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

Date of Report: 06/02/03

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: Red Rock

B. Fire Number: AZ-CNF-058 P34040

C. State: Arizona

D. County: Santa Cruz County

E. Region: 03 Southwest

F. Forest: Coronado National Forest

G. District: 03 Sierra Vista

H. Date Fire Started: 05/15/2003

I. Date Fire Contained: 05/18/2003

J. Suppression Cost: $794,414.00 as of 5/20/2003 (ICS-209)

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 0.5
2. Fireline seeded (miles): 0.0
3. Other (identify): NA

L. Watershed Number: HUC 1505030102 Sonoita Creek; a tributary to the Santa Cruz River, a tributary to the Gila River, a tributary to the Colorado River.

M. Total Acres Burned: 2763
NFS Acres(2763) Other Federal ( ) State ( ) Private ( )

N. Vegetation Types: Oak Woodland (evergreen) and Grassland; Fuel type 4

O. Dominant Soils: Typic ustochrepts, Aridic Haplustalfs

P. Geologic Types: Volcanic Rocks of Mesozoic Age (Rhylolite and Andesite), and Sedimentary Units of Cenozoic Age

Q. Miles of Stream Channels by Order or Class:

9 Miles of 1st order stream channel
4 Miles of 2nd order stream channel

R. Transportation System

Trails: 0.4 miles (Arizona Trail) Roads: 4.4 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 2763 (low) 0 (moderate) 0 (high)

B. Water-Repellent Soil (acres): 0

C. Soil Erosion Hazard Rating (acres): Slope classes
570 (low) 1772 (moderate) 421 (high)

D. Erosion Potential: 4.5 tons/acre/year = 9 t/a/2y

E. Sediment Potential: 1940 cubic yards / square mile/year

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 2 years

This estimate is based on previous fires in the same area after average annual precipitation. Chaparral recovers in 3 years or less due to vigorous sprouting of the various chaparral species.

Oak Woodland will recover in 3 to 5 years based on leaf fall and grass recovery. Litter layer is expected to recover to pre-burn conditions in 10 years.

Grasslands are expected to recover in 1 to 2 years, grass litter is expected to return in 2 years if the burned areas are allowed to rest.

B. Design Chance of Success, (percent): 100

Treatments are limited to deferring grazing until grass litter has recovered (2 years).

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

D. Design Storm Duration, (hours): 24 hours

E. Design Storm Magnitude, (inches): 2.0 inches

F. Design Flow, (cubic feet / second/ square mile): 62 cfs/square mile

G. Estimated Reduction in Infiltration, (percent): 8%

H. Adjusted Design Flow, (cfs per square mile): 67 cfs/square mile

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

The burn severity map was made from data collected during a low-level aerial reconnaissance flight. All the area within the fire perimeter appears to have burned at low severity. Two vegetation types are present within the Redrock Fire perimeter. In the woodland vegetation type, most litter was consumed but the tree canopy appears to be fine. In the grassland, most litter was also consumed and canopy is not present. In the absence of litter, precipitation impacts the soil directly and may cause higher than average storm runoff and soil movement.

Directly downstream from the fire, in Redrock Canyon, is habitat for an endangered fish (Gila Topminnow) and a private property inholding (Redrock Ranch).

B. Emergency Treatment Objectives:

Allow the litter component to recover as soon as possible. Keep ground disturbing activities off the fire for one to two years. This includes cattle grazing and motorized vehicles.

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

Land **100** % Channel **na** % Roads **100** % Other ___ %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	100	100	100
Channel	na	na	Na
Roads	100	100	100
Other			

E. Cost of No-Action (Including Loss): **$746,710** (soil only)

F. Cost of Selected Alternative (Including Loss): **$625,100** (soil + treatment)

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Robert Lefevre

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Team members and those that assisted:

Robert Lefevre	Watershed (Team Leader)
Salek Shafiqullah	Hydrology (Team Leader Trainee)
Tom Deecken	Biology
Bill Edwards	Range
Sharon Biedenbender	Range
Laura Dupee	Recreation
Bill Gillespie	Archeology
Bill Crolly	Fire
Terry Austin	GIS

H. Treatment Narrative:

The objectives are to encourage a return to pre-fire hydrologic conditions by allowing unmolested regrowth of native grasses and trees. The return to a stable functioning condition will be accomplished by keeping ground disturbing acitivities, such as cattle grazing and motorized vehicles, off the burned area.

Land Treatments:

Fence repair completed:The entire fire will require some rest from cattle grazing. One to two years of rest is recommended and is dependend on average annual precipitation. Inorder to keep cattle out of the burned pastures, propose to have BAER funds reconstruct some pasture fencing for protection of the sensitive areas.

Several range improvements and water lines have been damaged by the fire. These are damages that can not be repaired with BAER funds. Once these are inventoried, a request for funds under the appropriate authorities will be made.

If total rest of the pasture is not available as an alternative, a temporary fence should be constructed to keep cattle out of the burn areas until they have developed sufficient litter. Funding for temporary fences, if needed, will be requested in a supplemental request.

Seeding: No seeding treatments are proposed. All of the fire was in grassland and oak-juniper woodland. The grass component of these vegetation types does not appear to be damaged by the fire even though the tops were burned off. The brush species are all known to sprout and grow quickly after fires. The woodland species generally sprout and grow after being burned, although the effects of the previous dry winter may result in the death of some individual trees. Grasses within the woodland will protect the ground within two years even if the trees do not sprout. Downslope effects of possible runnoff and debris were considered, but in light of the expected response from existing burned vegetation, no benefits from seeding could be seen.

Channel Treatments:

No channel treatments are proposed. The riparian areas within and downstream of this fire have good natural deergrass, sedge, cottonwood, and willow populations that, even if damaged, are expected to hold the banks in place and catch new sediment. There will be some local erosion and sedimentation that will change the character of some short reaches of riparian areas. However, attempts to mitigate these situations would have a high risk of failure and are not proposed. Road-channel crossing projects are not proposed.

Roads and Trail Treatments:

Road Signs: 'Road closed' signs are proposed to prevent motorized vehicles from entering within the fire perimeter. A total of 4 carsonite signs are proposed.

Trails: No treatment proposed. The Arizona Trail traverses the southern portion of the fire, however, it was not used as a fireline. The fire burned at low severity in the vicinity of the trail, therefore, the trail drainage features should be able to handle the overland flows.

Structure:

No structure treatments are proposed.

I. Monitoring Narrative:

Regular monitoring will be funded locally as part of the Forest Plan and Range Allotment monitoring. Riparian data collected previously, from within the fire area, will be used to compare pre-fire and post-fire condtions.

New post-fire monitoring of the endangered fish habitat (Gila Topminnow) in Redrock Canyon, below the Redrock Fire, is being considered. If fire effects are degrading to the habitat, a supplemental funding request for emergency stabilization may be made.

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										
Repair pasture fence	miles	1000	3	$3,000			$0		$0	$3,000
				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Land Treatments				$3,000			$0		$0	$3,000
B. Channel Treatments										
N/A				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Channel Treat.				$0			$0		$0	$0
C. Road and Trails										
"Road Closed" Signs	each	100	4	$400			$0		$0	$400
				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Road & Trails				$400			$0		$0	$400
D. Structures										
N/A				$0			$0		$0	$0
				$0			$0		$0	$0
				$0			$0		$0	$0
Subtotal Structures				$0			$0		$0	$0
E. BAER Evaluation										
BAER Team	day	500	5	$2,500			$0		$0	$2,500
				$0			$0		$0	$0
				$0						$0
				$0						$0
Subtotal BAER				$2,500						$2,500
F. Monitoring				$0			$0		$0	$0
G. Totals				**$5,900**			**$0**		**$0**	**$5,900**

PART VII - APPROVALS

1. /s/ Jeanine A. Derby — 4/19/2004
   Forest Supervisor (signature) — Date

2. _____ _____
   Regional Forester (signature) — Date