USDA-FOREST SERVICE Date of Report: Sept. 9, 1996

Final acc

BURNED-AREA REPORT
(Reference FSH 2509.13, Report FS-2500-8)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated WFSU-FW22 funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

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

[ ] 2. Interim Report
[ ] Updating the initial funding request based on more accurate site data and design analysis
[ ] Status of accomplishments to-date

[ ] 3. Final report - following completion of work

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Bull B. Fire Number: OR-UMF-P66973

C. State: Oregon D. County: Grant
E. Region: 06 F. Forest: Umatilla
G. District: North Fork John Day

H. Date Fire Started: 8-13-96 I. Date Fire Controlled: _____
J. Suppression Cost: $ 14,600,600 *
* includes portion of cost of Tower fire to 8/28/96

K. Fire Suppression Damages Repaired with EFFS-PF12 Funds:
1. Fireline waterbarred (miles) 14.2
2. Fireline seeded (miles) 0
3. Other (identify) 2 miles of recreation trail waterbarred

L. Watershed Number: 17070202-35, 36, 93

M. NFS Acres Burned: 9533 Total Acres Burned: 9533
Ownership type:
(0)State (0)BLM (0)PVT ( )_____

N. Vegetation Types: Subalpine Fir (12%); Grand Fir (27%); Douglas Fir (18%) Lodgepole Pine (31%); and Ponderosa Pine (12%)

O. Dominant Soils: Typic Vitrandepts, medial over loamy skeletal, mixed, frigid; erosion potential moderate to very severe

P. Geologic Types: Mixed meta-volcanics with surface flows of andesite and basalt, pyroclastic materials, and metamorphics

Q. Miles of Stream Channels by Class:
I - 4 II - 0 III - 10 IV - 18

R. Transportation System:
Trails: 18 (miles) Roads: 8.9 (miles)

PART III - WATERSHED CONDITION

A. Fire Intensity (Acres): 7888 (low or unburned) 1598 (moderate) 47 (high)

B. Water Repellant Soil (Acres): 47

C. Soil Erosion Hazard Rating (Acres):
1382 (low) 6501 (moderate) 1650 (high)

D. Erosion Potential: 15 tons/acre

E. Sediment Potential: 400 cu. yds/sq. mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period: 5 years.
B. Design Chance of Success: 80 percent.
C. Equivalent Design Recurrence Interval: 25 years.
D. Design Storm Duration: 6 hours.
E. Design Storm Magnitude: 1.2 inches.
F. Design Flow: 20.5 cfsm.
G. Estimated Reduction in Infiltration: 20 percent.
H. Adjusted Design Flow: 24.6 cfsm.

PART V - SUMMARY OF ANALYSIS

A. Describe Emergency: The Bull fire was one of several large lightning-caused fires that started in the upper North Fork John Day River (NFJD) during the week of August 12th. The Bull fire straddles the ridge separating Desolation Creek and the main NFJD river. The principal streams affected are: Backout Creek, which flows into the NFJD (80 percent of the Backout Creek watershed is in the fire perimeter); small portions of Lake Creek (NFJD); and small portions of tributaries to Desolation Creek (Line, Skinner, and Howard Creek). Steep slopes with unstable soils in moderate and high intensity burn areas adjacent to Backout Creek will likely be source areas of increased sedimentation during the next 3-5 years of recovery.

Most (77 percent) of the fire is in the NFJD Wilderness area, which was established in part to protect and maintain fisheries values. Suppression in the wilderness used the minimum impact suppression tactics ("MIST"). Overall, the fire burned mostly low intensity, however, areas of moderate and high intensity occur in the Backout Creek watershed and pose a risk of increased sedimentation to downstream resident and anadromous habitat. Sections of recreation trail located within moderately burned areas of the fire also pose a hazard of increased erosion.

The NFJD River is a key trout fishing stream of the Umatilla National Forest and supports the largest remaining natural run of chinook salmon in the mid Columbia Basin.

The vegetation affected by the Bull Fire is a mosaic of tree-dominated plant associations, many of which are in various stages of fire-related ecological succession. Fire intensity mapping showed the following:

A small portion (47 acres) of the burned area was classified as high fire intensity. This small area is situated on a relatively flat ridgetop overlooking Backout Creek. The dominant vegetation at this high fire intensity

site was ponderosa pine. The high fire intensity area is characterized by the absence of down woody material, >50% scorching of the tree crowns, absence of any organic material in the soil, and a thick layer of grey ash in a mosaic of oxidized mineral soil.

Moderate fire intensity was recorded for 1,598 acres of the Bull Fire. The coarse vegetation types principally affected by moderate fire intensity were cool upland forests dominated by grand fir and mixed coniferous forest dominated by Douglas fir. The moderate fire intensity zones were characterized by <50% tree crown scorching, understory shrubs mostly (>50%) burned, black ash covered soil, and the absence of most down woody material.

Low fire intensity was recorded for 7,888 acres of the Bull Fire. The low fire intensity zone is characterized by a mosaic of black ash, an abundance of down woody material, and unburned understory shrubs (>50%).

B. Emergency Treatment Objectives:

Reduce accelerated rates of surface and channel erosion expected as a result of loss of cover in key areas within the Bull fire. Specifically,

(1) Stabilize steep slopes in high and moderate burn zones that are adjacent to lower Backout Creek (T 8S, R 34 E, Sec. 22, 27).

(2) Stabilize segments of recreation trail (#3008, 3013, and 3014) located in moderate-burn zones with severe erosion potential.

The overall objectives for these key areas are to protect soil productivity and reduce erosion and potential downstream sedimentation. Upland treatment area (1) and 3 sections of trail that are located within the NFJD wilderness are deemed important to reducing downstream cumulative effects to chinook salmon.

C. Probability of Completing Treatment Prior to First Major Damage Producing Storm:

Land 80 % Channel _____ % Roads _____ % Other _____ %

D. Probability of Treatment Success

	<----Years after treatment----->		
	1	3	5
Land	60	70	80
Channel			
Roads			
Other			

E. Cost of No-Action (Including Loss): $ 155,600

F. Cost of Selected Alternative (Including Loss): $ 57,050

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[ ] Soils	[ ] Geology	[ ] Range
[ ] Timber	[X] Wildlife	[ ] Fire Mgmt.	[X] Engineering
[ ] Contracting	[X] Ecology	[ ] Research	[X] Archaeology
[X] Fisheries	[ ] _____	[ ] _____	[ ] _____

Team Leader: **Caty Clifton**
Phone: **(541) 278-3822** DG Address: **R06F14A**

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.

Purpose: stabilize steep slopes adjacent to Backout Creek; reduce accelerated upland erosion (sheet and gully) where vegetation was destroyed by fire; retain soil on site to promote natural recovery.

Treatment: Cross-fell dead standing snags or hand-place existing large, down woody material perpendicularly to the slope and properly entrench such materials to ensure stability. The treatment rate recommended is 5-10 pieces, dispersed across each of 144 acres. Treatment should be accomplished using hand tools and equipment.

Purpose: minimize erosion and sedimentation on sections of recreation trail that are located in moderate and low burn intensity areas with high erosion hazard. Sections of trail #3008 are located in moderate burn zones in riparian areas. Spring melt is expected to cause increased erosion on the trail surface, and downstream sedimentation. A section of trail #3014 is located in a riparian area with preexisting gullying that will be excacerbated by fire effects. Trail 3017 is in a low intensity burn zone however steep slopes with high hazard soils pose an increased risk of fire-caused erosion.

Treatment: construct drainage control on trails using native rock and log materials. Route water through natural drainage channels.

PART VI - EMERGENCY REHABILITATION TREATMENTS AND SOURCE OF FUNDS BY LAND OWNERS

NOTE: Emergency rehabilitation is work done promptly following a wildfire and not to solve watershed problems that existed prior to the wildfire.

			NFS Lands			Other Lands			
Line Items	Units	Unit Cost $	Number of Units	WFSU-FW22 $	Other $ ident.	Number of Units	Fed $ ident.	Non-Fed $ ident.	T
A. LAND TREATMENTS									
log placement	AC	100	144	14,400					1
B. CHANNEL TREATMENTS									
C. ROADS AND TRAILS									
wilderness trails	MI	1000	3	3000					
OHV trails	MI	500	1.5	750					
D. STRUCTURES									
E. BAER EVALUATION/ ADMINISTRATIVE SUPPORT									
Survey team costs									
F. TOTALS									2

PART VII - APPROVALS

1. /s/ _____ _____
Forest Supervisor (Signature) Date

2. /s/ _____ _____
Regional Forester (Signature) Date

APPENDIX A

COST - RISK ANALYSIS

Fire Name: Bull

Analysis Date: September 9, 1996

Alternative: Treatment of Critical Sites

TREATMENT	UNITS	UNIT COST	AMOUNT
Log placement on Steep Slopes	144	100	$14,400
Erosion control on high hazard trail segments:			
wilderness	3	1000	$ 3,000
non-wild.	1.5	500	$ 750
		TOTAL	$18,150

Probability of Success = 0.8

EVALUATION CRITERIA

Potential Resource Value Loss

Soil Productivity		$72,000
Chinook Salmon Productivity		$100,000
Recreation Opportunity		$22,500
	TOTAL	$194,500

ALTERNATIVE COST:

Treatment Total:	$ 18,150
20 Percent Risk	$ 38,900
TOTAL	$ 57,050

BAER Survey Costs $ 7,150

COST - RISK ANALYSIS

Fire Name: Bull

Analysis Date: September 9, 1996

Alternative: No Action

TREATMENT	UNITS	UNIT COST	AMOUNT
Log placement on Steep Slopes	0	100	$ 0
Erosion control on high hazard trail segments:			
wilderness	0	1000	$ 0
non-wild.	0	500	$ 0
		TOTAL	$ 0

Probability of Success = 0.2

EVALUATION CRITERIA

Potential Resource Value Loss

Soil Productivity		$72,000
Chinook Salmon Productivity		$100,000
Recreation Opportunity		$22,500
	TOTAL	$194,500

ALTERNATIVE COST:

No Action	$ 0
80 Percent Risk	$155,600
TOTAL	$155,600

BAER Survey Costs $ 7,150

APPENDIX B

RESOURCE REPORTS

1. Reconnaissance Survey of Backout Creek - 9/6/96 (Crabtree)
2. Cultural Resource Reports (Fulgham/Popek)
3. Recreation Trail Rehabilitation Needs (Kendall)
4. Biological Assessments - TES Plants (Urban)
   Wildlife (Kronner)
   Fisheries (Crabtree)