

BURNED AREA REPORT  
(Reference FSH 2509.13, Report FS-2500-A)

PART I - TYPE OF REQUEST

1. Type of Report

- ☐ A. Funding (Request for estimated FFF funds)  
☒ B. Accomplishment Report

2. Type of Action

- ☐ A. Initial (estimated funding is first requested)  
☐ B. Interim  
  
☐ Updating the initial funding request.  
☐ Supplying information for accomplishments to date on emergency work underway.  
☒ C. Final  
  
☐ Best estimate for funds needed to complete eligible rehabilitation measure.  
☒ Following completion of funded work. (see added narrative)

PART II - FIRE LOCATION

1. Fire Name (from Form FS-5100-29): South Fork  
2. Forest Supervisor's Fire No. (from Form FS-5100-29): AZ-ASF-039  
3. State: ARIZONA  
4. County: APACHE  
5. Region: 03  
6. Forest: 01 A/S  
7. Ranger District: Springerville  
8. Date Fire Started: 5/24/89  
9. Date Fire Controlled: 5/26/89  
10. Estimated Suppression Costs: \$ 225,000  
11. Fire Suppression Damages Repaired with FFF 102 Funds:  
  
3.25 miles (firelines waterbarred)  
3.9 acres (firelines seeded) not completed  
           Other (identify)  
  
12. Fire Intensity: 25 % (low) 55 % (medium) 20 % (high)

PART III - NATIONAL FOREST SYSTEM PROBLEM INVENTORY

1. Watershed No.: 15-02-00-01-98  
2. NFS Acres Burned: 346 Total (State 25) (Private 23)  
3. Water Repellant Soil: 8 % of NFS acres burned

4. Vegetation Types: Ponderosa Pine/Pinyon-juniper and riparian community
5. Geologic Types: Datil Formation, Sandstone/basalts
6. Soil Erosion Hazard Rating:

38 % (low)      17 % (medium)      62 % (high)

7. Erosion Potential: 6210 cu. yds/sq. miles
8. Miles of Stream Channels by Regional Order or Classes: Order II .3 mi.
9. Miles of Forest Service Trails: 1.6      Order III .8 mi.
10. Miles of Forest Service Roads by Maintenance Levels:

0.6 miles (Level I)      0.0 miles (Level II)  
0.3 miles (Levels III, IV, V)

#### PART IV - CALCULATED RISK AND CLIMATIC EVALUATION

1. Estimated Vegetative Recovery Period: 5 years.
2. Chance of Success Desired by Management: 80 percent.
3. Equivalent Design Recurrence Period: 25 years.
4. Related Design Storm Duration: 1 hours.
5. Related Design Storm Magnitude: 1.8 inches.
6. Related Design Flow 120 cfs.
7. Estimated Reduction in Infiltration: 8 percent.
8. Adjusted Related Design Flow: 393 cfs.

#### PART V - SUMMARY OF SURVEY AND ANALYSIS

1. Skills Represented on Burned Area Survey Team ("x" appropriate boxes):

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input type="checkbox"/> Range
<input type="checkbox"/> Timber	<input checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input type="checkbox"/> Local Mgmt.	<input type="checkbox"/> Research	<input checked="" type="checkbox"/> Other (identify)
Recreation			

2. Describe Emergency: See Narrative
3. Emergency Rehabilitation Objective: See Narrative
4. Probability of Completing Treatment Prior to First Major Damage Producing Storm:

Land 90 %      Channel \_\_\_\_\_ %      Roads \_\_\_\_\_ %      Other \_\_\_\_\_ %

5. Net Environmental Quality Benefit Index:

☒ Significant      ☐ Not Significant

6. Net Social Well Being Benefit Index:

☒ Significant      ☐ Not Significant

7. Benefit/Cost Ratio: .98
8. Net Benefits: \$ -150
9. Cost Effectiveness Index: ☐ I.      ☒ II.      ☐ III.      ☐ IV.

PART VI - ELIGIBLE EMERGENCY REHABILITATION MEASURES OR TREATMENTS  
AND SOURCE OF FUNDS

NOTE: Emergency rehabilitation is work done promptly following a wildfire and is not to solve watershed problems that existed prior to the wildfire.

Line Items	Units	NFS Lands				Other Lands			All Lands
		Unit	No. of	FFF 092	Other \$	No. of	Federal \$	Non-Federal	
		Cost	Units	\$		Units		\$	
					ident.		ident.	identify	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
A. LAND									
a. Seeding	Acres	20	164	3195					
b. Aerial Application	Acres								
c. Contour Felling	Acres								
d.									
e.									
B. CHANNELS									
a. Opening water									
courses	Miles								
b. Stabilizing									
streambanks	Miles								
c.									
d.									
e.									
C. ROADS AND TRAILS									
a.									
b.									
c.									
D. MAJOR STRUCTURES									
a. Preplanned -									
from Forest									
Plans									
E. TOTAL				\$3195	\$		\$	\$	\$

PART VII - APPROVALS

/S/Nick W. McDonough  
Forest Supervisor (Signature)

6/1/89  
Date

/S/  
Regional Forester (Signature)

Date

Note: Aerial application not done + terrascettes not needed



EXAMINING IMPACTS OF MANAGEMENT ALTERNATIVES FOR AN  
EMERGENCY PROGRAM  
(Reference FSH 2509.13)

Fire Name	Date of Report
* South Fork	* 5/31/89

## A. ENVIRONMENTAL QUALITY BENEFIT INDEX

Environmental Factor (a)	Weight	Without Treatment		With Treatment		Difference	
	Factor	Actual	Weighted	Actual	Weighted	Actual	Weighted
	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1. Erosion and sediment *	10	2	20	1	10	1	10
2. Aesthetic land quality *	6	1	6	1	6	0	0
3. Water quality *	8	1	8	0	0	1	8
4. Site productivity *	4	1	4	0	0	1	4
5. Wildlife habitat *	6	1	6	0	0	1	6
6. Fish habitat *	10	2	20	1	10	1	10
7. Other *							
8. TOTAL *	44	////////	64	////////	26	////////	38
9. Average weighted index *	////////	////////	1.45	////////	0.59	////////	.86
10. Net environmental quality benefit index*	////////	////////	////////	////////	////////	////////	.86

## B. SOCIAL WELL-BEING BENEFIT INDEX

Social Criteria (a)	Weight	Without Treatment		With Treatment		Difference	
	Factor	Actual	Weighted	Actual	Weighted	Actual	Weighted
	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1. Life, health, safety *	10	1	10	0	0	1	10
2. Employment *	2	0	0	0	0	0	0
3. Recreational opportunity *	10	1	10	0	0	1	10
4. Economic stability *	4	0	0	0	0	0	0
5. Income distribution *	2	0	0	0	0	0	0
6. Preserve special sites *	8	1	8	0	0	1	8
7. Other *							
8. TOTAL *	36	////////	28	////////	0	////////	28
9. Average weighted index *	////////	////////	0.78	////////	0	////////	.78
10. Net social well-being benefit index *	////////	////////	////////	////////	////////	////////	.78

## C. REMARKS

\* 6\* Archaeological sites + recreation sites

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## D. EXPECTED DAMAGE REDUCTION BENEFIT SUMMARY

Note: At current Water Resources Council interest rate \*8.625 percent

Economic Benefit Indices	Units of Measure	Damage Expected				Expected \$ Damage Reduction
		Without Treatment		With Treatment		
		No. of Units	Present Value(\$)	No. of Units	Present Value(\$)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)
I. Watershed Impacts Sediments	////////	////////	////////	////////	////////	////////
1. Downstream water storage *						
2. Sediment removal *	CY	685	2055	459	1377	678
3. Fish habitat *	miles	1.7	9152	1.7	4576	4576
4. Water quality *						
II. Flood Water	////////	////////	////////	////////	////////	////////
1. Land * Road	miles	0.3	2880	0.3	1000	1880
2. Water Improvements *						
3. Subtotal, Watershed *	////////	////////	14087	////////	6953	7134
III. Resource Related Impacts	////////	////////	////////	////////	////////	////////
1. Range *						
2. Wildlife and recreation *						
3. Timber *						
4. Subtotal, Resource Related *	////////	////////		////////		
IV. Other Impacts	////////	////////	////////	////////	////////	////////
1. *						
2. Subtotal, Other *	////////	////////		////////		
V. TOTAL DOLLARS *	////////	////////	14087	////////	6953	7134

## E. REMARKS

\*

USDA-Forest Service

ON-SITE AND OFF-SITE DEVELOPMENTS SUBJECT TO HAZARDS<sup>1</sup>

(Reference FSH 2509.13)

Fire Name			Date of Report	
South Fork			5/31/89	
Line Items	Type of Units	Number of Units	Estimated Value \$	
(a)	(b)	(c)	(d)	
1. Community and urban development	Homes			
	People	22	1,320,000	
2. Municipal and domestic water supply	People			
	Served	20	50,000	
3. Transportation systems	Miles	0.3	5,000	
4. Water distribution system (irrigation)	Miles			
5. Agricultural development (crops, facilities)	Acres			
6. Industrial development (dams, power, manufacturing)	Number			
7. Power and communication lines	Miles			
8. Recreation development South Fork Campground	PAOT	40	60,000	
9. Fish habitat	Miles	1.0	3,000	
10. Other (specify) Guest Ranches	Cabins	20	800,000	
2	XXXXXXXXXX	XXXXXXXXXX		
11. Total Hazard Potential	XXXXXXXXXX	XXXXXXXXXX	2,238,000	

12. Narrative (Optional- if additional space is needed, attach another sheet).  
South Fork Community - consists of summer homes, 2 guest ranches and approximately 20 full time residents. Guest ranches and campground dependent on the Fish habitat, riparian vegetation in and along South Fork

<sup>1</sup> Hazards from floods, floating debris, erosion, or sediment because a watershed is impaired by wildfire. (Do not include value of resources damaged or destroyed by the fire reported on FS-5100-29.)



<sup>2</sup> Indicates values threatened by design storm. Does not enter into the B/C.

FS-2500-8b (11/82)

82)

Fire Name

Fire Name

\* South Fork

## SUMMARY OF EMERGENCY REHABILITATION NEEDS BY LANDOWNERSHIP

## SUMMARY OF EMERGENCY REHABILITATION NEEDS BY LANDOWNERSHIP

(Reference FSH 2509.13)

Date of Report

(Reference FSH 2509.13)

Date of Report

\* 5/31/89

B. Emergency Rehabilitation Needs

B. Emergency Rehabilitation Needs

Landownership

Landownership

A. Acres

A. Acres

Burned

Burned

(1) Land

Land

(acres)

(2) Channel

Channel

(miles)

(3) Road &amp;

Road &amp;

Trail

Trail

(miles)

(4) Other

Other

Federal (NFS) \*

Federal

298

298

Other (specify) \*

Other

Subtotal (NFS) \*

Subtotal

Non-Federal (State &amp; County) \*

Non-Federal

25

Indian reservation \*

Indian reservation

Private \*

Private

23

Subtotal (Non-Federal) \*

Subtotal

TOTAL \*

TOTAL

346

298

C. Source of Emergency Rehabilitation Funds for Needed Work (\$)

C. Source of Emergency Rehabilitation Funds for Needed Work (\$)

1. FFF

FFF

2. Emergency

Emergency

3. FR &amp; T

FR &amp; T

4. Other

Other

5. Non-

Non-

6. To

To

tal

tal

Flood

Flood

Prevention

Prevention

Federal

Federal

(Enter

(Enter

Federal

Federal

(Enter

(Enter

Landownership	(a) 092	(b) 102			(fund)	(fund)
Landownership	092	102				
<input type="checkbox"/>						
Federal (NFS) *	7134					
<u>Federal</u>						
Other (specify) *						
<u>Other</u>						
Subtotal (NFS) *						
<u>Subtotal</u>						
Non-Federal (State & County) *						
<u>Non-Federal</u>						
Indian reservation *						
<u>Indian reservation</u>						
Private *						
<u>Private</u>						
Subtotal (Non-Federal) *						
<u>Subtotal</u>						
TOTAL *	7134					
<u>TOTAL</u>						
D. Remarks						
D. Remarks						
*						
<input type="checkbox"/>						

## NARRATIVE

### South Fork Fire

#### 2. Describe Emergency

The South Fork Fire started upstream and uphill from the South Fork Campground along the South Fork of the Little Colorado River. Vegetation is primarily fringe ponderosa pine with vegetation varying from Douglas Fir on some north aspects, to ponderosa pine and pinyon-juniper as well as a riparian community of willows, alders and cottonwoods along the South Fork of the Little Colorado River.

Fire intensity was high on at least 20% of the area. Over one-quarter of a mile of riparian community was severely damaged by the fire along the South Fork. Although the South Fork campground was not directly impacted by the intense fires there will be off site soil erosion which may impact the campground. Downstream developments include several guest ranches which utilize flow from the South Fork for filling their fishing ponds. Both private and State lands at the north edge of fire were burned and impacted by fire lines. No structures other than boundary fences were impacted.

Soil movement from sandstone outcrops and poorly vegetated areas is currently excessive. Soil movement from the moderate and high intensity burn areas will add to this sediment movement.

Burned area rehabilitation is recommended. Aerial helicopter seeding with a mix of annuals and perennials has been proposed. Annual rye, orchard grass, intermediate wheatgrass, and yellow sweet clover will be the major species contained in the mix. Seeding rate will be approximately 12-15 lbs. per acre. Seeding will be done on all high intensity burn areas and approximately one-half of the moderately burned areas with emphasis on those areas draining into the South Fork drainage which is a popular fishing and recreational stream. Contour felling of the smaller fire killed trees will be done on 50 acres.

#### 3. Emergency Rehabilitation Objectives

- Reduce sediment load into the South Fork of the Little Colorado to reduce impact on fishery and downstream water users
- Reduce sediment load into the South Fork Campground
- Reduce sediment load moving from National Forest onto private and state land.