

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.

PART II - FIRE LOCATION

1. Fire Name (from Form FS-5100-29): Silver Complex
2. Forest Supervisor's Fire No. (from Form FS-5100-29): 762478
3. State: Oregon
4. County: Josephine and Curry
5. Region: Pacific Northwest
6. Forest: Siskiyou
7. Ranger District: Galice, Cold Beach, Illinois Valley, and Chetco
8. Date Fire Started: August 30, 1987
9. Date Fire Controlled: November 9, 1987
10. Estimated Suppression Costs: \$19,000,000
11. Fire Suppression Damages Repaired with FFF 102 Funds:  
    105 miles firelines total: 87 hand; 18 tractor  
    105 miles firelines waterbarred as needed  
    75 miles firelines seeded; 57 hand; 18 tractor  
    18 miles firelines fertilized; all tractor
12. Fire Intensity: 40 % (low)      40 % (medium)      20 % (high)

PART III - NATIONAL FOREST SYSTEM PROBLEM INVENTORY

1. Watershed Numbers: Indigo Cr. 1710031108; Silver Cr. 1710031109;  
    Illinois R. 1710031110; Chetco R. 1710031203
2. NFS Acres Burned: 96,540: 51,540 Wilderness  
                            45,000 Non-Wilderness

**PART VII - APPROVALS**

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**Forest Supervisor (Signature)**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Regional Forester (Signature)**

\_\_\_\_\_  
**Date**

3. Water Repellant Soil: 20 percent of NFS acres burned
4. Vegetation Types: White fir, tanoak, and Douglas-fir Series.
5. Geologic Types: 65 % metasediments(sandstone/siltstone); 20% gabbro; 10% metavolcanics; 5% ultramafics
6. Soil Erosion Hazard Rating:  
30 % (low)                      40 % (medium)                      30 % (high)
7. Erosion Potential: 500 to 1000 cu. yds/sq. miles in local areas.
8. Miles of Stream Channels by Regional Order or Classes:  
I (46); II (51); III (243)
9. Miles of Forest Service Trails: 41
10. Miles of Forest Service Roads by Maintenance Levels:  
I (1.6); II (37.9); III, IV, V (7.6)

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

1. Estimated Vegetative Recovery Period: 2-5 Years
2. Chance of Success Desired by Management: 80 Percent
3. Equivalent Design Recurrence Period: 25 Years
4. Related Design Storm Duration: 6 Hours
5. Related Design Storm Magnitude: 4.0 Inches
6. Related Design Flow: 246 CSM
7. Estimated Reduction in Infiltration: 25 Percent
8. Adjusted Related Design Flow: 308 CSM

#### 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 checked="" type="checkbox"/> Geology	<input checked="" type="checkbox"/> Wildlife & Fish
<input checked="" type="checkbox"/> Timber	<input checked="" type="checkbox"/> Economist	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering
<input checked="" type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Silviculture	<input checked="" type="checkbox"/> Research	<input checked="" type="checkbox"/> Local Community
2. Describe Emergency: Moderate burn intensity on 40,000 acres; Severe burn intensity on 20,000 acres.
3. Emergency Rehabilitation Objective: To prevent damage to and loss of soil, water, fish and wildlife resources, and forest productivity by effective and prompt treatment measures.
4. Probability of Completing Treatment Prior to First Major Damage Producing Storm: Land 90 %; Channel 60 %; Roads 100 %; Other \_\_\_ %
5. Net Environmental Quality Benefit Index:  

<input checked="" type="checkbox"/> Significant	<input type="checkbox"/> Not Significant
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6. Net Social Well Being Benefit Index:  

<input type="checkbox"/> Significant	<input checked="" type="checkbox"/> Not Significant
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7. Benefit/Cost Ratio: 3.38:1
8. Net Benefits: \$886,219
9. Cost Effectiveness Index: ☐ I.    ☐ II.    ☒ III.    ☐ IV.

7/10/88

PART VI - 1 - ELIGIBLE EMERGENCY REHABILITATION MEASURES OR TREATMENTS  
AND SOURCE OF FUNDS FOR 45,000 ACRES OF NON-WILDERNESS LANDS

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.	FFF 092	Other	No.	Fed \$	Non-	Total
		Cost	Units	\$	\$	Unit		Fed \$	\$
		\$			ident	ident	ident	ident	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
<b>A. LAND</b>									
a. Aerial Seed	Acres	22	3160	69,520					69,520
b. Aerial Seed/Fert	Acres	63	3650	233,600					233,600
c. Aerial Fert	Acres	42	40	1,680					1,680
d. Contour Felling	Acres	318	11	3,498					3,498
e. Checkdam/barriers	Str.	80	44	3,520					3,520
f. Straw mulch	Acres	138	6	828					828
				\$ 312,646					\$ 312,646
<b>B. CHANNELS</b>									
a. Opening water									
courses	Miles								
b. Stabilizing									
streambanks	Miles								
<b>C. ROADS AND TRAILS</b>									
a.									
b.									
Totals				\$ 312,646					\$ 312,646

PART VI - 2 - ELIGIBLE EMERGENCY REHABILITATION MEASURES OR TREATMENTS  
AND SOURCE OF FUNDS FOR 51,540 ACRES OF WILDERNESS LANDS

Decision: We recommend no aerial or land-based rehabilitation treatments in the Kalmiopsis Wilderness. This decision is based on the following rationale:

Background to the recommendation:

Emergency burned-area rehabilitation is permitted on Wilderness lands only if such measures are needed to prevent an unnatural loss of the wilderness resource or to protect life, property and other resource values outside of the Wilderness (FSM 2323.43b). Evaluation by the interdisciplinary team revealed no expected unnatural losses within the Kalmiopsis Wilderness. Similarly, hydrologic analysis suggests that resource values outside the Wilderness in the Chetco and Illinois River basins are not at an increased or unacceptable risk.

The Wilderness has a high natural sediment production from slides and soil erosion on steep unstable landforms of faulted sandstone, graywacke, gabbro, and ultramafic rocks. These high rates were present before the Silver Fire and will continue regardless of the loss of vegetation by fire. Increases in rate of sedimentation due to fire is extremely difficult and expensive to measure in these very steep mountainous landforms.

Aerial infrared survey flights of the Chetco River basin portion of the Silver Fire shows that 11 percent of the basin (about 24,000 acres as of 10/26) has burned. Estimating that intensity was high on 50 percent of this part of the fire, it was conservatively assumed that 5.5 percent of the Chetco River basin could experience a doubling in peak flow. This estimate is based on both runoff and bulking by debris. Potential flood events due to increased runoff were projected. These projections show that water volume, suspended sediments and bedload sediments would not be significantly higher than for floods normally expected in the lower river and estuary at Brookings. Any increases in flood volume or sediments will be partially attenuated in the 23 miles between the burned area and Brookings; the increases would not be measurable.

Anadromous fisheries and recreational boating, swimming, and fishing similarly should not be affected by projected flood volumes and sediments. Current high sediment loads in the Chetco River are not expected to significantly increase as a result of post-fire storm events.

A large part of the 24,000 acres of Silver Fire in the Chetco River basin was burned by wild fires in the 1890s, and again in the late 1930s (Cedar Camp Fire of 1938). Other parts of the Wilderness were also burned during those periods. Evidence of these earlier fires is present in the form of snags, charred downed logs, and numerous seral stages of vegetation in the 5 to 75 year age classes. Our survey of the burned area shows that natural plant recovery has occurred in the past, providing an adequate ground cover. This may be our best option for erosion protection on these landforms.

Rehabilitation methods that would introduce exotic, non-native, or offsite plant species were a major consideration for rehabilitation in the Kalmiopsis Wilderness. The high value of this area as a botanical reserve of relatively rare and uncommon plant species is an important quality we sought to maintain. Natural sprouters, including Sadler's oak, Pacific rhododendron and golden chinkapin, present in much of the area will show significant increases in ground cover (i.e., 50% of normal) within three years. Pinemat manzanita, also present, will take longer, but is a very effective erosional cover. Douglas-fir, sugar pine, western white pine, white fir, and Brewer spruce, with survivors locally abundant in the area, will regenerate heavily on newly exposed mineral soils. In addition, numerous other shrubs and herbs will greatly aid in natural recovery of the sites.

Planting grasses, legumes, and shrubs for erosion protection, in addition to having limited effectiveness do to the time lag needed to become established, is not generally consistent with management direction for Wilderness. Seeds of native species, while sometimes available, may not be appropriate for introduction or movement within this botanically sensitive area.

Available burned-area rehabilitation treatments have limited effectiveness for reduction of erosion, landslides, and flooding in very steep mountainous lands. This is particularly true in the Chetco River basin where rock slides, debris avalanches, and debris flows dominate the land forming processes and tend to reduce effectiveness of treatments. We are uncertain whether the existing large landslides and debris flows can be attributed to earlier fires or catastrophic precipitation events.

#### PART VII - APPROVALS

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Forest Supervisor (Signature)

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Date

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Regional Forester (Signature)

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Date