the resulting prescriptions have been developed utilizing experience gained from previous fires in the area, most recently the 2007 GW fire, 2006 Black Crater fire, 2006 Lake George fire, 2003 B&B Complex, 2003 Link fire, and the 2002 Eyerly and Cache Mountain fires.

- Deterioration of Water Quality and Road Infrastructure: Water quality and road infrastructure are at risk due to runoff from an ephemeral drainage tributary of the Metolius River that was burned by the Wizard fire. A rainfall event of 0.40" on May 31st, 2009, with an intensity of 2.5"/hr, plugged a 12" roadside ditch relief culvert on Forest Rd 14. The 118 acre watershed of this drainage experienced moderate severity burn conditions that consumed nearly 100% of all live vegetative surface cover and has steep slopes that contributed extensive sheet flow runoff during this storm event. Pre-fire depositional features at the upper end of the valley toe slope direct the primary runoff from this ephemeral drainage away from the crenulated channel that leads directly to the existing relief culvert. The current runoff reaches the roadside ditch approximately 150 yds south of the relief culvert as a complex of multiple channels and sheet flows. The ditch is poorly defined along this stretch of the road and is not capable of containing or directing the entire flow from storm events of this size. The undersized relief culvert is at risk of plugging during another event, placing the bed of Rd 14 at risk of blowing out and contributing additional sediment to the Metolius River system.

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 emergency treatments being recommended by the Deschutes National Forest BAER Team are specifically designed to achieve the following objectives.

- Protect water quality and road infrastructure by minimizing the potential for culvert failure. Road drainage and stream channel passage under Forest Rd 14 need to be improved to avoid possible impacts to road infrastructure and water quality in the Metolius River. Improved storm passage and road drainage objectives are intended to reduce the risk of culvert failure, while protecting road infrastructure, water quality and fisheries (redband and bull trout) in the Metolius River.

- Protect and establish native plant communities. Disturbance from re-defining approximately 150 yards of the road side ditch will expose mineral soil that is susceptible to colonization by invasive species. Seeding this area with native fescue is intended to initiate native vegetative cover and minimize the risk of invasive species establishment in the roadside ditch.

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

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

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	90	90
Channel			

Roads/Trails	80	90	90
Protection/Safety			

E. Cost of No-Action (Including Loss): $100,000

F. Cost of Selected Alternative: $8,600

G. Skills Represented on Burned-Area Survey Team:

[**X**] Hydrology	[**X**] Soils	[ ] Geology	[ ] Range
[ ] Forestry	[ ] Wildlife	[ ] Fire Mgmt.	[**X**] Engineering
[ ] Contracting	[ ] Ecology	[**X**] Botany	[ ] Archaeology
[**X**] Fisheries	[ ] Research	[ ] Landscape Arch	[**X**] 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** – Seed the newly defined roadside ditch of Forest Rd 14 with native fescue to minimize sediment contribution and the risk of invasive plant establishment in the newly disturbed mineral soil. The goal includes the protection and establishment of native plant communities within treatment areas.

Channel Treatments:

None Recommended

Roads and Trail Treatments:

- **R-1** - Reduce erosion and preserve water quality by improving the collection and passage of storm runoff from an ephemeral drainage under Forest Road 14. Treatments include replacing a 12" relief culvert with a 24" culvert and re-defining the roadside ditch in order to expand the capacity of the system to capture and route storm runoff from a tributary of the Metolius River. The depth and width of approximately 150 yards of the roadside ditch between the replaced culvert and the entry point of the primary storm runoff into the ditch would be increased. The goal includes reducing the risk of plugging the culvert during storm events and minimizing the contribution of additional sediment from a compromised road culvert and road bed.

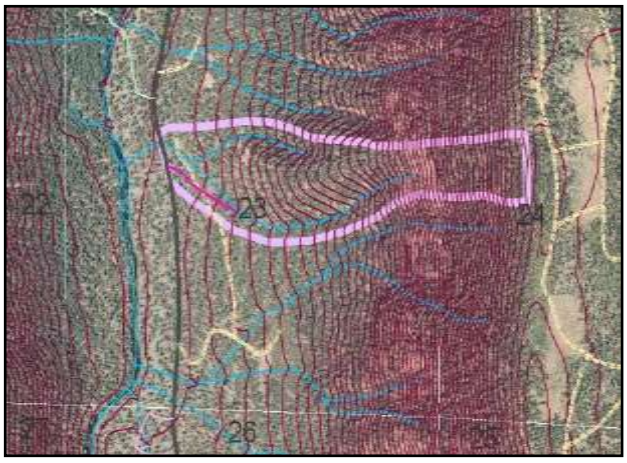
I. **Monitoring Narrative:**

(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.)

M-2 - Storm Patrol by Forest personnel in a pick-up during and immediately after storm events to assess the effectiveness of the treatments and unplug culverts or aid in the drainage of roads.

Attachments:

- Culvert site and ephemeral drainage watershed



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 Units**	**Non Fed $**	**Total $**
A. Land Treatments										
L-1 Native Seed	Pounds	$15	20	$350			$0		$0	$350
L-1 Seed Application	Each	$250	1	$250			$0		$0	$250
							$0		$0	$0
							$0		$0	$0
Subtotal Land Treatments				$600	$0		$0		$0	$600
B. Channel Treatments										
				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Channel Treatments				$0	$0		$0		$0	$0
C. Road and Trails										
R-1 Road Drainage	Mile	$1,000	0.25	$250			$0		$0	
R-2 Small Culvert	Each	$7,750	1.00	$7,750			$0		$0	
							$0		$0	$0
				$0			$0		$0	$0
Subtotal Road & Trails				$8,000	$0		$0		$0	$0
D. Protection/Safety										
							$0		$0	$0
							$0		$0	$0
							$0		$0	$0
							$0		$0	$0
Subtotal Protection				$0	$0		$0		$0	$0
E. BAER Evaluation										
	---	---	---		$0	---		---		$0
	---	---	---	---	$0	---		---		$0
Subtotal Evaluation				---	$0	---	$0	---	$0	$0
F. Monitoring										
							$0		$0	$0
							$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				**$8,600**	**$0**		**$0**		**$0**	**$600**
Previously approved				$0		Comments:				
Total for this request				**$8,600**						

PART VII - APPROVALS

1. /s/ *John Allen* 7/13/09
   For: Forest Supervisor (signature) Date

2. _____
   Regional Forester (signature) Date