United States Department of Agriculture **Forest Service** **Mt. Hood National Forest** **16400 Champion Way Sandy, OR 97055-7248**

File Code: 2520-3 **Date:** September 18, 2006
Route To: (2520)

Subject: Initial 2500-8 Report, Blister Fire, Mt . Hood National Forest

To: Regional Forester, R6

Enclosed is the initial 2500-8 Burned Area Report for the Blister Fire on Mt Hood NF.

Our initial request for WFSU-SULT funds is $ 144,634 for the PAM-12/aerial seeding restoration work, including $ 9,000 for the BAER assessment. If the PAM-12 soil amendment is not compatible with the soils in the Blister Fire area, aerial mulching/seeding will be used instead, at a cost of $ 143,392 also including $ 9,000 for the BAER assessment. Questions regarding the enclosed information can be directed to Ivars Steinblums at 503-668-1780.

/s/ Kathryn J. Silverman (for)
GARY L. LARSEN
Forest Supervisor

Enclosure

cc: Steve Howes
Andrei Rykoff
Gwen Collier
Lisa Norris
Glenda C Goodwyne
Robert Bergamini
Tom Horning
James R Rice
Debora I Roy

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

Date of Report: 9-15-2006

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: Blister

B. Fire Number: OR-MHF-144B

C. State: Oregon

D. County: Clackamas

E. Region: 6

F. Forest: Mt. Hood National Forest

G. District: Clackamas River

H. Fire Incident Job Code: P6C3GT

I. Date Fire Started: August 7, 2006

J. Date Fire Contained: August 24, 2006

K. Suppression Cost: $ 5,000,000

L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): To date: 0.2 miles dozerline, 5.1 miles handline
2. Fireline seeded (miles):
3. Other (identify):

M. Watershed Number: 1709001101 (Collawash River)

N. Total Acres Burned: 760
NFS Acres(**X**) Other Federal ( ) State ( ) Private ( )

O. Vegetation Types: Western Hemlock Zone

P. Dominant Soils: silt loams, gravelly/cobbly silt loams, cobbly clay and silty clay loams, sandy loams, rock/talus.

Q. Geologic Types: Pyroclastic Rock Formations

R. Miles of Stream Channels by Order or Class: perennial: 1.4 miles, intermittent: 0.7 miles

S. Transportation System

Trails: 0 miles Roads: 1.4 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 258 (unburned) 201 (low) 220 (moderate) 81 (high)
(estimated from Landsat BARC analysis and field surveys)

B. Water-Repellent Soil (acres): 240 (most moderate and high burn severity soils show some evidence of water repellency)

C. Soil Erosion Hazard Rating (acres): adjusted for slope using Washington DNR method

58 (low) 34 (moderate) 658 (high)

D. Erosion Potential: 246 tons/acre (Estimated using WEPP model)

E. Sediment Potential: 72585 cubic yards / square mile (Estimated using WEPP model)

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 7-12

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

C. Equivalent Design Recurrence Interval, (years): 50

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 7.0

F. Design Flow, (cubic feet / second/ square mile): 200 csm

G. Estimated Reduction in Infiltration, (percent): 5 – 50 %

H. Adjusted Design Flow, (cfs per square mile): 293 csm

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Soil Erosion, Soil Productivity, Slope Stability, and Water Quality: There is a strong chance of significant surface erosion on soils with moderate-high burn severity on moderate to very steep slopes, with the potential to affect downstream fish habitat and water quality in the Wild and Scenic Clackamas River. Debris slides/debris flows on over-steepened, moderate-high burn severity slopes are possible following significant rainfall or rain-on-snow events.

Roads: During a high flow event there is the potential of losing a large stream crossing draining the Blister Fire Area on the 7010 road stream crossing, should debris/sediment partially or completely plug the culvert inlet.

Invasive Plants: Bulldozers and other equipment used to fight the fire may have brought in invasive plant seeds from many off-site locations. The burned area and newly constructed dozer and handlines may be invaded by invasive plants not currently growing in the vicinity of the Blister Fire. Invasive plant seeds from the nearby populations may be spread along the road corridors by vehicles, wildlife, hikers, bikers, and air currents.

B. Emergency Treatment Objectives:

1. Reduce the potential for surface erosion by aerially applying either:

a. PAM-12 soil amendment and annual rye/blue wild rye grass seed. The PAM-12 soil amendment stabilizes soil aggregates and improves infiltration, while the annual rye/blue wild rye mix will provide additional ground cover and soil stabilization as it becomes established. The compatability of the PAM-12 soil amendment with the soils in the Blister Fire area is being evaluated by the PAM-12 manufacturer. If using the PAM-12 soil amendment is not compatible with Blister Fire area soils, aerial helimulching/seeding (described below, section b.) a will be used to treat the proposed sites.

Or

b. Straw mulch and annual rye/blue wild rye grass seed to provide immediate ground cover prior to the first damage producing storm, and additional cover as the grass becomes established.

2. Reduce the potential of culvert (7010 road) plugging by clearing rocks/wood near culvert inlet and removing floatable woody material approximately 100 to 200 yards upstream of culvert.

3. Rapidly detect invasive plant infestations during post-fire surveys.

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

Land 85 % Channel 90 % Roads/Trails 90 % Protection/Safety ___ %

D. Probability of Treatment Success

	Years after Treatment		
	1	2	5
Land	80	85	90
Channel	90	90	90
Roads/Trails	90	90	90
Protection/Safety			

E. Cost of No-Action (Including Loss): $ 894,000

F. Cost of Selected Alternative (Including Loss): $ 376,346

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	[ ] Archaeology
[ ] Fisheries	[ ] Research	[ ] Landscape Arch	[X] GIS

Team Leader: Ivars Steinblums

Email: isteinblums@fs.fed.us Phone: 503-668-1780 FAX: 503-668-1423

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:

Treatment # L1, Aerially apply PAM-12 (700 to 800 lbs/acre, depending on slope) and a seed mixture of 75% *Lolium multiflorum* (annual rye grass) and 25% *Elymus glaucus* (blue wild rye). PAM-12 is a patented product and process designed to improve the physical characteristics of the soil to reduce erosion, improve water infiltration and retention by improving the hydrophobisity of the soil, and improve seed germination. The annual rye grass and blue wild rye seed mix would be mixed in with the PAM-12 materials at a total rate of 50 lbs/acre, and applied at the same time. The annual rye and blue wild rye produce root systems and a ground cover that help stabilize the soil. Annual rye grass, a non-native, non-persistant grass species, produces vegetative material that will die out in one year, provide an effective ground cover, and allow native vegetation to become established. Blue wild rye is a native species, with a seed source collected on the Clackamas River Ranger District.

Treatment # L2, Apply aerially, by helicopter, rice straw mulch to moderate and high soil burn severity areas within plantations and where canopy cover is burned sufficiently to allow the mulch to reach the ground. Application rate would be 1.75 tons per acre. The mulch would provide an effective ground cover to help reduce erosion, dissipate raindrop impact, keep the soil particles, nutrients, and seeds in place, improve seed germination rates, and detain surface runoff to increase infiltration of water into the soil.

Treatment # L3, Apply aerially, by helicopter, a seed mixture of 75% *Lolium multiflorum* (annual rye grass) and 25% *Elymus glaucus* (blue wild rye). The annual rye grass and blue wild rye seed mix, applied at a total rate of 50 lbs/acre, would produce root systems and a ground cover that help stabilize the soil. Annual rye grass, a non-native, non-

persistant grass species, produces vegetative material that will die out in one year, provide an effective ground cover, and allow native vegetation to become established. Blue wild rye is a native species, with a seed source collected on the district.

Treatment # L4, Invasive Species Detection Surveys and Monitoring: First year monitoring will ensure early detection and identify subsequent treatment if necessary to prevent the spread of noxious weeds into the burned areas where they would be difficult and costly to control. Detection surveys are intended to reduce the post-fire potential for significant increase in noxious weed populations that could spread into the burned area and quickly out-compete native vegetation which could cause erosion problems in the future. In order for native vegetation to establish successfully, new populations of noxious weeds need to be located during the first three years after the burn and prevented from spreading.

Channel Treatments:

Treatment # C1, Floatable Debris Removal: Remove floatable woody debris from approximately 100-200 yards of Blister Creek above the culvert on the unnamed tributary of Blister Creek, to reduce the risk of a debris jam blocking the culvert. Remove only that woody debris that could become mobilized during high flows. Place the material on the hillside in such a fashion that it cannot roll back into the channel. Conduct this work using fire crews or other local resources.

Roads and Trail Treatments:

Treatment # R1, Storm patrol: Check large storm crossing during storm events to make sure inlet is kept free of woody debris..

Treatment # R2, Sediment Removal: Remove accumulated rock,sediment,and wood just upstream from the culverted crossing on an unnamed tributary of Blister Creek on the 7010 road. This material will have to be removed by a machine such as an excavator.

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.)

If the PAM-12 soil amendment is selected, Rocky Mountain Station staff will be contacted to assist with monitoring this new treatment.

Monitor the above land treatments for up to three (3) years for implementation success and effectiveness in meeting project objectives. If monitoring indicates these treatments are ineffective or less than desirable, develop possible alternative treatments and request subsequent funding. Costs for monitoring and a detailed plan will be submitted on the next updated 2500-8 report.

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

A. Cost Estimate – PAM-12/Seeding

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fe	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
L1,Aerial PAM-12/seed	acres	943	138	$130,134	$0		$0		$0	$130,134
L4, Invasive species detection	ea	2500	1	$2,500	$0		$0		$0	$2,500
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$132,634	$0		$0		$0	$132,634
B. Channel Treatments										
C1, Floatable Debris Removal	ea	1000	1	$1,000	$0		$0		$0	$1,000
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$1,000	$0		$0		$0	$1,000
C. Road and Trails										
R1, Storm Patrol	ea	1000	1	$1,000	$0		$0		$0	$1,000
R2, Debris removal, CMP inlet	ea	1000	1	$1,000	$0		$0		$0	$1,000
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$2,000	$0		$0		$0	$2,000
D. Protection/Safety										
				$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 Structures				$0	$0		$0		$0	$0
E. BAER Evaluation										
BAER evaluation	ea	9000	1	$9,000			$0		$0	$9,000
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$0		$0		$0	$9,000
F. Monitoring										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$144,634	$0		**$0**		**$0**	**$144,634**
Previously approved										
Total for this request				**$144,634**						

B. Cost Estimate – Aerial mulching/seeding

			NFS Lands				Other Lands				All
		Unit	# of		Other	# of	Fed	# of	Non Fe		Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$		$
A. Land Treatments											
L2,Aerial Helimulching	acres	623	138	$85,974	$0		$0		$0		$85,974
L3, Aerial Seeding	acres	311	138	$42,918	$0		$0		$0		$42,918
L4, Invasive Species Detection	ea	2500	1	$2,500	$0		$0		$0		$2,500
Insert new items above this line!				$0	$0		$0		$0		$0
Subtotal Land Treatments				$131,392	$0		$0		$0		$131,392
B. Channel Treatments											
C1, Floatable Debris Removal	ea	1000	1	$1,000	$0		$0		$0		$1,000
				$0	$0		$0		$0		$0
				$0	$0		$0		$0		$0
Insert new items above this line!				$0	$0		$0		$0		$0
Subtotal Channel Treat.				$1,000	$0		$0		$0		$1,000
C. Road and Trails											
R1, Storm Patrol	ea	1000	1	$1,000	$0		$0		$0		$1,000
R2, Debris removal, CMP inlet	ea	1000	1	$1,000	$0		$0		$0		$1,000
				$0	$0		$0		$0		$0
Insert new items above this line!				$0	$0		$0		$0		$0
Subtotal Road & Trails				$2,000	$0		$0		$0		$2,000
D. Protection/Safety											
				$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 Structures				$0	$0		$0		$0		$0
E. BAER Evaluation											
BAER evaluation	ea	9000	1	$9,000			$0		$0		$9,000
Insert new items above this line!				---	$0		$0		$0		$0
Subtotal Evaluation				---	$0		$0		$0		$9,000
F. Monitoring											
				$0	$0		$0		$0		$0
Insert new items above this line!				$0	$0		$0		$0		$0
Subtotal Monitoring				$0	$0		$0		$0		$0
G. Totals				$143,392	$0		**$0**		**$0**		**$143,392**
Previously approved											
Total for this request				**$143,392**							

PART VII - APPROVALS

2. Kathryn J. Silverman (for) — 9/18/2006
Forest Supervisor (signature) — Date

3. _____ — _____
Regional Forester (signature) — Date

Blister Fire - Soil Burn Severity and Debris Slide/Flow Potential