United States Department of Agriculture
Forest Service
Region 1
200 East Broadway
P. O. Box 7669
Missoula, MT 59807

File Code: 6520/2520-3 **Date:** November 1, 2000
Route To:

Subject: Upper Ninemile Interim Burned Area Emergency Rehabilitation Request

To: Chief

Enclosed is the Initial Burned Area Rehabilitation (BAER) request for the Upper Ninemile Fire on the Lolo National Forest. This request is for $149,205 in additional funding.

This fire burned 9,408 acres of which 7,713 was on National Forest lands. Issues include downstream flooding, spread of noxious weeds, loss of cutthroat and bull trout habitat, cultural resource protection, and reduction of water quality. Treatments to stabilize hill slopes , channels, and roads are in progress.

Contact Bruce Sims (406-329-3447) if you have any questions.

/s/ KATHLEEN A. McALLISTER (FOR)

DALE N. BOSWORTH
Regional Forester

Enclosure

cc: Max Copenhagen, WO

United States Department of Agriculture
Forest Service
Lolo National Forest
Bldg. 24, Ft. Missoula
Missoula, MT 59804

File Code: 2500 **Date:** October 23, 2000
Route To: Bruce Sims

Subject: Interm Burned Area Report

To: Regional Forester

I have attached a supplemental Burned Area Report (2500-8) for the Upper Ninemile Fire Complex. Our initial report was submitted on September 20, and approved on September 22, 2000. Additional field work and more detailed cost estimating since that time have revealed additional needs in the Land Treatment and Road and Trail Treatment categories. Land Treatments were approved in the amount of $222,000 and Road and trail Treatments at $391,000. Revised evaluations indicate $281,153 for Land treatments and $482,400 for Road and Trail Treatments. Included in the attachment is a spreadsheet detailing how individual elements within treatment categories have changed and how rehabilitation has progressed to date.

/s/ Deborah L.R. Austin
DEBORAH L.R. AUSTIN
Forest Supervisor

Enclosures: Burned Area Report (2500-8) Parts I through IV
Spreadsheet Revising Cost Estimates
WO Letter 2520-3/6520 dated 9/22/2000, Approval of BAER Funding

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

Date of Report: 10/23/2000

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
[X] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

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

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

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

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: **Upper Ninemile Complex, including Alpine Fire** B. Fire Number: MT-LNF-990

C. State: Montana D. County: Missoula

E. Region: 1 F. Forest: Lolo

G. District: Ninemile

H. Date Fire Started: 8/03/00 I. Date Fire Contained: 9/10/2000

J. Suppression Cost: $16,767,032

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 50
2. Fireline seeded (miles): N/A
3. Other (identify): 65 acres of safety zones identified for seeding

L. Watershed Number: 17 01 02 04 03 01 and 17 01 02 04 03 02 and 17 01 02 04 03 03

M. Total Acres Burned:
NFS Acres(7,713) Other Federal (0) State (0) Private (400) Tribal (1,295)
Total Acres: (9,408)

N. Vegetation Types:

Moderate and High severity burns, 100% tree mortality = Dry DF Habitat types = 2000 acres, cold Subalpine fir Habitat types = 3728 acres, Grand fir and moist DF Habitat types = 468 acres.

O. Dominant Soils: Deep, medium textured, Inceptisols and Alfisols on moderately steep to steep mountain slopes.

P. Geologic Types: Pre-cambrium meta-sedimentary argellites, siltites and limestones

Q. Miles of Stream Channels by Order or Class: 1^{ST}: 70; 2^{ND}: 56; 3^{RD}: 13

R. Transportation System

Trails: 12.5 miles Roads: 75 miles FDR system, 20 miles non-system

Jammer terraces: 40 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres**): fs= 1419, pvt= 91, tribal= 1260(low) fs= 5591, pvt= 7, tribal= 36 (moderate) fs= 605 (high)**

B. Water-Repellent Soil (acres): 30

C. Soil Erosion Hazard Rating (acres): fs= 359, pvt= 400 (low) fs= 3,809, trib=1,014 (moderate)
fs= 3546, trib=281 (high)

D. Erosion Potential: 13.6 tons/acre

E. Sediment Potential: 1,875 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 6 years for erosion, 60 years for runoff

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

C. Equivalent Design Recurrence Interval, (years): 10

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 1.4

F. Design Flow, (cubic feet / second/ square mile): 12-29 (range of tributaries)

G. Estimated Reduction in Infiltration, (percent): 20

H. Adjusted Design Flow, (cfs per square mile): 12-50 (range of tributaries)

PART V SUMMARY OF ANALYSIS

Land Treatments: Intensive field work and recent aerial photography disclosed a much more extensive network of overgrown "jammer roads" (jammer terraces) on steep sensitive soils in severely burned areas with in the fire. These old features typically have no drainage provided at draw crossings where fills are up to ten feet deep. The fills have begun to erode over time. The steepness of both the draw bottoms and the "road" gradients in the severely burned areas results in an extreme risk of "cascading failures" of these fills if they are not removed. The number of fills recommended to be removed is dramatically increased (5 to 75), however the unit cost of removal is reduced. Similarly, the number of miles of jammer road surface treatment is also increased. This treatment consists of deep ripping the jammer road surface and spot seeding on particularly steep pitches and at draw fill removals. The unit cost for this treatment is a quarter of what was originally projected. Expanding the surface treatment of jammer roads reduces the anticipated need for recontouring.

Upon closer site evaluation, the installation of log erosion barriers is no longer recommended. The proposed area is too steep (greater than 65 percent) and slope lengths above the site too long to expect successful erosion mitigation. On the other hand, aerial erosion control seeding carried out this fall has a high likelihood of protecting the surface, improving infiltration and reducing erosion. The area recommended to be seeded is increased from 1,634 acres to 2,700 acres.

Road and Trail Treatments: The primary reasons for increased costs for road treatments are the expense of providing surface drainage to un-surfaced roads in sensitive soils and the expense of removing deep, wide fills to replace undersized culverts.

Four miles of Road 5498 (Foothills Road) are adjacent to and down slope from 2,700 acres of moderate to severely burned forest. The road is constructed from glacial lakebed silts, does not have surfacing, and is very erosive A grassed berm on the outside edge of the roadway was preventing surface runoff from leaving the road. The grassed berm was removed to improve surface drainage and reduce the catchment area of the road surface, thereby reducing sediment delivery to streams. Additional ditch relief culverts were installed and all culvert inlet basins and outlets are rock armored.

Road 5498 also has crossings at four major drainages, Big Blue Creek, Camp Creek, Soldier Creek and East Fork Burnt Fork. Each of these streams contains Threatened bull trout and westslope cutthroat trout. The existing crossing structures are inadequate to carry the anticipated post-fire runoff resulting from the burn. The road is a very popular hunting access route in the fall, and part of a major snowmobile "loop" in the winter. There is insufficient time this fall to replace the crossings with structures having an opening that will carry the design runoff and meet fish passage requirements. Therefore, we are planning to construct overflow channels at each of the four crossings. For safety considerations they will have a drivable dip at the upstream edge, adequate for light high clearance vehicles and snowmobiles. Drainageways will be armored with rock, and exposed slopes will have straw wattles installed to retard erosion. By replacing the major structures during next field season, we should be able to reduce costs by competitive bidding rather than using equipment rental as we are in the short operating window this fall.

Road 412 (Ninemile Road) is parallel to and about one and a half miles down slope from Road 5498. Road 412 also has four stream crossings on Little Blue, Big Blue, Camp and Soldier Creeks that have undersized drainage structures. These structures may be at lower risk than the crossings on Road 5498 since the fills are much lower, and existing structures are less constricting. Ninemile road provides alternate access for Foothills road, and for that reason we are not working on both roads at the same time during this heavy use period. We propose monitoring streamflow this winter and spring, opening the drainages if we have to, and replacing structures next summer.

On non-system roads, several old log bridge abutments were found encroaching on the stream banks. These abutments need to be removed to facilitate the anticipated post-fire increased runoff.

An additional 20 trail waterbars were burned and need to be replaced beyond the number initially estimated (135 versus 116). This will increase trail work cost by about $1,000.

PART VI – EMERGENCY REHABILITATION TREATMENTS AND ADDITIONAL FUNDING NEEDS

Lolo National Forest Supplemental Burned Area Report Fund Request, October 23, 2000

Upper Ninemile Complex	Initial Estimate		Revised Estimate		Percent
Line Items	**Amount**	**Cost**	**Amount**	**Cost**	**Accomplished**
A. Land Treatments					
Jammer Fill Removal	5 ea	$10,000	75 ea	$37,000	90%
Jammer Surface Treatment	10 miles	$20,000	100 miles	$40,000	90%
Jammer Recontouring	3 miles	$15,000	1.5 miles	$7,500	90%
Install Log Erosion Barriers	360 acres	$13,225	0 acres	$0	0%
Weed Spray Roads	17 miles	$2,261	17 miles	$2,261	0%
Weed Spray Aerial	2,800 acres	$98,000	2,800 acres	$98,000	0%
Shrub Planting	5.2 miles	$15,392	5.2 Miles	$15,392	0%
Erosion Control Seeding	1,634 acres	$49,020	2,700 acres	$81,000	5%
Native Grass Seed					
Subtotal Land Treatments		$222,898		$281,153	
B. Roads and Trails					
Rd Fill Removal	10 ea	$20,000	10 ea	$20,000	80%
Rd Surface Drainage	15 miles	$30,000	15 miles	$60,000	80%
Rd Recontouring	2 miles	$10,000	2 miles	$10,000	50%
Rd Culvert Replace	25 ea	$300,000	18 ea	$360,000	0%
Trail Water Bars	116 ea	$5,800	135 ea	$6,750	25%
Trailbed Drainage	18,480 feet	$23,100	18,480 feet	$23,100	25%
Trail Hazard Signs	4 miles	$1,750	4 miles	$1,750	0%
Tr Hazard Removal	8 ea	$800	8 ea	$800	100%
Subtotal Roads and Trails		$391,450		$482,400	

Additional funding requested is **$149,205**

/s/ Deborah L.R. Austin
DEBORAH L.R. AUSTIN
Forest Supervisor

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