USDA-FOREST SERVICE FS-2500-8 (5/00)

Date of Report: 11/28/01

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[ ] 1. Funding request for estimated WFSU-FW22 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)

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

[X] 3. Final report - following completion of work

PART II - BURNED-AREA DESCRIPTION

A. Fire Name SCOTT ABLE

B. Fire Number: P36853

C. State: NM

D. County: OTERO

E. Region: 03

F. Forest: LINCOLN

G. District: SACRAMENTO

H. Date Fire Started: 5/11/00

I. Date Fire Controlled: 06/19/00

J. Suppression Cost: 6.8 million

K. Fire Suppression Damages Repaired with -PF12 Funds
1. Fireline water barred: 37 miles
2. Fireline seeded: 37 miles
3. Other (identify):

L. Watershed Number: 1306001002, 1306001004, 305004010

M. NFS Acres Burned: 14,551 Total Acres Burned: 16,034
Other ownership type: (0)State (0)BLM (1,483)PVT

N. Vegetation Types: SPRUCE FIR; PONDEROSA PINE; PINYON – JUNIPER; MIXED CONIFER; OAK; MTN GRASSLAND

O. Dominant Soils: LITHIC ARGIUSTOLLS; LITHIC HAPLUSTOLLS; PACHIC ARGIUSTOLLS; PACHIC UDIC HAPLOBOROLLS; TYPIC ARGIBOROLLS: Soils are shallow and have very high erosion potential. Potential loss of productivity on deep soils is extremely high.

P. Geologic Types: YESO AND SAN ANDRES FORMATIONS: The Yeso formation contains gypsum a mineral highly soluble in water therefore subject to extreme erosion.

Q. Miles of Stream Channels by Order or Class:
1st 84 miles, 2nd 28 miles, 3rd 14 miles,
4th 7 miles, 5th 2 miles, 6th 4 miles.

R. Transportation System

Trails: 3.9 miles Roads: 34 miles

PART III - WATERSHED CONDITION

A. Fire Intensity (acres): 8089 (low) 3209 (moderate) 4736 (high)

B. Water-Repellent Soil (acres): 1300

C. Soil Erosion Hazard Rating (acres):
4008 (low) 5612 (moderate) 6414 (high)

D. Erosion Potential: 55 tons/acre

E. Sediment Potential: 45,000 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period: 15 years

B. Design Chance of Success: 60 percent

C. Equivalent Design Recurrence Interval: 2 years

D. Design Storm Duration: 1 hours

E. Design Storm Magnitude: 1.3 inches

F. Design Flow: 10 cubic feet per second per square mile

G. Estimated Reduction in Infiltration: 50 percent

H. Adjusted Design Flow: 30 cubic feet per second per square mile

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

The high intensity burn portion of the fire occurred in the heads of 15 drainages. Three of these drainages; Pepper Canyon, Pendleton Canyon, and Seep Canyon were significantly burned by a high intensity fire. Approximately 64 structures were lost in the burn.

Other drainages experienced light to moderate intensity fire, but still pose some concern with the watershed. Approximately 30% of the burn area was high intensity, 20% moderate intensity, and 50% low intensity. Effective ground cover and canopy cover removal in the high intensity burn areas of the watersheds is close to 100%. High intensity
burns occurred over 60% of the area. Some of the areas have shallow soils silt loam and loam surface texture with little surface rock resulting in extremely high sheet and rill erosion potential. Substantial soil loss is likely without stabilization. Flood flows are likely to occur until ground cover is reestablished. Timing of seeding and installation of slope protection measures is critical. Slope protection measures are needed immediately to retain seed on the slope due to the early start of the rainy season.

B. Emergency Treatment Objectives

Minimize soil movement where possible with installation of erosion control structures. Minimize soil movement on high erosion potential slopes above private land and avoid potential sedimentation on private property.

Spread and reduce flow velocity of water running off the slopes to retain soil and seed on site.

Coordination of the upland and channel treatments with the completed seeding effort, to retain the seed already applied on the slopes**.**

Replace critical sediment detention and diversion structures, and replace some culverts washed out and damaged by unusual storm events.

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

Land **50** % Channel **50** % Roads **60** % Other **60** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	50	70	80
Channel	50	70	80
Roads			
Other			

E. Cost of No-Action (Including Loss): $15,000,000 or more in private property. Loss of community support to agency activities and potential litigation from a perceived lack of treatment effort in the watershed above residences is a real cost.

F. Cost of Selected Alternative (Including Loss): $ 6,600,000 (assumes 30% loss to private property)

G. Skills Represented on Burned-Area Survey Team:

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

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H. Treatment Narrative:

1. Obtain, cut and properly place trees and straw wattles along the contour on steep slopes (40-80%) on forest land to retain erosion-prone soils on slope, protect downstream property, water quality, and wildlife habitat values. The BAER team hydrologist identified 4,736 acres of intensely burned land. 1,100 acres of steep slopes were treated with either contour falling or straw waddles.

2. Provide drainage improvements to roads on Forest land affected by burn to prevent erosion and maintain functionality for forest management purposes. The treatments will include low water crossings, log trash racks and some hog wire trash racks. Log trash racks will be used to retain debris and keep certain vulnerable crossings from being blocked after runoff events. This will reduce the risk of road washout and reduce the possibility of sending large amounts of sediment into the stream channel system.

3. Detention basins require maintenance to address safety and structural integrity issues caused by design insufficiencies and/or large flood flows. Maintenance of these will be required in following years.

Accomplishments (11/21/01)

Various types of land treatments were installed to protect lives, property and natural resources. The following treatments were completed:

1). 45,000 lbs of grass/legume seed mix was applied by helicopter on approximately 4,750 acres.
2). Trees felled on the contour to create log erosion barriers on approximately 1,000 acres.
3). Approximately 40,000 feet of straw wattles installed on the contour on approximately100 acres.
4). Cleaned and continued to maintain 4 earthen detention dams.
5). Built 125 hog wire/filter cloth sediment traps.
6). Installed approximately 50 log trash racks.
7). Constructed 5 large soil detention basins
8.) Installed 1500 straw bales in silt traps and sediment barriers.
9). Constructed approximately 40 roll dip diversions.

The rate of progress was slower and costs more expensive due to a number of reasons:

a. Unexpected June rains slowed progress due to safely issues such as lightning, which sometimes required removal of crews before a full day work was completed.
b. Slippery and impassable roads contributed to downtime.
c. Replacement of treatments already installed which failed due to unusual storm events.

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

			NFS Lands			Other Lands		All
Line Items	Units	Unit Cost $	Number of Units	WFSU-SULT $	Other $ --------	Number of Units	Fed $ -------	Total $
A. Land Treatments								
Straw wattle installation	AC	1132	100	$113,200				
Contour log terracing	AC	420	650	273,000				
Grass seeding	AC	21	4,750	99,975				
B. Channel Treatments								
Reconstruction and maintenance of retention basins	Each	762	9	6,855				
C. Roads and Trails								
D. Structures								
Trash racks, trash fence & wire/rock and/or straw check dams	EA	465	50	23,250				
E. BAER Evaluation/Adminstrative Support								
BAER team salary				12,500				
F. Totals				$528,780				

PART VII - APPROVALS

1. **/s/ Ron Hannan** — 11/28/01
   Forest Supervisor — Date

2. _____ — _____
   Regional Forester — Date