

United States
Department of
Agriculture

Forest
Service

R5

Reply To: 2520/6520

Date: April 10, 1989

Subject: Authorizaton for Expending Burned-Area Emergency
Rehabilitation Funds (NFFF-FW22) - Final Report
for the Powderhouse Fire

To: Forest Supervisor, Mendocino National Forests

Attached is the approved burned-area emergency rehabilitation Final report (FSH 2509.13, Form FS-2500-8) for the 1988 Powderhouse fire. Your cover letter explanation of cost variances provides a good example of how a Final report should be submitted. We will be interested in the results of your burn area evaluation this spring, as this is a critical part of the burn-area rehabilitation process.

/s/R.E. Greffenius
for
PAUL F. BARKER
Regional Forester

Enclosure

cc: RF Office
H. Chan (PB)
WS&A (W01B)

United States
Department of
Agriculture

Forest
Service

Mendocino N.F.

Reply To: 2520

Date: April 4, 1989

Subject: Final Burned Area Report (FS-2500-8)
Powderhouse Fire, Mendocino National Forest

To: Burned -Area Rehabilitation Coordinator
Range and Watershed Management

Enclosed is the Final Burned Area Report (FS-2500-8) for the Powderhouse Fire emergency rehabilitation. Total cost of the emergency fire rehabilitation was \$107,100.

On the enclosed Part VI, note that no work done undertaken on the installation of Drainage Filters. This work was initially planned as part of a landslide drainage program. The latter was not carried out as the ground was too steep to mechanically cut interception ditches above the landslides.

The application of straw mulch cost less than was anticipated since California Youth Authority trustees provided the labor for the application of the mulch.

The miles of stream for which stream stabilizers were installed was less than planned because of access to the steep channels. The stream channel stabilizers that were constructed did a good job of holding the stream bottom in place and catching sediment.

The aerial grass seeding was successful. The grass was not very dense in December, but with warmer weather in February, the grass grew prolifically and did an excellent job of covering the slopes and stream bottoms. Consequently with the March rainstorms, the soil and stream channels were well protected with grass cover. Even some of the stream stabilizers did not fill with sediment which is a testimony to the effectiveness of the grass cover in preventing soil loss.

Later this spring, the Forest intends to do a formal burn area evaluation on the effectiveness of the grass seeding, road maintenance work, straw mulching and stream stabilization.

/S/ Dick English
JAMES R. ENGLISH
EBAR Coordinator,
Mendocino National Forest

Enclosures

Date of Report: April 4, 1989

BURNED AREA REPORT
(Reference FSH 2509.13, Report FS-2500-8)

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.

PART II - FIRE LOCATION

1. Fire Name (from Form FS-5100-29): Powderhouse
2. Forest Supervisor's Fire No. (from Form FS-5100-29): 0389
3. State: California
4. County: Glenn
5. Region: 05
6. Forest: Mendocino
7. Ranger District: Stonyford
8. Date Fire Started: August 26, 1988
9. Date Fire Controlled: (Est.) September 1, 1988
10. Estimated Suppression Costs: \$829,383.00
11. Fire Suppression Damages Repaired with FFF 102 Funds:

4.5 miles (firelines waterbarred)
0 acres (firelines seeded)
0 Other (identify)

12. Fire Intensity: 0 % (low) 10 % (medium) 90 % (high)

PART III - NATIONAL FOREST SYSTEM PROBLEM INVENTORY

1. Watershed No.: 18020115-02/03
2. NFS Acres Burned: 1,640
3. Water Repellant Soil: 50 % of NFS acres burned

4. Vegetation Types: Chamise/ Chapparal
5. Geologic Types: South Fork Mountain Schist, Schist/phyllite
6. Soil Erosion Hazard Rating:

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

7. Erosion Potential: 4,500 cu. yds/sq. miles
8. Miles of Stream Channels by Regional Order or Classes:
1:22.9 miles, 2:4.1 miles, 3:1.4 miles, 4:0.8 miles, 5:0.6 miles
9. Miles of Forest Service Trails: 0
10. Miles of Forest Service Roads by Maintenance Levels:

0 miles (Level I) 1.5 miles (Level II)
6.0 miles (Levels III, IV, V)

PART IV - CALCULATED RISK AND CLIMATIC EVALUATION

1. Estimated Vegetative Recovery Period: 7 years.
2. Chance of Success Desired by Management: 90 percent.
3. Equivalent Design Recurrence Period: 5 years.
4. Related Design Storm Duration: 24 hours.
5. Related Design Storm Magnitude: 5 inches.
6. Related Design Flow _____ cfs.
7. Estimated Reduction in Infiltration: 50 percent.
8. Adjusted Related Design Flow: _____ cfs.

PART V - SUMMARY OF SURVEY AND ANALYSIS

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

☒ Hydrology ☒ Soils ☒ Geology ☐ Range
☐ Timber ☒ Wildlife ☐ Fire Mgmt. ☒ Engineering
☐ Contracting ☒ Local Mgmt. ☐ Research ☐ Other (identify)

2. Describe Emergency: Excessive erosion in mass, slide movement which threatens portal entry road.
3. Emergency Rehabilitation Objective: Reduce erosion and protect portal entry
4. Probability of Completing Treatment Prior to First Major Damage Producing Storm: -

Land 90 % Channel 60 % Roads 90 % Other _____ %

5. Net Environmental Quality Benefit Index:

☒ Significant ☐ Not Significant

6. Net Social Well Being Benefit Index:

☒ Significant ☐ Not Significant

7. Benefit/Cost Ratio: 2.9:1
8. Net Benefits: \$ 429,804
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	Cost	Other \$	No. of	Non-Federal \$	Total	\$
(1)	(2)	(3)	(4)	(5)	ident. (6)	Units (7)	ident. (8)	identify (9)	
A. LAND									
a. Seeding	Acres	60	400	24,000					
b.									
c.									
d.									
e.									
B. CHANNELS									
a. Opening water courses	Miles								
b. Stabilizing streambanks	Miles								
c.									
d.									
e.									
C. ROADS AND TRAILS									
a. Slope stabilization	acres	125	58	7,500					
b. Culvert end sect	each	750	6	4,500					
c. Cross drains	each	2000	6	12,000					
D. MAJOR STRUCTURES									
a. Preplanned - from Forest Plans									
E. TOTAL				\$48,000					\$

PART VII - APPROVALS

/S/ _____ Date
Forest Supervisor (Signature)

/S/ _____ Date
Regional Forester (Signature)

USDA-Forest Service									
EXAMINING IMPACTS OF MANAGEMENT ALTERNATIVES FOR AN EMERGENCY PROGRAM (Reference FSH 2509.13)									
Fire Name - SUGARFOOT								Date of Report - SEP. 12, 1994	
A. ENVIRONMENTAL QUALITY BENEFIT INDEX									
Environmental Factor (a)	Weight Factor (b)	Without Treatment Actual (c)	Without Treatment Weighted (d)	With Treatment Actual (e)	With Treatment Weighted (f)	Actual (g)	Weighted (h)	Difference	
1. Erosion and sediment	10	2	20	1	10	1	10		
2. Aesthetic land quality	3	1	3	0	0	1	3		
3. Water quality	8	2	16	1	8	1	8		
4. Site productivity	1	1	1	1	1	0	0		
5. Wildlife habitat	5	1	5	1	5	0	0		
6. Fish habitat	5	2	10	1	5	1	5		
7. Other- Red Legged Frog	5	2	10	1	5	1	5		
8. TOTAL	37	XXXXXXXXXX	65	XXXXXX	34	XXXXXX	31		
9. Average weighted index	XXXXXXXXXX	XXXXXXXXXX	1.8	XXXXXX	0.9	XXXXXX	0.8		
10. Net environmental quality benefit index	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXX	XXXXXXXXXX	XXXXXX	0.9		
B. SOCIAL WELL-BEING BENEFIT INDEX									
Social Criteria (a)	Weight Factor (b)	Without Treatment Actual (c)	Without Treatment Weighted (d)	With Treatment Actual (e)	With Treatment Weighted (f)	Actual (g)	Weighted (h)	Difference	
1. Life, health, safety	2	1	2	0	0	1	2		
2. Employment	2	1	2	0	0	1	2		
3. Recreational opportunity	1	2	2	0	0	2	2		
4. Economic stability	2	2	4	0	0	2	4		
5. Income distribution	0	0	0	0	0	0	0		
6. Preserve special sites	0	0	0	0	0	0	0		
7. Other - Transportation system	10	2	20	0	0	2	20		
8. TOTAL	17	XXXXXXXXXX	30	XXXXXX	0	XXXXXX	30		
9. Average weighted index	XXXXXXXXXX	XXXXXXXXXX	1.8	XXXXXX	0	XXXXXX	1.8		
10. Net social well-being benefit index	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXX	XXXXXXXXXX	XXXXXX	1.8		
C. REMARKS									

D. EXPECTED DAMAGE REDUCTION BENEFIT SUMMARY

Note: At current Water Resources Council interest rate		percent		Damage Expected		Expected \$	
Economic Benefit Indices	Units of Measure (b)	Without Treatment		With Treatment		Damage Reduction	
		No. of Units (c)	Present Value (\$)(d)	No. of Units (e)	Present Value (\$)(f)	(g)	
I. Watershed Impacts Sediments	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
1. Downstream water storage							
2. Sediment removal							
3. Fish habitat	FUD	25	1,580	200	12,660	11,080	
4. Water quality							
II. Flood Water	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
1. Land							
2. Water Improvements							
3. Subtotal, Watershed	XXXXXXXXXX	XXXXXXXXXX		XXXXXXXXXX			
III. Resource Related Impacts	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
1. Range							
2. Wildlife and Recreation							
3. Timber							
4. Subtotal, Resource Related	XXXXXXXXXX	XXXXXXXXXX		XXXXXXXXXX			
IV. Other Impacts	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
1.							
2. Subtotal, Other	XXXXXXXXXX	XXXXXXXXXX		XXXXXXXXXX			
V. TOTAL DOLLARS	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX

REMARKS

ON-SITE AND OFF-SITE DEVELOPMENTS SUBJECT TO HAZARDS¹

(Reference FSH 2509.13)

Fire Name - SUGARFOOT				Date of Report 9/12/94
Line Items (a)	Type of Units (b)	Number of Units (c)	Estimated Value \$ (d)	
1. Community and urban development	People			
2. Municipal and domestic water supply	People Served			
3. Transportation systems	Miles	2.4	30,000	
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	PAOT			
9. Fish habitat	Miles	3.2	13,504	
10. Other (specify) ²	XXXXXXXXXX	XXXXXXXXXX	43,504	
11. Total Hazard Potential	XXXXXXXXXX	XXXXXXXXXX		
12. Narrative (Optional- if additional space is needed, attach another sheet).				

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.)

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

SUMMARY OF EMERGENCY REHABILITATION NEEDS BY LANDOWNERSHIP
(Reference FSH 2509.13)Date of Report SEP. 12, 1994

Landownership	A. Acres Burned	B. Emergency Rehabilitation Needs			
		(1) Land (acres)	(2) Channel (miles)	(3) Road & Trail (miles)	(4) Other
Federal (NFS)	2,124	400		2.4	
Other (specify)					
Subtotal (NFS)					
Non-Federal (State & County)					
Indian Reservation					
Private					
Subtotal (Non-Federal)					
TOTAL	2,124	400		2.4	

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

Landownership	1. FFF (a) 092 (b) 102		2. Emergency Flood Prevention	3. FR & T	4. Other Federal (Enter fund)	5. Non-Federal (Enter fund)	6. Total
Federal (NFS)	48,000						48,000
Other (specify)							
Subtotal (NFS)							
Non-Federal (State & County)							
Indian Reservation							
Private							
Subtotal (Non-Federal)							
TOTAL	48,000						48,000

D. Remarks

0
092 - for aerial grass seeding and road drainage improvement and road slope stabilization