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

Date of Report: 09/14/01

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: Lost Fork/Monarch Complex* B. Fire Number: P17111
*This report covers Lost Fork portion of the complex
C. State: Montana D. County: Meagher and Judith Basin

E. Region: Northern (01) F. Forest: Lewis and Clark (15)

G. District: Judith and Musselshell

H. Date Fire Started: 09/03/01 I. Date Fire Contained: 09/03/01

J. Suppression Cost: $1,541,636 (total for complex)

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 0.3
2. Fireline seeded (miles): 4.8
3. Other (identify): 1.5 miles non-system roads waterbarred

L. Watershed Number: 100301030101, 100401030102 and 100402010204

M. Total Acres Burned: 3166 acres - Lost Fork only
NFS Acres (3166) Other Federal ( ) State ( ) Private (15)

N. Vegetation Types: alpine fir/whitebarkpine, alpine fir/heartleafed arnica, alpine fir/pinegrass

O. Dominant Soils: brown silt loam topsoils (4-8" thick), clayloam or silty clay loam subsoils (20-40" thick) containing 35-50% angular cobble.

P. Geologic Types: limestone and some intrusive granitic rocks

Q. Miles of Stream Channels by Order or Class: 1st order ephemeral- 4.7 miles, 2nd order ephemeral/intermittent- 2.3 miles

R. Transportation System - Within Lost Fork Ridge Fire perimeter only

Trails: 6.1 miles Roads: 4.8 miles

PART III - WATERSHED CONDITION

A. Fire Severity – soils (acres): 585 (low / unburned) 608 (moderate) 1974 (high)

B. Water-Repellent Soil (acres): 1974

C. Soil Erosion Hazard Rating (acres):
1377 (low) 1223 (moderate) 349 (high) 217 (very high)

D. Erosion Potential: 13 tons/acre (on-site, upslope erosion)

E. Sediment Potential: 1.3 tons/acre (delivered to ephemeral draws)

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years):	grass/forbs-1-2 years timber- 5-50 years
B. Design Chance of Success, (percent):	90
C. Equivalent Design Recurrence Interval, (years):	>100yr (NOAA, 1973)
D. Design Storm Duration, (hours):	1.0
E. Design Storm Magnitude, (inches):	2.0
F. Design Flow, (cubic feet / second/ square mile):	1.3 (Q=CIA, C=0.001, I=2.0, A=640)
G. Estimated Reduction in Infiltration, (percent):	60%
H. Adjusted Design Flow, (cfs per square mile):	384 (Q=CIA, C=0.3, I=2.0, A=640)

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:
The fire resulted in high severity burn and strong hydrophobicity across 60% of the area. However, due to the relatively gentle terrain, only 20% of the area is considered to have a high erosion hazard. The main concerns are risks to transportation systems and noxious weed infestations.

One road segment in particular is at risk; 1.2 miles between Lost Fork Ridge and Ant Park. Pre-fire conditions of dense timber canopy above and adjacent to the road allowed for significant interception of intense rain events. Post fire conditions will not provide any interception capacity, but will now allow all precipitation to reach the road. The road is currently under contract to rebuild existing rolling dip drainage features and additional drainage is now deemed necessary.

All drainages above road #487 had ephemeral flow regimes prior to the fire. Two crossing locations, including the headwaters of the North Fork of the Musselshell, do not have culverts. Due to the significant level of high severity burn within these small headwater drainages, the fill at these crossings is at risk of eroding. These sites will be monitored and action taken at a later date if/when necessary.

The area is closed to motorized vehicles year-round. Some flatter, poorly drained areas are susceptible to rutting during wet weather. A jack fence closure on one non-system road was burned and will need to be rebuilt to help restrict vehicle travel and reduce impacts to sensitive soils.

Due to the dry site conditions found throughout the burn area, there is potential for noxious weeds to get established prior to natural regeneration.

Other values at risk include westslope cutthroat trout populations in the West Fork Lost Fork River and water quality of the North Forks of the Musselshell and Smith Rivers A sediment pulse is expected to occur during intense rain events for the first growing season after the fire. Some of this sediment is expected to be routed to the West Fork Lost Fork River and headwater ephemeral channels of the two North Forks. Emergency treatments to reduce hillslope erosion are not proposed because 1) soils burned under high severity fire are not rated as a high erosion hazard due to gentle slopes, 2) some natural regeneration is anticipated within the next growing season and will help to stabilize soils, 3) the majority of lower slopes adjacent to the West Fork Lost Fork and both North Forks did not burn and should provide a depositional area for most upslope sediment sources and 4) land treatments such as log or straw barriers are not expected to significantly improve on sediment filtering capability beyond what will occur naturally in the unburned streamside areas.

B. Emergency Treatment Objectives: Reduce erosion potential on system road surfaces, nonsystem road surfaces and reduce the threat of noxious weed infestation.

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm: Not Applicable

Land **90** % Channel ___ % Roads ___ % Other ___ %

D. Probability of Treatment Success: Not Applicable

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

E. Cost of No-Action (Including Loss): **$5,000 - $10,000**

F. Cost of Selected Alternative (not Including Loss): $5,100

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Mark Nienow

Email: mnienow@ fs.fed.us Phone: 406-791-7740 FAX: 406-761-1972

H. **Treatment Narrative: Not Applicable**

(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: none proposed

Channel Treatments: none proposed

Roads and Trail Treatments:

Four to six rolling dips are proposed to be built along 1.2 miles of road. A current contract to rebuild existing dips will be modified to include these additional drainage structures. These dips will provide additional road drainage features to handle anticipated increases in road surface flows.

Rebuild one jack leg closure structure with native materials to reduce illegal vehicle travel and subsequent impacts to sensitive soils.

Structures: none proposed

H. **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.)

Monitor travel routes and firelines for new noxious weed infestations for five days per year over a period of three years. If infestations are located and cover a significant area, request funding for treatment measures, i.e., herbicide application. A Forest level EIS on Noxious Weed Control has been completed.

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

			NFS Lands				Other Lands			All
		Unit	# of	WFSU	Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	SULT $	$	units	$	Units	$	$
A. Land Treatments										
				$0			$0		$0	$0
				$0			$0			
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Land Treatments				$0			$0		$0	$0
B. Channel Treatments										
				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Channel Treat.				$0			$0		$0	$0
C. Road and Trails										
construct 6 rolling dips	each	100	6	$600			$0		$0	$600
rebuild jack-leg closure	each	200	1	$200			$0		$0	$200
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Road & Trails				$800			$0		$0	$800
D. Structures										
				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Structures				$0			$0		$0	$0
E. BAER Evaluation										
planning/documentat	days	250	5	$1,250			$0		$0	$1,250
				$0			$0		$0	$0
G. Monitoring Cost	days	203	15	$3,045			$0		$0	$3,045
H. Totals				**$5,095**			**$0**		**$0**	**$5,095**

PART VII - APPROVALS

1. /s/ RICK PRAUSA — 09/14/01
   Forest Supervisor (signature) — Date

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