

Date of Report: May 26, 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
☒ 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
☒ 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTIONA. Fire Name: Nuttall ComplexB. Fire Number: AZ-CNF-052C. State: AZD. County: GrahamE. Region: Southwestern (3)F. Forest: CoronadoG. District: SaffordH. Date Fire Started: June 24, 2004I. Date Fire Contained: July 25, 2004J. Suppression Cost: \$10.1

K. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 2
2. Fireline seeded (miles): 2
3. Other (identify):

L. Watershed Numbers: 5th code Huc's: 1505000543, 1505020252, 1505020149, 1504000644M. Total Acres Burned: NFS Acres(**29,700**) Other Federal () State () Private ()N. Vegetation Types: Englemann spruce/Douglas fir forest, Douglas fir/Ponderosa pine forest, and Emory oak/Juniper woodlandsO. Dominant Soils: Lithic Ustochrepts, Typic Ustochrepts, Typic Dystrochrepts, Dystric Cryochrepts with many areas of rock outcrop. (from the General Ecosystem Survey, Coronado N. F, Map Units 451, 466, 475, and 476.)

P. Geologic Types: granite

Q. Miles of Stream Channels by Order or Class:

1st order: 45 2nd order: 27 3rd order: 5 (All streams mostly intermittent)

R. Transportation System

Trails: 57 miles Roads: 30 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 15,695 (low) 11,300 (moderate) 2,775 (11%) (high)

B. Water-Repellent Soil (acres): 2,775

C. Soil Erosion Hazard Rating (acres):

0 (low) 8,470 (moderate) 21,240 (high)

D. Erosion Potential: (tons/acre) Average: 6.7 High: 47 Low: 0.1

E. Sediment Potential: 325 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): 85

C. Equivalent Design Recurrence Interval, (years): 25

D. Design Storm Duration, (hours): 1

E. Design Storm Magnitude, (inches): 2.5

F. Design Flow, (cubic feet / second/ square mile): 180

G. Estimated Reduction in Infiltration, (percent): 75

H. Adjusted Design Flow, (cfs per square mile): 400

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

The Mountain Graham area is a moist and cool "sky island" in an otherwise desert environment. Elevation range is 5500 feet to 10,600 feet. . A main State highway (the Swift Trail Road) is on the eastern periphery of the burned area and may be affected by debris flows. The highway is the sole access to the Mount Graham International Observatory (MGIO), numerous residences, and special uses.

During the summer monsoons season this topographic highland develops intense thunderstorms. Values are at risk from increased stream flows, debris-laden floods, hazard trees, erosion, sloughing, and rolling rocks. Peak stream flows are predicted to increase from two to four times in local areas. Soil erosion is likely to increase by a factor of 500 in areas of blackened forest.

Specific hazards

Potential hazard to life and property by rolling rocks and debris on trails in steep areas of “high” burn intensity.

Potential hazard to the privately-owned Frye Reservoir, Pima well heads, two diversions, and numerous valley structures by increased channel flow and debris from burned watersheds

B. Emergency Treatment Objectives:

The following is a summary of treatments recommended for the immediate emergency. Treatment areas were prescribed based on the potential for damaging floods, loss of soil productivity, and for the mitigation of loss of life and property.

These treatments are designed to:

Reduce hazard to the public by signing trail closures

Reduce potential overland flow by seeding “high” intensity burned areas above watersheds.

Seed mix shall be applied at 81 pounds per acre (33% beardless barley (*Hordeum vulgare*) @ 64lbs/acre; 33% mountain brome *Bromus marginatus* @ 11lbs/acre , and 33% *Agropyron trachycaulum* 6 lbs/acre).

Reduce potential for road blockage and damage by cleaning and installing culverts to better pass storm flow.

Install and maintain a debris storage rack to prevent the Wet Canyon bridge on the Swift Trail highway from damage from debris.

Protect public safety by rebuilding cattle exclosure fence from Swift Trail road.

Institute a storm patrol on the Swift Trail highway to provide the public an early-alert of damage from monsoon storms.

Protect cultural and critical wildlife features from burial and erosion.

Provide a safe working environment for BAER treatment personnel.

Inspect the Heliograph fire lookout for potential failure.

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

The summer monsoon season is early July to Late August. Complete implementation is unlikely before the onset of intense thunderstorms, though it will occur in the first third of that time period.

Land 70 % Channel 70 % Roads 70 % Other %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	85	95	95

Channel	80	80	80
Roads	80	80	80
Other			

E. Cost of No-Action (Including Loss):_ **\$8,370,000**

F. Cost of Selected Alternative (Including Loss):_ **\$4,289,626**

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input checked="" type="checkbox"/> Range	<input type="checkbox"/>
<input type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering	<input type="checkbox"/>
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Ecology	<input type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology	<input type="checkbox"/>
<input checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

Team Leader:___ Henry F. Shovic, Gallatin N. F.

Email: hshovic@fs.fed.us

Phone:___ 406 587 6714

FAX: 406 587 6758

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.)

Repair Fry Canyon Reservoir Road for administration of the special use permits, and for vehicles to transport equipment to maintain the reservoir. **Completed.**

Land Treatments:

Aerial seed with non-persistent erosion-control seed and native species on critical watershed areas.

Seed mix is: and seeding rate is 65 seeds per square foot.

Protect cultural and wildlife critical sites with mulch and seed. **Completed**

Channel Treatments: **Completed**

Roads and Trail Treatments: Repair Fry Canyon Reservoir Road for administration of the special use permits, and for vehicles to transport equipment to maintain the reservoir. **Completed**

Install signs for trail closures. **Completed**

Clean debris from inside culverts and under bridges. **Completed**

Replace non-functioning culverts where needed. **Completed**

Trail stabilization on critical areas to prevent excessive erosion and trail damage. **Completed**

Continue storm patrol for inspection of culvert crossings during storm events with the objective of closing roads if damage has occurred. **Completed**

Structures:

Install trash-debris rack above Wet Canyon Bridge **Completed**

Maintain trash rack above Wet Canyon Bridge to clean out debris from rack. **Completed**

Install protective Fence to protect traffic on Swift Trail. **Completed**

Heliograph fire lookout tower is an historic site as well as a functioning fire lookout. It has sustained fire damage. It may be at risk for falling, creating a public safety risk. Inspection is required to determine this. **Preliminary inspection completed.**

Note that personnel for implementation is funded within Specification Sheets

I. Monitoring Narrative:

Monitor aerial seeding implementation and effectiveness. **Completed**

Monitor Heritage site response to treatment implementation and effectiveness. **Completed**

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										
Trail signage	each	20.5	20	\$410	\$0		\$0		\$0	\$410
Aerial seeding	acres	37.5	6000	\$225,141	\$0		\$0		\$0	\$225,141
Heritage site protection	site	3515	7	\$24,606	\$0		\$0		\$0	\$24,606
Insert new items above this line!										
Subtotal Land Treatments				\$250,157	\$0		\$0		\$0	\$250,157
B. Channel Treatments										
Debris removal	mile	8746	3	\$26,237	\$0		\$0		\$0	\$26,237
culvert cleaning	each	482	17	\$8,199	\$0		\$0		\$0	\$8,199
culvert replacement	each	137	3	\$410	\$0		\$0		\$0	\$410
Insert new items above this line!										
Subtotal Channel Treat.				\$34,846	\$0		\$0		\$0	\$34,846
C. Road and Trails										
storm patrol	each	1639	3	\$4,919	\$0		\$0		\$0	\$4,919
trail erosion prevention	mile	492	10	\$4,919	\$0		\$0		\$0	\$4,919
Frye Canyon Road Repair		2928	7	\$20,497	\$0		\$0		\$0	\$20,497
Insert new items above this line!										
Subtotal Road & Trails				\$30,335	\$0		\$0		\$0	\$30,335
D. Structures										
Wet Creek debris rack		18911	1	\$18,911	\$0		\$0		\$0	\$18,911
Maintain debris rack	each	2186	3	\$6,559	\$0		\$0		\$0	\$6,559
Inspect heliograph tower	each	410	1	\$410	\$0		\$0		\$0	\$410
Fence	mile	1640	0.25	\$410	\$0		\$0		\$0	\$410
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Structures				\$26,290	\$0		\$0		\$0	\$26,290
E. BAER Evaluation										
Assessment Team	each			\$92,000	\$0		\$0		\$0	\$92,000
Insert new items above this line!										
Subtotal Evaluation				\$92,000	\$0		\$0		\$0	\$92,000
F. Monitoring										
Seeding implementation and effectiveness	project			\$9,019	\$0		\$0		\$0	\$9,019
Heritage site implementation and effectiveness	project			\$2,088	\$0		\$0		\$0	\$2,088
Insert new items above this line!										
Subtotal Monitoring				\$11,107	\$0		\$0		\$0	\$11,107
G. Totals				\$444,735	\$0		\$0		\$0	\$444,735

PART VII - APPROVALS

1.

Forest Supervisor (signature)

Date
2.

Regional Forester (signature)

Date