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

Date of Report: 10/09/01

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[ ] 1. Funding request for estimated WFSU-SULT funds
[ ] 2. Accomplishment Report
[X] 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: West Hell Canyon

B. Fire Number: H21012

C. State: SD

D. County: Fall River

E. Region: 02

F. Forest: Black Hills

G. District: Hell Canyon

H. Date Fire Started: 09/26/01

I. Date Fire Contained: 10/03/01

J. Suppression Cost: 1,500,000

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 17
2. Fireline seeded (miles): 17
3. Other (identify): rehabilitation of base camp (Cascade Springs)

L. Watershed Number: 101201060204, 101201060206, 101201060207

M. Total Acres Burned:
NFS Acres(4884) Other Federal ( ) State ( ) Private (5663)

N. Vegetation Types: Ponderosa Pine, Grassland

O. Dominant Soils: BvD, Mme, MnF, RoF

P. Geologic Types: Pierre Shale, Inyan Kara, Morrison, Spearfish, Minnelusa

Q. Miles of Stream Channels by Order or Class: 31 miles intermittent

R. Transportation System

Trails: 0 miles Roads: 23 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 10,500 (low) 0 (moderate) 0 (high)

B. Water-Repellent Soil (acres): 0

C. Soil Erosion Hazard Rating (acres):
10,500 (low) ___ (moderate) ___ (high)

D. Erosion Potential: 5 tons/acre

E. Sediment Potential: 417 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3

B. Design Chance of Success, (percent): 73

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

D. Design Storm Duration, (hours): 1

E. Design Storm Magnitude, (inches): 2

F. Design Flow, (cubic feet / second/ square mile): 507

G. Estimated Reduction in Infiltration, (percent): 38

H. Adjusted Design Flow, (cfs per square mile): 694

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

The majority of the fire area at a low intensity, and that produced low severity conditions in most areas. Some small isolated patches of moderate and high intensity burn were observed, but were too small in size to map. No moderate or high severity conditions were observed. Field observations and modeling support a conclusion that little additional runoff or erosion are expected due to changes in the watershed condition. No facilities were found to be at risk, and no health and human safety issues were identified. A number of historic and active mass failures were found in the burn area, but are not expected to be impacted due to the fire. Noxious weeds are not expected to increase except in areas where mechanical disturbance to the soil occurred due to fire suppression activities.

B. Emergency Treatment Objectives: No treatments are proposed at this time. Further review of cultural sites is needed to assess whether an emergency condition exists at the site level. The watershed should be monitored in late spring to assess if native vegetation is re-establishing.

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

Land __ % Channel ___ % Roads ___ % Other ___ %

D. Probability of Treatment Success: N/A

	Years after Treatment		
	1	3	5
Land			
Channel			
Roads			
Other			

E. Cost of No-Action (Including Loss): N/A

F. Cost of Selected Alternative (Including Loss): N/A

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Monte Williams

Email: mlwilliams01@fs.fed.us Phone: 605-673-9231 FAX:

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: None

Channel Treatments: None

Roads and Trail Treatments: None

Structures: None

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.)

Monitor Vegetation Reestablishment (Treatment and Non-Treatment) - The purpose of the treatment is to determine when the burned vegetative communities have recovered , and to monitor vegetation reestablishment and soil cover. We will evaluate whether vegetation regeneration is satisfactory to meet management objectives

J. BAER Evaluation Narrative:

BAER Team analysis and Plan Preparation - This specification accounts for the costs of the preparation, planning, and evaluation process spent to produce the Elk Mountain Complex BAER Plan. The specification includes all costs associated with the BAER team preparing the plan, travel arrangements and accommodations while in the area, equipment needed to assess all potential values at risk.

Cultural Resource Risk Assessment and Mitigation Development - To assess damages from fire effects and assess the risk of potential storm flood/debris flows upon previously documented cultural resources. Evaluate any previously recorded sites which have not been evaluated and which have been affected by the fire or may be affected by proposed emergency stabilization projects for other resource values. Develop proposed stabilization treatment plans for any cultural resource sites identified as at risk. Conduct cultural resource inventories for any emergency stabilization project areas identified for other resource values in this BAER report.

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
Subtotal Land Treatments				$0			$0		$0	$0
B. Channel Treatments										
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Channel Treat.				$0			$0		$0	$0
C. Road and Trails										
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Road & Trails				$0			$0		$0	$0
D. Structures										
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Structures				$0			$0		$0	$0
E. BAER Evaluation										
BAER Team analysis and Plan Preparation	each	49,000	1	$49,000			$0		$0	$49,000
Cultural Resource Risk Assessment and Mitigation Development	acres	29.78	575	$17,124			$0		$0	$17,124
F. Monitoring				$0			$0		$0	$0
Monitor Vegetation Reestablishment (Treatment and Non-Treatment)	acres	0.5	10500	$5,250			$0		$0	$5,250
G. Totals				**$71,374**			**$0**		**$0**	**$71,374**

PART VII - APPROVALS

1. /s/ Sylvia Arbelbide for John Twiss — 10/11/01
   Forest Supervisor (signature) — Date

2. _____ _____
   Regional Forester (signature) — Date