

Date of Report: **June 9, 2003****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
 ☐ 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 DESCRIPTIONA. Fire Name: **Copper**B. Fire Number: **CA-ANF-1767**C. State: **California**D. County: **Los Angeles**E. Region: **Pacific Southwest**F. Forest: **Angeles**G. District: **Santa Clara-Mojave Rivers**H. Date Fire Started: **June 5, 2002 1440**I. Date Fire Contained: **June 11, 2002 1800**J. Suppression Cost: **\$ 8,200,000.00 (as of containment date), 9,500,000.00 (estimate of final costs)**

K. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): **71.8 equipment lines, handlines unknown**
2. Fireline seeded (miles): **0**
3. Other (identify): **Roads within and on the perimeter of the fire were graded.**

L. Watershed Number: **1807010203, 1807010204, 1807010205, and 1807010209**M. Total Acres Burned: **20,015** NFS Acres (**18,025**) Other Federal (0) State (0) Private/County (**1990**)N. Vegetation Types: **Mixed Chaparral, Chamise, California Sagebrush, Riparian, and Coast Live Oak.**O. Dominant Soils: **Lodo, Modesto, Trigo, Millsholm, Exchequer, Caperton, Stonyford, Calcixerollic Xerochrepts, Baywood, and Calleguas.**P. Geologic Types: **Pelona schist, mesozoic granitic rocks, marine sandstone, siltstone and conglomerate and other non-marine sedimentary rocks.**Q. Miles of Stream Channels by Order: **Order 1(52.8) Order 2(17.9) Order 3(16.9) Order 4(3.8) Order 5: 12.74**

R. Transportation System

Trails: **0** milesRoads: **Forest System (32/3), County/State (15.3), LADWP Permit (25.7)** miles

PART III - WATERSHED CONDITION

- A. Burn Severity (acres): 5994 (low) 10798 (moderate) 19 (high) 3263 (unburn)
- B. Water-Repellent Soil (acres): 10927
- C. Soil Erosion Hazard Rating (acres):
0 (low) 2522 (moderate) 14289 (high)
- D. Erosion Potential: 50 tons/acre
- E. Sediment Potential: 3,483 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period, (years): 7
- B. Design Chance of Success, (percent): 80
- C. Equivalent Design Recurrence Interval, (years): 10
- D. Design Storm Duration, (hours): 6
- E. Design Storm Magnitude, (inches): 6
- F. Design Flow, (cubic feet / second/ square mile): 103
- G. Estimated Reduction in Infiltration, (percent): 27
- H. Adjusted Design Flow, (cfs per square mile): 131

PART V - SUMMARY OF ANALYSIS

- A. Describe Watershed Emergency:

[Please Consult the Initial Report](#)

Values at Risk Emergency -

[Please Consult the Initial Report](#)

- B. Emergency Treatment Objectives:

[Please Consult the Initial Report](#)

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

Land 90 % Channel 90 % Roads 100 % Other 75 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90	95	100
Channel	75	75	75
Roads	80	90	95
Other	95	95	95

E. Cost of No-Action (Including Loss): **\$5,347,288.00**

F. Cost of Selected Alternative (Including Loss): **\$ 2,943,573.00**

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input checked="" type="checkbox"/> Range	<input checked="" type="checkbox"/> LA County Forestry
<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 checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

Team Leader: **Michael J. McIntyre**

Email: **mmcintyre@fs.fed.us** Phone: **626.574.5274** FAX: **626.574.5280**

H. Treatment Narrative:

Please Consult the Initial and Interim Reports. Where Treatments have changed or additional information is pertinent, the treatment is included below.

Land Treatments:

Natural Vegetative Recovery – This cost-free treatment consists of on-site vegetative material to sprout or germinate to reduce the emergency conditions over most of the burned area. This has been a successful treatment for past fires in Chaparral vegetation zones. For this treatment to be effective, disturbance by grazing livestock and off-route vehicle traffic must be prevented for a period of time that will allow for the vegetation growth to contribute to a functioning watershed. The Angeles National Forest Land Resource and Management Plan states that areas that served for livestock grazing are not to be grazed for three years after the fire event.

Treatment ongoing. No permit issued for grazing within burned area.

Green Valley –

1. 15168 Calle San Luis Potosi – Treatment changed to silt fencing and sandbags to capture the sediment before it reaches the property as it was determined to be impossible to bring in a piece of equipment without creating more damage (as well as the construction of a road).

Treatment completed.

2. Blue Bus – See Initial Report.

Report provided to NRCS.

3. Wash on Calle Escondido – At the public meetings for the Area Closure as well as written correspondence to the Forest Supervisor, the public identified a concern for material flowing from a wash on Forest Land onto several homes in Green Valley. Additional examination revealed the existence of a historic problem but left over material from the 15168 Calle San Luis Potosi treatment was used in the wash to help slow any sediment flow so it will stay within the dirt road adjacent to the wash. The dirt road has historically directed any flow away from the houses.

Treatment completed.

Nevin's Barberry – The location of this endangered plant has been burned over in the Copper Fire with several individual plants identified as burnt and several still alive. Many cannot be relocated and are assumed to be totally burnt. The treatment measure is to fence off the locations of the Barberry to prevent vehicular and human traffic. A fence did exist before, and from monitoring data, it proved to be effective in protecting the Barberry. Two spots of noxious weed presence (Tamarix and Star Thistle) located adjacent to living Barberry will be eradicated to prevent the weeds from expanding due to lack of vegetation coverage and eventually out competing the Barberry resulting in its possible extirpation.

Treatment completed.

Heritage Resource Values – There are three sites that treatment measures are proposed for as a result of the Copper Fire. A sediment retention device (silt fencing) is proposed to protect Heritage Resource Site FS#05-01-53-223.

Treatment completed.

Preliminary recordation is proposed to protect and preserve the information present on Heritage Resource Site FS#05-01-53-228 (it is a large site). The recordation treatment represents the least obtrusive treatment as well as the most efficient and fiscally beneficial in terms of the value at risk.

Treatment completed.

Finally, the fire intensified a health and safety issue where there are open mine shafts and adits at the Hazel Del Mining Site. Some of the shafts have collapsed due to burned support timbers so a treatment is proposed to provide signing and restricted access. (The Treatment has changed from installing access restriction devices to consulting with SHPO on the site's National Register Eligibility and closing the adits by collapsing them). See Heritage Report.

SHPO consultation completed but adits have not been closed. Closure will occur under other program direction. Extra costs incurred to perform Bat Survey as part of the Adit closure.

San Francisquito Recreation Residences - This two-cabin tract was heavily damaged from the Copper Fire. One cabin was completely burned down leaving structural debris and hazardous material that could find its way into the channels through sediment movement and uncontrolled water flow, resulting in a threat to significant downstream values such as TEPS species. It is the recommendation of the BAER Team that the District approach the permittee to cleanup the debris within 30 days. Funding is included within this request if the Forest has to cleanup the debris to protect the watershed. The other cabin is at risk due to sediment and uncontrolled water flow.

Treatment completed with Hazmat material removed and streamside by cabin rip-rapped.

Shooting Areas – There are three shooting areas, one on Forest Service land and two on private lands that were compromised by the Copper Fire. The lead present at the shooting areas is at risk from sediment movement and uncontrolled water flow to move out of the shooting area. This movement out of the shooting area would trigger a Hazmat violation with possible fines and expenses for a cleanup. Treatment is designed to keep the lead in place.

Treatment completed with sandbags installed to retard lead movement. Extra costs incurred as initial estimate based on Inmate crew installing the sandbags but with the lead issue, a hazmat firm had to be contracted to install the bags due to the risk of lead particles in the ambient dust when installation activity occurred.

Channel Treatments:

California Red Legged Frog and Three-spine Stickleback – The Forest received a cost quote from Los Angeles County Public Works to perform the work to complete the treatment, and the quote was significantly less than was originally estimate. The Interim Report reflects the cost reduction for this treatment.

Treatment completed and it changed again. After development of the funding vehicle between the Forest and LACoDPW, the LACoDPW on further examination decided they needed to install structures to stabilize the pit due to its size. We did not want the structures and our staff specialists said they were not necessary. This resulted in a delay with one medium rain (not a risk causing event) occurring. This rain resulted in a grass growth that allowed the proposal to be modified with the dropping of the two smaller pits and revising the size of the larger pit downwards to 30,000 cubic yards. The Forest was able to contract the pit and have it completed before the rain season and the pit is almost full (18 inches below the lip), which means that it served its function or there is additional storage now upstream. The backup basins for the frogs were also constructed. One aspect of work that was not anticipated or costed was the vegetation removal. The riparian community of cottonwoods and other trees had to be removed before the pits could be installed. The project revision allowed the funding to cover this cost.

Arundo control - The Forest will be engaging Fish and Wildlife Service in the immediate future to fast track the Biological Opinion to enable the Forest to proceed with the eradication of the Arundo as covered in the 1993 EA. The Forest has money to implement the Arundo removal. As such, the BAER Team identified the immediate threat would be the transport of burned Arundo stalks downstream, which might allow the colonization of additional areas.

This treatment was partially completed with the removal of the dead stalks in the vicinity

Shooting Areas – The shooting area on the Forest has potential hazardous material in a channel and it is anticipated that there is a high potential for this material to move off-site due to increased sediment movement and uncontrolled water flow. The treatment is designed to prevent the material from moving off-site.

Treatment completed.

Roads and Trail Treatments:

System Road Drainage Work – Nine drains will be installed or modified on six Forest System roads to minimize erosion potential. These roads are too highly used by the Forest employees, permittees, and the public. If this work is not done, there is a chance of the roads being lost. See attached Engineering Estimate.

Treatment completed.

Drainage Basin Cleanout – Culvert pipe basins along Forest System roads will be cleaned out by Forest Service crews over a two week period to allow for the storage of new material associated with sediment

and water flow as a result of this event. This will include basin cleanout and hauling the spoils to a designated site. See attached Engineering Estimate.

Treatment completed.

Los Angeles Department of Water and Power – LADWP roads under permit are discussed here for identification purposes only. The cost estimates are based on if the Forest Service was responsible for the work. Those figures are listed in the matrix under “Other \$”.

1. Installation of a 25 linear foot debris barrier at the west end of 6N16.
2. Installation of a welded wire retaining wall to replace burnt roadside retaining wall.
3. Installation of concrete retaining wing walls to replace wooden wing walls burnt at the inlet and outlet of a 6 foot diameter C.M.P. on Road 6N21.
4. Improve existing low water crossing on 5N27 to handle additional flow (Partnership with FS)

Recommendation provided to LADWP and they have done road work in area of the burn.

San Francisquito Road – It is the recommendation of the BAER Team that the Los Angeles County Department of Public Works inventory their culverts and other drainage/retention structures to see if they are operational for the anticipated results of sediment, water, and debris flow associated with the deteriorated watershed. The data accumulated thus far in the BAER assessment will be made available to the Department. San Francisquito Road is a commuter route that sees heavy traffic during “rush hour”. It is expected that the burned steep slopes in the narrow southern part of the Road will continue to deposit material on the road resulting in temporary closures. These closures will result in economic loss that is based on loss of productivity due to the extended driving time by commuters and other travelers having to take detours. A partnership is needed between the Forest, Department of Public Works, Los Angeles County Department of Forestry, and Natural Resource Conservation Service to develop an early warning system to advise travelers and residents of impending emergency conditions that may pose a threat to life and property.

Report provided to LACDPW.

Area Closure/Revegetation – This temporary closure by Forest Order of a management zone, which includes the Copper Fire as well as the Stables and Bouquet Fires, serves the purpose of preventing many threats to public safety during the upcoming winter months, and to allow for the treatments and natural recovery to become effective. Lifting of the closure would be based on monitoring to determine when a threshold of 40% ground cover is achieved. It is expected that the closure should be lifted by the third growing period in the fire area. This treatment will include the development of a detailed closure plan (including indices for lifting the closure), public education, and a signing plan. The 40% coverage is an attainable target and was achieved in the Willow Fire Closure on the San Bernardino, which has been recently lifted. [This Treatment was accidentally left of the Part VI Table. It has been included in this Interim Report Submission.](#)

Treatment ongoing. Total closure effective 9/2002 for the areas of the Cooper, Bouquet (FY 02 Fire), and Stables (FY01 Fire). The Closure is currently being revised to reduce the area of the closure, and to allow pedestrian traffic into the closed area. Enforcement patrols, especially to monitor fencing and signage, have been ongoing. OHV traffic has been noticed in the closed areas as well as hikers. Funding is obligated for the summer to continue repairing any damage to fencing and signs as well as patrolling. Any dollar needs after the end of this fiscal year will come out of project funds.

Structures:

Fireline Access Barriers – Install low maintenance, temporary fencing at points where the heavy equipment fire lines crossed Forest System and County Roads. These are necessary to prevent OHV access to areas where the Fire has removed the vegetation. This unauthorized access poses a threat to the treatments in these areas designed to help the watershed recover. There are approximately 10 points of concern.

Treatment completed.

Other:

Early Warning System – Cooperate with Los Angeles County Department of Forestry, Los Angeles County Department of Public Works, and NRCS to develop an Early Warning System (including the installation and linking of precipitation monitoring devices). The warning should be linked to roadway electronic information signs already in place. Los Angeles County would be responsible for the installation, maintenance, and operation of the early warning system.

Treatment implemented.

Boundary Management - There are over 125 potentially damaged or destroyed survey markers/monuments that could cause a lack of a marked boundary. The ambiguous boundary could result in the encroachment onto the Forest of activities and developments associated with a highly urbanized area that could impede the natural recovery of the deteriorated watershed. The treatment proposes to repost the boundary lines in the fire to standard, reestablishing 75% of the 12.5 miles of Forest boundary affected, and protecting at least 66% of the 86 boundary corners and at least 50% of the 26 controlling corners located within the fire area.

Not funded.

Monitoring Narrative:

The biological monitoring funding has been obligated to the USGS and the monitoring is ongoing. A report is expected at the end of the fiscal year. Vegetation monitoring of the closure area was initiated with the installation of monitoring plots; however, the Forest botanist has transferred to another agency but did provide information that is being utilized to help redefine the closure.

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

Fireline Access Barrier	ea	486	8	\$3,888	3105		\$0		\$0	\$3,888
				\$0			\$0		\$0	\$0
				\$0			\$0		\$0	\$0
<i>Subtotal Structures</i>				\$3,888			\$0		\$0	\$3,888
E. Other										
Early Warning System	ea	25000	1	\$25,000	2660		\$0		\$0	\$25,000
Boundary Mgmt	mi	0	0	\$0			\$0		\$0	\$0
Arch Treatmt Surveys	ea	3000	1	\$3,000	1953				\$0	\$3,000
<i>Subtotal Structures</i>				\$28,000			\$0		\$0	\$28,000
F. BAER Evaluation										
Team Leader				\$6,300	12500		\$0		\$0	\$6,300
Team				\$28,000	16978					\$28,000
Consultants (3)				\$12,500	15567		\$0		\$0	\$12,500
Per Diem				\$6,000	188					\$6,000
USGS BAER Team				\$12,000	12000					\$12,000
G. Monitoring				\$50,000	29000		\$0		\$0	\$50,000
H. Totals				\$680,868	\$545,196		\$0		\$325,533	\$1,035,901

PART VII - APPROVALS

1. **Raina Fulton for Jody Cook**
Forest Supervisor (signature)

June 9, 2003
Date

2. _____
Regional Forester (signature)

Date