

Date of Report: 6/7/90

BURNED AREA REPORT
(Reference FSH 2509.13, Report PS-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): Bruno
2. Forest Supervisor's Fire No. (from Form FS-5100-29): AZ-ASF 068
3. State: Arizona
4. County: Coconino
5. Region: 03
6. Forest: 01 A/S
7. Ranger District: Heber
8. Date Fire Started: 6/5/89
9. Date Fire Controlled: 6/8/89 @1800
10. Estimated Suppression Costs: \$ 376,454
11. Fire Suppression Damages Repaired with FFF 102 Funds:

3.88 miles (firelines waterbarred)

4.7 acres (firelines seeded)

Other (identify)

2. Fire Intensity: 30 % (low) 20 % (medium) 50 % (high)

PART III - NATIONAL FOREST SYSTEM PROBLEM INVENTORY

1. Watershed No.: 15020010-10 55% 15060103-65 45%
2. NFS Acres Burned: 328
3. Water Repellant Soil: 15 % of NFS acres burned

4. Vegetation Types: Ponderosa Pine
5. Geologic Types: Sandstone/Rim Gravels
6. Soil Erosion Hazard Rating:

60 % (low) 0 % (medium) 40 % (high)

7. Erosion Potential: 1396 cu. yds/sq. miles
8. Miles of Stream Channels by Regional Order or Classes: Order #1 0.8 miles
9. Miles of Forest Service Trails: 0.4
0. Miles of Forest Service Roads by Maintenance Levels:

0.8 miles (Level I) 0.4 miles (Level II)

0.8 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: 2.0 inches.
6. Related Design Flow 140 cfs.
7. Estimated Reduction in Infiltration: 15 percent. (over all of the area)
8. Adjusted Related Design Flow: 410 cfs.

PART V - SUMMARY OF SURVEY AND ANALYSIS

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

[X] Hydrology [X] Soils [] Geology [X] Range
[] Timber [X] Wildlife [X] Fire Mgmt. [X] Engineering
[] Contracting [] Local Mgmt. [] Research [XX Other (identify) AZ
G&F

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:

[X] Significant [] Not Significant

6. Net Social Well Being Benefit Index:

[] Significant [X] Not Significant

7. Benefit/Cost Ratio: 1.57
8. Net Benefits: \$ 3064
9. Cost Effectiveness Index: [] I. [X] 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	NFS Lands					Other Lands			All Lands
	Units	Unit	No. of	FFP 092	Other \$	No. of	Federal \$	Non-Federal	Total
		Cost	Units	\$	Rocky	Units		\$	\$
					Mt. Elk		ident.	identify	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
A. LAND									
a. Seeding	Acres	8	230	1840	3460				\$5300
b. Seed application	Acres	12	230	2695	1540				\$4235
c. Contour felling	Acres	35	40	1400					\$1400
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									
				\$5935	\$5000		\$	\$	\$10935

PART VII - APPROVALS

/S/ Miles P. Hanrahan _____ 6/9/89
 Forest Supervisor (Signature) _____ Date

/S/ _____
 Regional Forester (Signature) _____ Date

NOTE: Costs of building log terracettes was higher than expected, as was cost of seed application.

**EXAMINING IMPACTS OF MANAGEMENT ALTERNATIVES FOR AN
EMERGENCY PROGRAM**

(Reference FSH 2509.13)

Fire Name	Date of Report
* Bruno	6/9/89

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 *	4	1	4	1	4	0	0
3. Water quality *	8	1	8	1	8	0	0
4. Site productivity *	8	2	16	1	8	1	8
5. Wildlife habitat *	8	1	8	0	0	1	8
6. Fish habitat *	6	2	12	1	6	1	6
7. Other *							
8. TOTAL *	44	////////	68	////////	36	////////	24
9. Average weighted index *	////////	////////	1.55	////////	.82	////////	.73
10. Net environmental quality benefit index*	////////	////////	////////	////////	////////	////////	.73

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 *	6	1	6	1	6	0	0
2. Employment *	1	1	1	1	1	0	0
3. Recreational opportunity *	8	2	16	1	8	1	8
4. Economic stability *	1	1	1	1	1	0	0
5. Income distribution *	1	1	1	1	1	0	0
6. Preserve special sites Crook Trail	8	1	8	1	8	0	0
7. Other *							
8. TOTAL *	25	////////	33	////////	25	////////	8
9. Average weighted index *	////////	////////	1.32	////////	1.00	////////	.32
10. Net social well-being benefit index *	////////	////////	////////	////////	////////	////////	.32

C. REMARKS

*

D. EXPECTED DAMAGE REDUCTION BENEFIT SUMMARY

Note: At current Water Resources Council interest rate 8.625 percent

[illegible]

USDA-Forest Service

ON-SITE AND OFF-SITE DEVELOPMENTS SUBJECT TO HAZARDS¹

(Reference FSH 2509.13)

Fire Name		Date of Report	
Bruno		6-9-89	
Line Items	Type of Units	Number of Units	Estimated Value \$
(a)	(b)	(c)	(d)
1. Community and urban development	People		
2. Municipal and domestic water supply	People Served		
3. Transportation systems	Miles		
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	PAOT		
9. Fish habitat	Miles	4.5	\$100,000
10. Other (specify)			
2		XXXXXXXXXX	XXXXXXXXXX
11. Total Hazard Potential		XXXXXXXXXX	XXXXXXXXXX \$100,000
12. Narrative (Optional- if additional space is needed, attach another sheet).			
Forest Lakes Estates development will not be directly affected but recreation use in the area is high. Fish habitat directly below rim (Canyon Creek) has had a very high investment in recent years by the Tonto NF and fishing groups (over \$100,000). Sediment would be a problem for this stream.			

¹ 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.)

SUMMARY OF EMERGENCY REHABILITATION NEEDS BY LANDOWNERSHIP
(Reference FSH 2509.13)

Fire Name

* Bruno

Date of Report

* 6/9/89

Landownership	A. Acres Burned	B. Emergency Rehabilitation Needs			
		(1) Land (acres)	(2) Channel (miles)	(3) Road & Trail (miles)	(4) Other
Federal (NFS) *	328	230			
Other (specify) *					
Subtotal (NFS) *					
Non-Federal (State & County) *					
Indian reservation *					
Private *					
Subtotal (Non-Federal) *					
TOTAL *	328	230			

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

Landownership	1. FFP		2. Emergency Flood Prevention	3. FR & T	4. Other Federal (Enter fund)	5. Non- Federal (Enter fund) Rocky Mt. Elk	6. Total
	(a) 092	(b) 102					
Federal (NFS) *	5340					5000	10340
Other (specify) *							
Subtotal (NFS) *							
Non-Federal (State & County) *							
Indian reservation *							
Private *							
Subtotal (Non-Federal) *							
TOTAL *	5340					5000	\$10340

D. Remarks

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NARRATIVE

Bruno Fire

2. Describe Emergency

The Bruno Fire which started June 5, burned 60% of the total of 328 acres in a very intense manner. Many logging slash piles within the fire area contributed to the intensity of burn. Up to 15% of the area burned can be expected to develop water repellency. The Fire occurred very near the Forest Lakes Estates development. The fire started to the southeast of this development and burned towards the northeast thereby moving away from the development. One home was adjacent to the fire line but was only impacted indirectly by a slurry dump and fire line construction which removed some trees. The fire burned across U.S. Highway 260 and the highway was temporarily closed. The fire was contained on June 6 but was not declared controlled until June 8.

Burned area rehabilitation is recommended even though the net environmental benefit index is only slightly significant and the net social well being index is not significant. A joint effort between wildlife and fire rehab dollars is planned. The Rocky Mountain Elk Foundation will contribute \$5000.00 for seed and application of 4 lbs./acre of rape, smooth brome, burnette and alfalfa. Fire rehab species will include annual rye, yellow sweet clover, orchard grass and intermediate wheatgrass at the rate of 6 lbs./acre. Seed application will be done by the Heber Hotshot crew prior to the July rains. In addition contour felling of 40 acres of fire killed trees is also planned for accomplishment by the Heber hot shot crew. The seeding will be done on both moderate and high intensity burn areas. A portion of the fire will contribute sediment to the Canyon Creek Fishery habitat on the Tonto N.F. and is a major concern.

3. Emergency Rehabilitation Objectives

- Reduce sediment load into Canyon Creek watershed and fishery improvements downstream.
- Maintain site productivity.
- Reduce sediment load to upper Mule Creek stock ponds, and OW stock ponds.

Reduce potential erosional impacts on General Crook Trail.

