

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 (**#2**)
 - ☐ 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 DESCRIPTION

- A. Fire Name: Paradise
- B. Fire Number: CAMVU008143
- C. State: CA
- D. County: San Diego
- E. Region: 05
- F. Forest: Cleveland
- G. District: Palomar
- H. Date Fire Started: 10/26/03
- I. Date Fire Contained: 11/5/03
- J. Suppression Cost: > \$13 million
- K. Fire Suppression Damages Repaired with Suppression Funds
 - 1. Fireline waterbarred (miles): 22 miles
 - 2. Fireline seeded (miles): 0
 - 3. Other (identify):
- L. Watershed Number: 1807030302 (Upper San Luis Rey) 1807030303 (Middle San Luis Rey); 1807030402 (Middle San Ysabel)
- M. Total Acres Burned: 56,512
 - NFS Acres(9,495) Other Federal (8,644) State (421) Private (37,952)

N. Vegetation Types: chaparral, coastal sage scrub, oak woodland

O. Dominant Soils: Acid Igneous Rock Land, Cienba, Fallbrook, Lo Posas, Sheephead,

P. Geologic Types: Granitic Bedrock most commonly Tonalite, some Metasedimentary and Metavolcanic bedrock present.

Q. Miles of Stream Channels by Order or Class:

Perennial streams = 9.9 miles Intermittent streams = 139.6 miles

R. Transportation System

Trails: 0 miles Roads: 17 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 637 (low) 7,833(moderate) 1025 (high)

B. Water-Repellent Soil (acres): no water repellency noted

C. Soil Erosion Hazard Rating (acres):
1025 (low) 931 (moderate) 7539(high)

D. Erosion Potential: 7.6 tons/acre

E. Sediment Potential: 634 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 5

B. Design Chance of Success, (percent): 30

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

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 2.6

F. Design Flow, (cubic feet / second/ square mile): 170

G. Estimated Reduction in Infiltration, (percent): 30%

H. Adjusted Design Flow, (cfs per square mile): 220

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

The BAER team watershed specialists surveyed the burned area by air and on ground. All roads were driven, and all areas of the fire on forestlands, which were accessible by road, were surveyed with special attention given to look for downslope and downstream values potentially at risk.

The fire completely burned off most effective cover on the majority of the burned area. The west side of the fire burned hotter and more complete than the east side. The eastern portion has more mosaic within the burned area. The plants are expected to re-sprout in the majority of the burned area, with expected effective cover re-established within a 1-3 year recovery period. Watershed response to precipitation events is expected to be high during this recovery period, with a 10 fold increase in expected runoff yield. There is no effective storage of ash or sediment on slope if materials are entrained and mobilized during runoff events.

Threat to Life

With the exception of hazard trees in the vicinity of roadways, no threats to life were identified.

Threat to Property

Forest Road System – Numerous locations on the road system are at high risk of loss of function and/or are likely to degrade adjacent resources. Road drainage facilities need to be prepared to accommodate increased post-fire flows where high and moderate burn severity occurred above roads. Hazard trees need to be removed in some locations.

Loss or Degradation of Significant Resources

Botany Resources – There is a substantial risk of noxious weeds expanding from the dozer lines from unwashed equipment and from populations internal to the fire line.

B. Emergency Treatment Objectives:

- 1) Reduce threat to property on Forest Roads.
- 2) Reduce risk introduction and spread of weeds.

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

Land **NA** % Channel **NA** % Roads **70** % Other %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	NA		
Channel	NA		
Roads	80		
Other			

E. Cost of No-Action (Including Loss): \$952,000

F. Cost of Selected Alternative (Including Loss): \$354,500

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input type="checkbox"/> Range	<input checked="" type="checkbox"/> Recreation
<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 type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology	<input type="checkbox"/>
<input type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

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Team Leader: Dan Ford – Implementation and Accomplishment Reporting

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Team Members:

Assistant Team Leader (leader trainee): Randy Westmoreland (TNF)
 Hydrology: Luke Rutten (STF), Sharon Grant (STF), Robbie Vandewater (KLA), Cheryl Mulder (ELD), Kristine Leep (LTBMU)
 Soils: Dan Ford (CNF), Rich Jaros (DXF)
 Geology: Jerry DeGraff (SNF), Tom Koler (ELD)
 Wildlife: Jeff Wells (CNF), Carly Gibson (CNF), Megan Jennings (CNF), Craig Wentworth (CNF), Mary Lany (MTF trainee)
 Botany: Susan Rudy (CNF), Fred Sproul (private)
 Engineering: Joe Leone (CNF), Mark Marquette (CNF), Tom Durston (STF), Michelle Bearmar (CNF), Mike Bradshaw (STF), Rusty LeBlanc (STF)
 GIS: Lynn Goolsby (STF), Mark Schug (STF), Yolanda Durston (STF)
 Heritage: Michael Weichman (LTBMU), Karen Blom (LTBMU), John Maher (CNF), Susan Roder (CNF), Patricia Corral (R3 CNF), Stan Berryman (MCP)
 Recreation: Chris Nyce (CNF), Dave Harloff (CNF)

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.)

Land Treatments: None

Channel Treatments: None

Roads Treatments: Recommended road treatments include restoring drainage function, storm patrols and BAER warning signs. .

PARADISE FIRE - SUMMARY OF ROADS TO BE TREATED		
ROAD NUMBER	ROAD NAME	RECOMMENDED TREATMENTS
11S02	Esmeralda Mine Road	Restoring Drainage Function, Hardening 3 drainage crossings with rip rap, and the construction of 8 to 10 new dips
11S03	Lusardi Road	Restore drainage function, harden 3 to 5 crossings with rip rap, construct 10 to 15 new dips, construct 8 to 10 new 18" overside drains, place rip rap at culvert and overside drain outlets, BAER warning signs at each end of the road and Storm Patrols. At mile post 3.7 install a 24" x 8' vertical snorkel pipe on the existing 24" culvert, and at mile post 4.6 use explosives to relieve the over burden of large boulders above the road. Squash pipe (36"x 42") at bottom of side drainage needs further assessment.
11S07	Pine Mountain Road	No treatments recommended
12S02	Orosco Ridge Road	Restore drainage function, and the installation of a BAER warning sign at the intersection of Pamo Valley Road.

Summary of Road Treatment Costs by Type				
The last line item treatment in the table below is to treat roads crossing private land where use agreements are currently pending				
Treatment	Unit	Quantity	Unit Cost	Total
Restore Drainage Function	Mile	17.3	\$995.00	\$17,213.50
Install Rolling Dips	Each	15	\$390.00	\$5,850.00
Install Rolling Lead-off Ditches	Each	4	\$390.00	\$1,560.00
Install 18" Over-side Drains	Each	13	\$783.00	\$10,179.00
Repair and re-install overside drains (OSDs)	Each	0	\$390.00	\$0.00
Drivable Water Bars	Each	0	\$390.00	\$0.00
Install riprap on existing OSD	Each	0	\$42.00	\$0.00

Summary of Road Treatment Costs by Type				
The last line item treatment in the table below is to treat roads crossing private land where use agreements are currently pending				
Treatment	Unit	Quantity	Unit Cost	Total
Install Flared End Sections				
18" Culverts	Each	0	\$437.00	\$0.00
24" Culverts	Each	1	\$488.00	\$488.00
30" Culverts	Each	0	\$637.00	\$0.00
36" Culverts	Each	0	\$780.00	\$0.00
60" Culverts	Each	0	\$2,035.00	\$0.00
Remove Existing Culvert	Each	0	\$585.00	\$0.00
Install Gates	Each	0	\$5,200.00	\$0.00
Install Signs		0		
Warning 48x96	Each	4	\$715.00	\$2,860.00
Information 18x12	Each	0	\$293.00	\$0.00
install 24" Culvert Snorkel	Each	1	\$1,500.00	\$1,500.00
Install 36" CMP w/end section	Each	0	\$2,418.00	\$0.00
Install 48" CMP w/end section	Each	0	\$3,640.00	\$0.00
Install Drainage Armor	Each	0	\$270.00	\$0.00
Install Hardened Crossing	Each	10	\$499.00	\$4,990.00
Gabion Crossing	LF	0	\$260.00	\$0.00
Fill Sections	Cy	0	\$10.00	\$0.00
Remove Hazard Trees	Each	125	\$390.00	\$48,750.00
Storm Patrol	Storm	7	\$1,200.00	\$8,400.00
Private Road sections pending use agreement	Mile	7.4	\$5,884.00	\$43,541.60
			Total	\$145,332.10

Structures: None

I. Monitoring Narrative:

See Appendix A of Interim #1 for Monitoring Plan

New With This Report

WATERSHED RESTORATION TREATMENT IMPLEMENTATION

The Paradise Fire BAER treatments were applied in FY2004. Interim report #1 was submitted in November 2003. This interim report #2 provides an update on treatment accomplishments through June 2004.

Forest Order No. 02-03-02, Occupancy and Use, Cleveland National Forest, was signed November 14, 2003, and restricted entry within the area burned by the Paradise Fire, as well as on specified Forest system roads and trails.

Land Treatments

Access Barriers

Access barriers were installed at sites highly vulnerable to intrusions by OHV's onto forestland from adjacent ownerships. **The following barrier treatments were installed: 73 feet of pipe barriers.**

OHV Enforcement Patrols

Unauthorized intrusions are not totally deterred by physical barriers alone, but the combination of barriers and increased patrols can be successful in preventing unauthorized entry while the fire area recovers. **Enforcement patrols have occurred on all access roads within the burned area.**

Road and Trail Treatments

Roads

Forest roads within the burn area were at risk of post-fire storm runoff due to deferred maintenance and non-current design standards. Substantial sediment yield increases can occur under post-fire conditions.

To reduce the effects of post-fire storm runoff the following road treatment were installed: grading 14.8 miles of road to improve existing drainage/lead-off features, 3 new rolling dips, 21 new over-side drain structures, and 81 new rock apron energy dissipaters.

The following roads received the above treatments; Esmeralda Mine Road (11S02), Lusardi Road (11S03) and Orosco Ridge Road (12S02).

Storm Patrols

There were 5 significant storms that required patrols. This involved closing and opening of gates and cleaning minor amounts of sediment from culvert inlets. A coordinated storm patrol and safety plan was developed.

Gates

Gates were installed to restrict traffic during storm events. This was done to protect road treatments and to insure public safety. **There were 3 gates installed on roads.**

Road Hazard Signs

There were 4 road hazard signs (4'x8' signs in English/Spanish) installed to identify potential hazards from storm events.

MONITORING NARRATIVE

The Pacific Southwest Research Station in Riverside received funding to monitor all treatments on the Paradise Fire.

PART VII - APPROVALS

1. /s/ Robert G. MacWhorter 6/28/04
Forest Supervisor (signature) Date
2. _____
Regional Forester (signature) Date