USDA-FOREST SERVICE FS-2500-8 (7/00)

September 25, 2002

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[**X**] 1. Funding request for estimated WFSU-SULT 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 or design analysis
[ ] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Apple

B. Fire Number:OR-UPF-088

C. State: Oregon

D. County:Douglas

E. Region: 06

F. Forest:Umpqua

G. District:North Umpqua

H. Date Fire Started: August 16, 2002

I. Date Fire Contained:September 8, 2002

J. Suppression Cost:$19.1 million

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles):14
2. Fireline seeded (miles):0
3. Other (identify): dozer lines repair work used excavators for waterbars and/or pullback; initial road and ditch cleanout and hazard tree removal.

L. Watershed Number:1710030107 (Middle North Umpqua)

M. Total Acres Burned: 17,600
NFS Acres(17,600) Other Federal ( ) State ( ) Private ( )

N. Vegetation Types: Douglas-fir, hemlock, white fir, Pacific silver fir

O. Dominant Soils: loam to silt loam

P. Geologic Types: Little Butte volcanic Group

Q. Miles of Stream Channels by Order or Class:
Class I: 11 Class II: 8 Class III: 49 Class IV: 38

R. Transportation System

Trails: 6 miles Roads: 88 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 14373 (low) 1475 (moderate) 1739 (high)

B. Water-Repellent Soil (acres): 17

C. Soil Erosion Hazard Rating (acres):
300 (low) 8601 (moderate) 8124 (high)

D. Erosion Potential: 7 tons/acre

E. Sediment Potential: 45 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): 75

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

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 5.5

F. Design Flow, (cubic feet / second/ square mile): 150

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

H. Adjusted Design Flow, (cfs per square mile): 155

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:
The Apple Fire is located about 43 miles east of Roseburg, Oregon. The cause of the fire is under investigation. The fire started mid morning on August 16 and was contained on September 8. The land allocations that are within the Apple Fire boundary are Adaptive Management Area, Matrix, Key Watershed, and Wild and Scenic River. The fire boundary is within Douglas County, Oregon.

PUBLIC AND FOREST SERVICE HEALTH AND SAFETY –
Chronic source of sediment will likely occur from debris flows deposits in Limpy Creek. Downstream water systems that are for domestic and irrigation use by private individuals and Oregon Department of Transportation work center will likely be affected.

Public and Federal employee use of Forest roads 4720 4714 and 4714-005 will likely experience safety concerns while driving these roads from snags and debris above the cut-slopes and road drainage and fill-slope failures.

TRANSPORTATION INFRASTRUCTURE –
The Umpqua National Forest has many miles of expensive roads in the fire area. The high and moderate burned areas have already delivered soil, rock and burned woody debris to drainage ditches, culvert inlets and road surfaces. Even ordinary winter runoff will exceed the capacity of many ditches and culverts that become blocked by wildfire-caused debris. Water that is diverted from stream channels can cause massive landslides and debris flows. The cost of repairing crossing-fills and driving surfaces would be high. Downstream water quality losses cannot be replaced. Fire-caused debris flows may affect the bridge over Limpy Creek on road 4720.

WATER QUALITY –
Headwalls in Limpy Creek drainage, a tributary to the North Umpqua River, were severely burned. The North Umpqua is known world-wide for Summer Steellhead and Spring Chinook angling. Both Limpy Creek and the North Umpqua are habitat for Threatened Coho Salmon. Shallow landslides that can cause debris flows are evident in this area and landslide risk modeling also indicates high probably of this type of erosive process. Because of the additive effect of fire and suppression activity of 1987 and Apple, large stable wood spanning the channels has been reduced. The risk of debris flows is high after fires when root strength is lost. Potential debris flows that initiate in these headwalls and colluvial hollows will likely scour the channel and create debris deposits with limited wood that can be a chronic source of sediment to the Wild and Scenic North Umpqua River.

NOXIOUS WEEDS –
Meadow knapweed and other noxious weeds are widely distributed along road systems and plantations within the fire perimeter. Recovery of timber and native plant communities are threatened with displacement by weeds in burned and disturbed areas. Fire suppression activities are likely to have spread noxious weed seed.

CRITICAL HERITAGE RESOURCES:
Ten archaeological sites have been identified as being located within areas of moderate or intense burn. Sites in low risk areas will not be investigated or treated. The at risk sites, 15-06-170, 35DO408, 35DO711, 35DO712, 35DO411, 35D0388, 35D0400 and three recorded unnumbered sites, have been identified as eligible or potentially eligible for the National Register of Historic Places. The sites are identified as being at risk due to soil and water movement and other degradation. Evaluation of emergency conditions that threaten these known significant heritage resources will document the immediate threat to each site. Treatment will be completed during investigation or shortly thereafter. Consultation with the State Historic Preservation Officer and the affected Tribes has been ongoing and will be continue during treatment.

B. Emergency Treatment Objectives:

PUBLIC AND FOREST SERVICE HEALTH AND SAFETY –
Provide safe access for the public and Forest Service personnel on essential routes through the area especially contractually required locations. Provide safe access to Forest Service employees to prevent failure and maintain roads during BAER treatments and storm patrols.

TRANSPORTATION INFRASTRUCTURE –
Reduce the loss of road crossings and fills from winter runoff, by preventing drainage system failure with culvert cleanout, ditch cleanout, overflow dips, riser pipes, fill pull and rebuild, and storm patrols. The cost to prevent the loss of crossing and fills, driving surfaces, and downstream water quality is much less than the cost of repairing roads.

WATER QUALITY –

Channel treatment on Limpy is intended to address the lack of large stable wood that creates channel roughness in the steeper gradient reaches (9-11%) by placing the minimum number of large immobile trees with root-wads when possible. The effect will greatly reduce debris flow run-out that could likely accumulate large deposits in the lower gradient (5%) reach of Limpy Creek. The large wood will create smaller deposits dispersed along the channel length and will greatly reduce the affect on water quality and channel degradation in this tributary to the Wild and Scenic North Umpqua River (quarter mile downstream). Water quality is an "outstanding remarkable value" of the Wild and Scenic North Umpqua River.

A secondary objective is to reduce likely bridge maintenance on the 4720 crossing of Limpy Creek from smaller more mobile wood and debris that is likely to enter the upstream channel because of wildfire effects.

NOXIOUS WEEDS –
The objective is to slow the spread of noxious weeds, prevent new noxious weeds from becoming established and treat new infestations while control is easiest and most economical. Treatment is targeted at areas bared by wildfire, where bare ground conditions favor establishment of noxious weeds.

Critical Heritage Resources –
Prevent unacceptable degradation to eligible or potentially eligible heritage sites.

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

Land **70** % Channel **60** % Roads **70** % Other ___ %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	60	80	90
Channel	75	75	75
Roads	70	80	90
Other			

E. Cost of No-Action (Including Loss): $2.0 million

F. Cost of Selected Alternative (Including Loss): $1.3 million

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	[**X**] Archaeology
[ ] Fisheries	[ ] Research	[ ] Landscape Arch	[ ] 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:

NOXIOUS WEED TREATMENTS-

Some burned areas (20 acres) adjacent to existing noxious weed sites would be seeded this fall to restrict movement of weeds. Reseeding and/or planting is proposed around existing infestations of selected noxious weeds that have a high potential for spread from the roadside and likely to impede recovery of native and desired plant communities.

Grass seeding Prescriptions:

For sunny and partly sunny areas (0-40 % canopy closure) mix and apply the following:

SPECIES	COMMON NAME	LB PER ACRE
Elymus glaucus	blue wild-rye	10

plus one more species chosen from below, based on which is most appropriate for the elevation, aspect, and habitat:

Festuca idahoensis	Idaho fescue	2.5
Lotus crassifolius	big deer vetch	5
Festuca californica	California fescue	na
Thermopsis montana	mountain thermopsis	na

Noxious weed seeding will also provide surface erosion control once the seed is established.

CRITICAL HERITAGE RESOURCES-

Threatened heritage properties are located within areas of moderate to intense burn. Evaluation of emergency conditions that threaten known significant heritage resources will document the immediate threat the site, including the potential for damage from storm runoff, erosion, and debris from a burned area. Heritage sites, identified as low risk, will not be investigated or treated. Burn severity, vulnerability, and risk will be considered when determining the extent and level of risk to known significant heritage resources. The emergency evaluation will proceed rapidly and may include photography, revision of existing site record forms and maps, and establishing monitoring reference points. Appropriate protection measures or treatments will be designed to prevent unacceptable degradation and be applied rapidly. Investigations and treatments will be applied in consultation with the Tribes and SHPO.

Channel Treatments:

LARGE STABLE WOOD PLACEMENT -

Strategically placed large immobile wood with root-wads attached if available by helicopter at natural nick-points where either evidence of wood collection is present and/or recognizable supporting factors for large wood collection exist. Placement will occur within a two-mile segment of Limpy Creek where channel gradient is steep (9-11%) and transport of debris is very likely to the more depositional segments

in lower Limpy Creek near the confluence with the Wild and Scenic North Umpqua River. The North Umpqua Ranger District would implement this treatment and has experience placing similar size wood at nick-points by helicopter on 18 miles of stream including a segment in an adjacent drainage in the same sub-watershed. This treatment was prescribed and the costs were estimated by a local Ranger District fish biologist with extensive experience placing large wood in similar streams.

Roads and Trail Treatments:

ROADS-
Road closure will be on National Forest System Roads within areas of high risk to public safety exist . Three road closures are identified with appropriate signing.

Road drainage emergency treatments on essential roads; remove large unstable rock in cut-slopes (1); address high diversion potential crossings with either grade sag, drivable drain dip, inlet and outlet fill-slope armoring and/or T-riser (18); ditch and culvert basin cleanout (45 miles); destabilized fill-slope pull-back and rebuild (9); hazard tree removal for emergency rehabilitation work and road patrols (14 miles); and emergency storm patrol of selected road segments that do not have treatment sites.

Two-person Storm Patrol teams will drive roads 2-4 times per month this winter, and three teams will perform flood emergency road maintenance during 3 storm events. These actions are targeted at the emergency road situation made necessary by wildfire effects during the first winter, and are above the ordinary road maintenance requirements on the 88 miles of roads located within fireline boundaries.

This request includes funding for engineering design and administration of road drainage treatments, especially those requiring contract specifications (Eng Design & Admin). Other implementation costs are built into line item treatment costs.

TRAILS-
No trail treatments proposed.

Structures:
No structure treatments proposed.

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.)

NOXIOUS WEED MONITORING – (monitoring plan attached)
Areas with high risk of noxious weed invasion would be surveyed for 3 years. This includes roads (323 miles), safety zones, drop points, pump chances, staging areas, and containment lines.

Noxious Weed treatment monitoring: Effectiveness monitoring would be done in areas planted to native species to restrict spread of noxious weeds.

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

A. Land Treatments										
native seed (hand)	acre	400	20	$8,000	$0		$0		$0	$8,000
native seed collection	acre	50	20	$1,000	$0		$0		$0	$1,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$9,000	$0		$0		$0	$9,000
B. Channel Treatments										
Lg Stable Wood	mile	30000	2	$60,000	$0		$0		$0	$60,000
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$60,000	$0		$0		$0	$60,000
C. Road and Trails										
Road Drainage	mile	5416	45	$243,720	$0		$0		$0	$243,720
Eng Design & Admin	day	1726	40	$69,040	$0		$0		$0	$69,040
Snags Along Rds	mile	2904	14	$40,656	$0		$0		$0	$40,656
Emergency Rd Patrol	team-day	1601	38	$60,838	$0		$0		$0	$60,838
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$414,254	$0		$0		$0	$414,254
D. Structures										
				$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										
Evaluation Team	day	466.6	44	$20,530	$0		$0		$0	$20,530
Heritage Site Eval	site	1050	10	$10,500	$0		$0		$0	$10,500
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Evaluation				$31,030	$0		$0		$0	$31,030
F. Monitoring										
nox. weed survey	miles	29	88	$2,552	$0		$0		$0	$2,552
native seed monitor	acres	33	20	$660	$0		$0		$0	$660
Subtotal Monitoring				$3,212	$0		$0		$0	$3,212
G. Totals				**$517,496**	**$0**		**$0**		**$0**	**$517,496**

PART VII - APPROVALS

1. /S/ James A. Caplan — September 25, 2002
   Forest Supervisor (signature) — Date

2. _____ _____
   Regional Forester (signature) — Date