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

Date of Report: 5/5/2005

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[ ] 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)

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

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

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Peppin Fire

B. Fire Number:

C. State: NM

D. County:Lincoln

E. Region: 03

F. Forest: Lincoln

G. District: Smokey Bear

H. Date Fire Started: 10/19/04

I. Date Fire Contained: est. June 20, 2004

J. Suppression Cost: $2.8 million

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): n/a
2. Fireline seeded (miles): n/a
3. Other (identify):

L. Watershed Number: (1306000501) (1306000505) (1306000804) (1306000811) (1306000806) (1306000805) – 5th HUC

M. Total Acres Burned: 67,438 based on May 28, 2004 BARC satellite map, June 10 SPOT map and June 13 BARC satellite map.
NFS Acres(63,350) Other Federal ( ) State ( ) Private (4088)

N. Vegetation Types: Pinyon-Junipers, Mixed conifers, Ponderosa, Spruce-Firs, Aspen

O. Dominant Soils: Colluvial, granitic, Argiustolls, Haplustolls, Calciustolls

P. Geologic Types: Micro-granite intrusions, sandstone, igneous, glacier rocks

Q. Miles of Stream Channels by Order or Class: (see channel length description in summary analysis)

R. Transportation System

Trails: n/a miles Roads: 83 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 27000 (low) 16000 (moderate) 10300 (high)

B. Water-Repellent Soil (acres): 27,000

C. Soil Erosion Hazard Rating (acres):
27000 (low) 16000 (moderate) 10300 (high)

D. Erosion Potential: 5.7 tons/acre

E. Sediment Potential: 24000 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

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

C. Equivalent Design Recurrence Interval, (years): 5

D. Design Storm Duration, (hours): 1

E. Design Storm Magnitude, (inches): 1.7

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

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

H. Adjusted Design Flow, (cfs per square mile): 270

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency: (Partial summary for funding request for grass seeds).

Values at risk include life and property. The watersheds of Peachtree (7.7 mi), Red Lick (10.6 mi) and Copeland (8.2 mi) Creeks are the major watersheds that flow into the Arroyo Seco. These watersheds present the greatest concern for floods and debris flows due to the high number of high intensity burn acreage in these watersheds. East (5.2 mi) and West Lucero Creeks (5.8 mi) along with Peppin Creek (4.9 mi) flow into Kyle Harrison Creek (9.2 mi), which in turn flows into the Arroyo Seco where it meets highway 246 (no culverts exist along this road…all fords). These tributaries or watersheds present a lesser concern although it's stream channels do go through a smaller number high intensity burn areas. What we have is an increased potential for cummulative damaging flows from all of the stream channels flowing and converging into the Arroyo Seco

impacting highway 246 and, most likely, the Eldridge Ranch located next to the highway and next to Peachtree creek a mile downstream from the confluence of Kyle-Harrison Creek and Arroyo Seco. The Eldridge Ranch is the only private property that share the greatest risk on life and property. Other potential property damage (or even impact on life) is highway 246, a major paved two way road that connects Capitan to Roswell. Floods crossing the fords pose an immediate concern for unsuspecting drivers. Several ford crossings exist along a 3 to 4 mile length of highway 246.

Approximately 60 percent of the high intensity burn areas are located on the steeper slopes of the Capitan Mountain starting from 7100 feet to as high as 10100 feet near to the top of Capitan Peak (Highest elev. 101179 ft on Summit Peak). Approximately 40 percent of the high burn areas are from 7100 feet down to the 6200 feet elevation in the lowlands among the mostly Pinyon-Juniper trees and pine stringers located in and around channels.

Immediate funding is requested to ensure a speedy acquirement of grass seeds for a quick on-the-ground application before the onset of the monsoon season beginning mid-to-late June. Grass seeds capturing rainfall moisture will increase the chance for grass seeds to germinate and help retain soils from erosion and detachments from the numerous stream channels throughout the vicinity of north side of the Capitan Mountain.

Funding amount requested is $174,000 to help cover cost for approximately 4000 acres of high intensity burn areas that susceptible to erosion and soil/ash detachments on the Lincoln National Forest (see initial spreadsheet on last page).

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

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

D. **Probability of Treatment Success**

	Years after Treatment		
	1	3	5
Land	85	95	95
Channel	n/a	n/a	n/a
Roads	n/a	n/a	n/a
Other			

E. **Cost of No-Action (Including Loss)**:

Post-fire soil erosion is predicted to be approximately 19 tons/acre/year. Not all soil movement is actually lost off the fire area, however. It is estimated that about 30% (5.7 tons/acre/year) of the soil eroded within the burned area will actually be delivered as sediment and transported off-site, principally due to steep, hill and mountain terrain common to the burned area. Using the value of soil as a basic resource at $70/cubic yard, the loss after the fire is estimated at $57,577,800.

Other losses may include

F. **Cost of Selected Alternative (Including Loss)**:

G. **Skills Represented on Burned-Area Survey Team**:

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

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H. **Treatment Narrative:**

Land Treatments:

Seeding

Immediate dispatch of aerial seeding was required to effectively reduce the time between seeding and the onset of the area's monsoon season which begins in early July, giving time for germination of seeds for the retention of soils and reduced erosion potential. Aerially seeding will be done on 9000 acres of the high severity burned area both inside and outside wilderness. **Original request was for 6000 acres, this interim request is for an additional 3000 acres of aerial seeding and 20 acres of hand seeding.**

Seed mixes and application rates are:

Wilderness:	Non-Wilderness:
65% Barley	35% Slender Wheatgrass
10% Mountain Brome	25% Orchardgrass
10% Slender Wheatgrass	20% Mountain Brome
8% Sideoats Grama	15% Sideoats Grama
48 seeds/square foot	52 seeds/square foot
43 lbs/acre	9.5 lbs/acre

Mulching

Hand mulch 5 acres in and around Pine Lodge using weed-free straw on high severity burned areas on slopes no greater than 30 percent.

Roads and Trail treatment.

Gate and sign installation

One gate to be installed near Pine Lodge to close access to public.

20 large warning signs, 120 small placards with symbols (20 placards ordered each per activity e.g. hiking, hunting, horse back, vehicles, dirt bikes, and ATVs). Signs are to be placed at various road entrances on the Lincoln National Forest.

Trash racks

Two trash racks to be installed in the Pine Lodge area. One trash rack for a ~5 acre watershed, and the other trash rack for a 48 acre watershed. The two trash racks are in two small watersheds impacted with high severity burns above two Pine Lodge road crossings. Trash racks are to protect road crossings and access to Pine Lodge and minimize road maintenance needs.

I. **Monitoring Narrative:**

The monitoring of the implementation and effectiveness of prescribed emergency treatments.

*Monitor the seeding and mulching results at Pine Lodge.
*Monitor trash racks' integrity and functionality along Pine Lodge road.
*Monitor seeding results on wilderness and non-wilderness areas of the Capitan Mountain.
*Visual monitoring may require the use of a helicopter reconnaissance flight to observe emergency treatment results over a large area of the wilderness country of the Capitan Mountain Wilderness that were seeded.
*Monitor area for invasive weeds in areas that were seeded.

J. **Final Accomplishment Report**:

6,000 acres of seeding was completed on June 14, 2004 (4,000 acres inside the Capitan Wilderness). About 3,000 acres of additional aerial seeding was done on June 26 – 27, 2004 and 20 acres were hand seeded in and around Pine Lodge as well as 5 acres of mulching with approximately 200 bales of weed-free mulch (90 lbs each) were spread in and around Pine Lodge after the hand seeding was completed between June 7 – 17, 2004.

On August 23, 2004, the Pine Lodge and surrounding area of the wilderness showed signs of vigorous growth from the results of the seeding. Recent reconnaissance in March 2005 showed continued growths and improvements. Smokey Bear District plan the use of a helicopter in the month of May to do a quick aerial reconnaissance of Capitan Mountain after using it for a current nearby project.

Gates were installed in late July. All signs were posted as of August 13. The two trash racks were installed in mid-July, and remain functional to this day. The 2004 summer rainfalls lacked any intensity for the trash racks to be effective.

Due to the moderate number of less-than-intense rain showers during the summer of 2004, minor down-cutting and surface erosion were noted, affecting little property damage. Above average snowfall in 2004 and early 2005 served as protective cover and spring runoffs were light in the absence of any rain on snow event to cause any substantial erosional events.

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

Line Items	Units	Unit Cost	# of Units	WFSU SULT $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
Grass seeding	acres	40.04	9000	$360,388			$0		$0	$360,388
Hand seeding	acres	150	20	$3,000			$0			$3,000
Hand mulching	acres	400	5	$2,000			$0		$0	$2,000
				$0			$0		$0	$0
Subtotal Land Treatments				$365,388			$0		$0	$365,388
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										
Large Warning Signs	ea	200	20	$4,000			$0		$0	$4,000
Placards	ea	18.5	120	$2,221			$0		$0	$2,221
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Road & Trails				$6,221			$0		$0	$6,221
D. Structures										
Trash Rack	ea	3000	2	$6,000			$0		$0	$6,000
1 Gate	ea	2500	1	$2,500			$0		$0	$2,500
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Structures				$8,500			$0		$0	$8,500
E. BAER Evaluation										
			1	$72,000			$0		$0	$72,000
				$0			$0		$0	$0
F. Monitoring									$0	
Peppin Fire monitor.	ea	4000	1	$4,000						$4,000
G. Totals				**$452,109**			**$0**		**$0**	**$452,109**

PART VII - APPROVALS

1. /s/ Jose M. Martinez — May 13, 2005

Forest Supervisor (signature) — Date

2. _____ _____

Regional Forester (signature) — Date