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

Date of Report:

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: Sawmill Complex

B. Fire Number: MT-LNF-000145

C. State: Montana

D. County: Granite and Ravalli

E. Region: One

F. Forests: Lolo, Beaverhead-Deerlodge and Bitterroot

G. Districts: Missoula (Lolo), Pintler (B-D/DL)
Stevensville (Btrt.)

H. Fire Incident Job Code: PIDR13(0116)

I. Date Fire Started: 7/16/2007

J. Date Fire Contained: 35 Percent (9/10/2007)

K. Suppression Cost: $19,900,000

L. Fire Suppression Damages Repaired with Suppression Funds (Not finalized 9/20/2007)
1. Fireline waterbarred (miles):
2. Fireline seeded (miles):
3. Other (identify):

M. Watershed Number: (Sawmill Portion): 17-01-02-02-13-02,04
(Wyman2 Portion): 17-01-02-02-12-03,05,06,08
17-01-02-02-10-03,04
17-01-02-05-12-04
(Fisher Pt. Portion): 17-01-02-02-13-01
17-01-02-02-11-02,03
17-01-02-02-12-07

N. Total Acres Burned: 62,275

	NFS Acres	Other Federal	State	Private
Sawmill Portion	11,797	0	0	5
Wyman2 Portion	35,156	152	0	174
Fisher Point	14,894	0	96	0

O. Vegetation Types:

Sawmill Portion: The fire burned northerly, easterly, and southerly aspects of the east-flowing Sawmill Creek and Welcome Creek drainages at elevations between 3700 and 7600 feet. The fire burned Douglas-fir forest types at lower and mid-elevations on northerly aspects; ponderosa pine and open grass and shrubs on steep south aspects; and lodgepole pine and mixed shade-tolerant species including alpine fir and spruce at higher elevations along ridges and north slopes.

Fisher Point Portion: The fire burned the northwest and southeast aspects of side drainages of the northerly flowing Ranch Creek at elevations between 4800 and 8400 feet. The burned area affected primarily Douglas-fir and ponderosa pine forest types at lower elevations and on southerly aspects; lodgepole pine and mixed shade-tolerant species including alpine fir and spruce at mid to upper elevations; and some whitebark pine on the highest ridges.

Wyman 2 Portion: The fire burned the northwest and southeast aspects of northeasterly-flowing Wyman Gulch, Big Spring Creek, and Eagle Creek at 4400 to 8600 feet elevation. The fire primarily burned lodgepole pine and mixed shade-tolerant species including alpine fir and spruce at mid to upper elevations. Some whitebark pine forest types on the highest ridgetops were affected. Douglas-fir and ponderosa pine forest types were burned at lower elevations and on south aspects at mid-elevations. Some open grass and shrubs patches burned on south aspects at low elevations.

P. Dominant Soils: The dominant soils in the burned area are underlain by weak and moderately-weathered Precambrian meta-sedimentary rocks, known as the Belt Supergroup. These soils are well drained to somewhat excessively drained, medium textures (silt loams to sandy loams), and are non-plastic. Rock fragments throughout the soil profile are common, and range from moderate to high percentages. These soils are typically moderately deep to deep on the mountain side-slopes and ridges, and deep on toe-slopes and valley bottoms. Most soils usually have a volcanic ash surface layer with a silt loam texture. Coarse fragments ranging from 5 to 25 percent rock fragments in the surface. The subsoils are typically sandy loams, having 35 to greater than 60 percent coarse fragments.

Q. Geologic Types: Precambrian meta-sedimentary rocks, known as the Belt Supergroup. The Sawmill Complex area major landforms are mostly moderately steep to steep mountain slopes, and range from broad convex ridges to compex slopes. Drainageways are somewhat broad and form a trellis pattern with relatively steep gradients.

R. Miles of Stream Channels by Order or Class: 124 miles Intermittent 58 miles Perennial

S. Transportation System

	Trails: (miles)	Roads: (miles)
Sawmill	15	0
Wyman2	36	3
Fisher Point	12	5

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 13,115 (low) 18,463 (moderate) 12,544 (high)
6,361 acres were unburned or burned at very low intensity

B. Water-Repellent Soil (acres): About 1,000 acres within the Wyman2 fire are estimated to be water repellent based on sub-sampling; 10 percent of the high intensity burn acres.

C. Soil Erosion Hazard Rating (acres):
52,521 (low) 4,623 (moderate) 5,131 (high)

D. Erosion Potential: 2.5 tons/acre (Lolo Land Systems Inv. base rates with WATSED wildfire coefficients and delivery ratios for sediment)

E. Sediment Potential: 320 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

(NOTE – NO HYDROLOGIC DESIGN NEEDED)

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

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

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

D. Design Storm Duration, (hours): ____

E. Design Storm Magnitude, (inches):

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

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

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

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

National Forest resource values and investments are at risk from fire induced runoff increases, invasion of noxious weeds, and erosion. There are no residences or structures on downstream private land at risk from fire induced increases in runoff or erosion. National Forest and public access may be limited by damage to system trails with in the burned areas. There is road access only at the periphery of the fires; access to the interior of the burned areas for administrative and public use is via the trail system. About 90 percent of burned area in the three fires of the Sawmill Complex are Wilderness, Proposed Wilderness or Roadless and predominately weed-free at this time. Noxious weed seeds transported from the infested road system adjacent to the burned areas to staging areas and trail heads could quickly invade vulnerable burned-over landscapes including important elk and big horn sheep winter ranges. Rehabilitation of fire supression activities has attempted to mitigate weed spread but these sensitive landscapes will remain vulnerable fo at least two years.

B. Emergency Treatment Objectives:

The following is a summary of treatments recommended for the immediate emergency. Treatment areas were prescribed based on the potential for damaging floods, loss of soil productivity, and for the mitigation of loss of life and property.

These treatments are designed to:

- Protect the NFS trail system from erosion and subsidence.
- Protect pristine streams from excessive sediment produced by eroding trails adjacent to streams.
- Reduce potential for injury to NFS personnel and public from fire and runoff damaged trail system.
- Monitor effects of potential noxious weed encroachment into vulnerable weed-free areas
- Reduce potential for injury to NFS personnel and public from burned hazard trees along trails.

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

Land __ % Channel ___ % Roads/Trails **85** % Protection/Safety **85** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	95	95	95
Channel			
Roads/Trails	85	85	85
Protection/Safety	85	80	80

E. Cost of No-Action (Including Loss): A Cost/Benefit Values-at-Risk spreadsheet is attached. The proposed BAER treatments of waterbar replacement (including hazard tree removal) are strongly cost efffective and economically justified. The Non-market values of guided packing and hunting in the unroaded back country of the three fires add further emphasis to restoring access to maintain local income and provide indirect revenues from general publics using thes trails and contributing to local revenues. Records suggest that these non-market values amount to nearly $332,000 per year.

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

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

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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:

Channel Treatments:

Roads and Trail Treatments: (See also Protection/Safety Treatments detailed below)

Protection/Safety Treatments: About 120 miles of National Forest System trails were burned in high and moderate intensity fires in the Sawmill complex of fires. Trail waterbars protect the integrity of the trail from erosion thus maintaining the investment in the facility as well as minimizing sediment delivery to existing high quality streams tributary to Rock Creek, a Montana designated Blue Ribbon Trout Stream and a Priority Watershed for conservation of TES Bull Trout. Because trailheads for all the trails within the burned areas begin in the valley bottoms they primarily follow along stream channels to reach destinations within these roadless areas. As the trails were the only access for fire crews there is good existing information as to the number of water bars burned up. Only water bars that are confirmed to be burned will be replaced. In order to pack in replacement waterbars and other material, six burned trail bridges will have to be rebuilt. Removal of hazard trees adjacent to the access routes and work areas will also be necessary for the safety of work crews, publics and permitted outfitters.

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.) Inventory and monitor high potential infestation sites for noxious weed species encroachment within in the burned area; determine need and extent of control treatment to be implemented. Data gathered will be used to facilitate prompt treatment to control weed populations for the purpose of protecting native plant diversity and ecological integrity of the plant communities in the predominately weed-free Bob Marshall wilderness.. Estimated cost of monitoring is ten work-days ($3,000).

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

				$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										
Hazard Tree Removal	Miles	500	105.5	$52,750	$0		$0		$0	$52,750
Replace Burned Water	Each	94	828	$77,832	$0		$0		$0	$77,832
Trail Stabilization	Miles	613	105.5	$64,672	$0		$0		$0	$64,672
BNF-Replace Burned V	Each	94	47	$4,418	$0		$0		$0	$4,418
B-D-Replace Burned W	Each	94	60	$5,640	$0		$0		$0	$5,640
B-D Hazard Tree Rem	Miles	500	6	$3,000	$0		$0		$0	$3,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$208,312	$0		$0		$0	$208,312
D. Protection/Safety										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$0	$0		$0		$0	$0
E. BAER Evaluation										
BAER Assessment Tea	Each	2450		---	$2,450		$0		$0	$2,450
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$2,450		$0		$0	$2,450
F. Monitoring										
Weed Encroachment M	Days	300	10	$3,000	$0		$0		$0	$3,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$3,000	$0		$0		$0	$3,000
G. Totals				$211,312	$2,450		**$0**		**$0**	**$213,762**
Previously approved										
Total for this request				**$211,312**						

PART VII - APPROVALS

1. _____ _____
Forest Supervisor (signature) Date

2. _____ _____
Regional Forester (signature) Date