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

Date of Report: 1/11/2002

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: Homestead

B. Fire Number: P36946

C. State: NM

D. County: Lincoln

E. Region: 03

F. Forest: Lincoln

G. District: Smokey Bear

H. Date Fire Started: 6/1/2001

I. Date Fire Controlled: 6/3/2001

J. Suppression Cost: $500,000

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

L. Watershed Number: 13060008020 & 13060008030

M. Total Acres Burned: 204
NFS Acres(200) Other Federal ( ) State ( ) Private (4)

N. Vegetation Types: Ponderosa Pine, PJ/Oak

O. Dominant Soils: LITHIC ARGIBOROLLS, LITHIC HAPLUSTOLLS, LITHIC ARGIUSTOLLS, PACHIC ARGIBOROLLS, TYPIC ARGIUSTOLLS.

P. Geologic Types: YESO AND SAN ANDRES FORMATIONS

Q. Miles of Stream Channels by Order or Class:
___1st 3 miles, 2nd 2 miles, 3rd 1 miles

R. Transportation System

Trails: _ miles 0 Roads: _ miles 0

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 45 (low) 24 (moderate) 135 (high)

B. Water-Repellent Soil (acres): 25

C. Soil Erosion Hazard Rating (acres):
25 (low) 44 (moderate) 135 (high)

D. Erosion Potential: 70 tons/acre

E. Sediment Potential: 50,000 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 5

B. Design Chance of Success, (percent): 60

C. Equivalent Design Recurrence Interval, (years): 2

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 2.0

F. Design Flow, (cubic feet / second/ square mile): 54

G. Estimated Reduction in Infiltration, (percent): 50

H. Adjusted Design Flow, (cfs per square mile): 154.3

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:
High intensity burn occurred in the mouth of a major unnamed canyon north of Airplane Canyon. This canyon is a tributary to Gavilan Canyon and eventually the Rio Ruidoso, a cold water fishery. The drainage runs through private property in Homestead Acres which is of extremely high value and was already affected by debris and ash filled runoff resulting from the Cree Fire of 2000.

Ruidoso, New Mexico is a tourist dependant community and the largest town in Lincoln County. Losses resulting from flooding as a result of the watershed above town being burned will be felt throughout the county.

Effective ground cover and canopy removal in this watershed is close to 100%. High intensity burn occurred over two-thirds of the area. The area has shallow soils with high erosion hazard.

B. Emergency Treatment Objectives:
Retain soils with high erosion potential and woody debris on slopes above private land and avoid potential damaging flooding and sedimentation on private property, as well as damaging water quality affects on Gavilan Canyon and Rio Ruidoso, which is a cold water fishery.

Spread and reduce flow velocity of runoff from the watershed to retrain soil and seed on site.

Protect State designated high quality cold water fishery.

Coordination of upland and channel treatments with seeding effort to retain seed on steep slopes.

Install critical sediment detention and diversion structures to prevent damage by storm events to downstream private property.

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

Land 70 % Channel 75 % Roads 80 % Other 80 %

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): $2,500,000 or more in private property.

F. Cost of Selected Alternative (Including Loss): $ 850,000 (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	[X] Ecology	[ ] Botany	[x] Archaeology	[ ]
[ ] Fisheries	[ ] Research	[ ] Landscape Arch	[ ] GIS	

Team Leader: Robert Dancker

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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:

AERIAL APPLICATION OF SEED ON ENTIRE NFS BURNED AREA TO BEGIN TO STABILIZE STEEP SLOPES AND EROSION PRONE SOILS, AND PROTECT DOWNSTREAM PROPERTY AND WATER QUALITY. SEED MIX APPLICATION AT APPROXIMATELY 8.12 PLS LBS PER ACRE. MIXTURE TO BE USED IS SPECIFIED BELOW ON 200 NFS ACRES.

1,625 LBS						$3,500
	31.67%	Mountain Brome	515LBS	2.57 #/AC	6	
	31.67%	Orchard Grass	515LBS	2.57 #/AC	19	
	31.67%	Western Wheat	515LBS	2.57 #/AC	6	
	5.00%	Yellow Blossom Clover	80LBS	.41 #/AC	4	
						35 seeds/sq.ft. at 85% purity

HELICOPTER FLIGHT TIME $1,500/HOUR 2 HOURS FLIGHT PLUS STANDBY =	4,000
ADMINISTRATION	500
SEED BUCKET AND OPERATOR	1,000
TOTAL	$9,000

Seeding of identified acres has been sucessfully completed.

Log Erosion Barriers will be placed on the contour on steep slopes (between 35 and 45%) in the intensely burned areas, in order to catch and retain seed and soils on site and reduce potential for downstream loss from sedimentation.

Log Erosion Barriers (LEB's) have been installed on the 100 acres with the highest priority for treatment within the Homestead burned area. These barriers are already proving to be effective in holding seed, catching runoff, and detaining downhill sediment movement resulting from unexpected early season rains.

Additional funding is being requested, based on more accurate site data and design analysis to cover the final cost of log erosion barriers. Higher than estimated contracting costs have been encountered due to the short time frame for work to be completed prior to the expected rainy season. Some crew time has been lost due to inability to accomplish work safely on steep slopes due to wet weather and lightning.

Channel Treatments:
Channel treatments to consist of a single trash rack located below the confluence of the two largest drainages within the burned area about .25 mile above the private land boundary, to protect downstream private property from floating debris in runoff water from the intensely burned watershed.

The second channel treatment proposed, is 14 check dams which will be evenly spaced along the entire channel length in both of the largest drainages to stabilize channel gradient and detain sediment.

Trash rack and check dams have been installed and are functioning successfully to protect downstream values from loss as a result of early season rains.

Roads and Trail Treatments:
Road treatment to consist of road closures after rehabilitation tratments are completed.

Road closure has been accomplished.

Structures:

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.)

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										
Contour log terracing	AC	1332	100	$133,200			$0		$0	$133,200
				$0			$0		$0	$0
Aerial seeding by		40	200	$8,000			$0		$0	$8,000
helicopter				$0			$0		$0	$0
Subtotal Land Treatments				$141,200			$0		$0	$141,200
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										
							$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Road & Trails				$0			$0		$0	$0
D. Structures										
Trash Racks	EA	150	20	$3,000			$0		$0	$3,000
Wire/rock check dams	EA	400	10	$4,000			$0		$0	$4,000
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Structures				$7,000			$0		$0	$7,000
E. BAER Evaluation										
				$0			$0		$0	$0
				$0			$0		$0	$0
G. Monitoring Cost				$0			$0		$0	$0
H. Totals				**$148,200**			**$0**		**$0**	**$148,200**

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PART VII - APPROVALS

1. /s/ Dennis Watson Acting — 1/11/2002
   Forest Supervisor (signature) — Date

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