

Date of Report: **June 3, 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 DESCRIPTION**A. Fire Name:** Leona**B. Fire Number:** CA-ANF-3283**C. State:** California**D. County:** Los Angeles**E. Region:** Pacific Southwest**F. Forest:** Angeles**G. District:** Santa Clara-Mojave Rivers**H. Date Fire Started:** September 3, 2002 1320**I. Date Fire Contained:** September 6, 2002 1800**J. Suppression Cost:** \$ 2,200,000.00 (as of containment date)**K. Fire Suppression Damages Repaired with Suppression Funds**

1. Fireline waterbarred (miles): 12.3 equipment lines rehabbed, hand lines unknown
2. Fireline seeded (miles): 0
3. Other (identify): None.

L. Watershed Number: 1807010203, 1809020607**M. Total Acres Burned:** 5,124 NFS Acres (**921**) Other Federal (0) State (0) Private/County (**4203**)**N. Vegetation Types:** Mixed Chaparral - Chamise, Manzanita, yucca, scrub oak, ceanothus, Yerba Santa, buckwheat and annual grasses.**O. Dominant Soils:** Lodo, Modesto, Trigo, Exchequer, and Tujunga families.**P. Geologic Types:** Mesozoic granitic rocks (granite, granodiorite, etc.) and Precretaceous metamorphics (Pelona Schist).**Q. Miles of Stream Channels by Order:** Order 1 (2.0); Order 2 (0.5); Order 3 (0.0); Order 4 (0.0); Order 5 (0.0)**R. Transportation System**Trails: .5 milesRoads: Forest System (1.3), County/State (1.1), SCE Permit (1.0) miles

PART III - WATERSHED CONDITION

- A. Burn Severity (acres): 138 (low) 737 (moderate) 46 (high) 603 (unburn but included in total fire burned acres)
- B. Water-Repellent Soil (acres): 461 – mostly weak to moderate in degree
- C. Soil Erosion Hazard Rating (acres):
0 (low) 184 (moderate) 73 (high)
- D. Erosion Potential: 72 tons/acre
- E. Sediment Potential: 18,000 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): 24
- E. Design Storm Magnitude, (inches): 5.4
- F. Design Flow, (cubic feet / second/ square mile): 1,331
- G. Estimated Reduction in Infiltration, (percent): 10.1
- H. Adjusted Design Flow, (cfs per square mile): 1,961

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

On September 3, 2002 at approximately 1320 hours, a fire start occurred on a private inholding near the eastern boundary of the Santa Clara-Mojave Ranger District, Angeles National Forest. The fire was in an area where the Forest has direct fire suppression responsibilities but the fire grew to more than 3,200 acres within six hours and moved off the Forest onto Los Angeles County land. A joint command structure was set up with Los Angeles County Fire. The fire was in light to heavy fuels (chamise dominant chaparral community), consisting of decadent brush estimated to be more than forty (40) years old. Approximately 100 residents, and pets/livestock were evacuated as a safety measure. By containment, the fire damage inventoried included 4 homes destroyed, several damaged; several mobile homes damaged or destroyed; 12 outbuildings destroyed; and several vehicles damaged or destroyed.

A Burned Emergency Area Team Leader was assigned to the incident on September 4, 2002 at which time an initial BAER team was ordered to perform the initial inventory. The initial inventory was completed on September 6, 2002 and the values at risk identified.

The Leona Fire burned in soils that occur on steep slopes and have a potential for high erosion hazards. The Fire could increase the high erosion hazard through the formation of water repellent soil layers at the surface or just slightly below the surface. Pelona schist occurs in the southern portion of the burn area and is defined as highly unstable, susceptible to landslides (but not on a catastrophic level). Also occurring in the burn area

are granitic-based soils that are highly erodible and are subject to sheet washing. Many active faults, including the San Andreas Fault, Bee Canyon Fault, Liebre Fault, and Clearwater Fault, occur within the total burn area, and with the lack of vegetation on burned slopes, there is an increased risk of seismically triggered landslides.

On Forest, the Fire burned mainly in Bouquet Canyon, consuming 896 acres of the 921 acres of the watershed located on the Forest or 97.3%. The other 25 acres, and the off-Forest portion of the Leona Fire burned in the Amargosa Creek Watershed and its composite subwatersheds. Most of the fire area had not burned in approximately 40 years.

The Leona Fire occurred in an area with modeled habitat for several animal and plant species that are considered to be of extreme management concern. Modeled habitat for the California red-legged frog (CRLF), Arroyo Toad, Willow Fly Catcher, and the Bald Eagle exists within the burn area on the Forest as well as off the Forest. Increased sedimentation, especially in the riparian or riparian-dependent vegetation zones could affect the occupancy potential of the modeled habitat.

There are Forest Service system and permitted roads located within the burn area that are used by a variety of forest users, permittees, and Forest Administrative staff. Loss of water control and inadequate drainage to handle the expected increase in flow could wash out portions of these roads and prevent access to portions of the Forest. Inadequate drainage will result in increased sediment transport due to accelerated rilling, gullyng, and slumping of road travelway surface and road fills.

Utility infrastructures exist within the Leona Fire are of extreme importance to the Los Angeles urban area. A major Southern California Edison Transmission Line that services the Los Angeles Basin occurred within the burn area. The location of the line on ridgelines of highly erodible soils or along the slopes could mean that the lines can be considered susceptible to sediment movement, water flow, and landslides.

Bouquet Canyon County Road generally bisects the Leona Fire (with over 3 miles within the burn area). A slightly longer than one-mile section of the road occurs within the Forest Boundary and closely follows the creek route. The vegetation has burned on the canyon sides. It is a major paved two-lane road that serves as a commuter route for a large number of travelers. The threat of soil movement and loss of water control, all originating on Forest Service system lands, poses a severe threat to the road and the users of the road.

Within the Forest boundary, several homes, and ranches lie at the foot of steep slopes that were burned along the western portion of the Leona Fire, and are at risk due to sediment flow and water movement off Forest System lands.

Approximately 1.5 miles of external Forest boundary and 2.75 miles of inholding boundaries were burned over by the Leona Fire. It is estimated that over 25 corner monuments and controlling monuments were burned over and potentially damaged or destroyed. The lack of a marked boundary could result in the encroachment onto the Forest of activities and developments associated with an urbanized area that could impede the natural recovery of the deteriorated watershed.

It should be noted that there is a forecast for a low to moderate El Nino effect to manifest by the end of the year. The assumption is that the average precipitation data that will be used is based on a time frame of long duration that includes the occurrences of El Nino events.

B. Emergency Treatment Objectives:

The base analysis used for the formulation of Emergency Treatment Objectives for the Leona Fire was the review of Emergency Treatment Objectives developed for BAER analyses for previous wildfires in the general area, local resource "corporate" knowledge, a preliminary assessment of the Leona Fire burn area, and the following goals for emergency rehabilitation of watersheds following wildfires:

1. Loss of Soil Productivity
2. Deterioration of Water Quality
3. Loss of Water Control
4. Threats to Human Life and Property

* All treatment measures within occupied and key habitat for TEPS species must be consistent with the conditions of the SCCS Settlement, the appropriate species recovery plans (if existing), and conform to the guidelines presently listed in the Forest Plan Revision.

* Identify and reduce, through the development of treatment measures, to the extent possible:

- The loss of soil productivity (ability of the soil to support plant cover) from soil erosion processes (sheet, rill, and gully)
- Damage to the watershed recovery rate from recreation activities (such as OHV activity).
- Damage to physical investments within the burn area:
 - Private homes and ranches
 - SCE Infrastructure
 - LACo Dept. of Public Works Infrastructure (Bouquet Canyon Road)
 - Private Inholdings, homes and ranches
 - Forest Service Road FS6N04.1 and Pacific Crest Trail

* Work in cooperation with local responsible agencies and landowners to reduce the possible hazards to downstream values at risk, both public and private, from any increased flows and sedimentation.

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

Land 100 % Channel 100 % Roads 100 % Other %

D. Probability of Treatment Success

Years after Treatment

	1	3	5
Land	90	95	100
Channel	75	85	100
Roads	60	75	85
Other	0	0	0

E. Cost of No-Action (Including Loss): **\$ 158,500.00**

F. Cost of Selected Alternative (Including Loss): **\$ 81,294.00**

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input 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 type="checkbox"/> Engineering	<input type="checkbox"/>
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input 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 type="checkbox"/> GIS	

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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.)

The treatment specifications that follow will be detailed in the Implementation Plan that will be developed upon funding approval for this Initial Request. The Plan will be provided to the Regional Office for review prior to any treatment implementation. The Forest Service will do all Treatments unless otherwise noted. All costs are based on treatment being done by the Forest Service.

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.

Private Inholdings (Ranches and Ranchettes) – Within the Forest boundary, several homes, and ranches lie at the foot of steep slopes that were burned along the western portion of the Leona Fire. It is recommended that the Los Angeles County Department of Forestry, in co-sponsorship with Natural Resources Conservation Service, examine those improvements for protection needs, and, if determined necessary, develop a program to educate the public on the soil movement potential, as well as to provide for sand bags or other soil retention structures, as the need arises. It is recommended that the improvements at 38020 Bouquet Canyon Road (“Vick”) be looked at in terms of how sediment flows and loss of water control associated with the small drainages behind the improvements will affect those improvements. Also it is recommended that the private inholdings located north of Bouquet Canyon Road be examined to determine if flow on private property would threaten improvements located on the parcels.

Contact made with Los Angeles County Representatives on the BAER Team and report recommendations provided to them.

One area of concern was identified where on-Forest treatments can help provide protection against damage to the adjacent, off-Forest improvements:

1. 37986 and 37988 Bouquet Canyon Road – These ranches are composed of several residences, and outbuildings including stables for livestock (horses). Behind 37986 is a large, wide rill that flows down a ridgeline over a cut bank into a graded flat where several metal stables with horses are. Any loss of water control or sediment flow could impact the stables and potentially result in injury to the horses. From this area the natural flow would take it down to the neighboring property where another stable sits within the flow path. The proposed treatment is to install straw waddles in the rill to slow the water and sediment flow and to promote the restoration of the rill to the natural contour.

Waddles installed.

Channel Treatments:

37970, 37920, and 37870 Bouquet Canyon Road – The only blue line stream located in the southern portion of the burn, within the Forest Boundary, flows behind these private inholdings. The lower portion of the watershed was burned out, though the upper reaches still has vegetation, and there is the potential for loss of water control and sediment flow as the current drainage channel can be overwhelmed if a significant event occurs. The proposed treatment is to install reinforced straw bale check dams in the channel to help minimize the destructive nature of any flow through the channel.

Upon mobilizing in the field, it was determined that the straw bale check dams would not be effective and the treatment was changed to using rock “speed bump” dams (there is plenty of material on site) to slow the speed of the water.

Roads and Trail Treatments:

Pacific Crest Trail – The Trail within the burned area will have tread work performed to remove slough (to allow for the storage of additional material, clean and redefine dips and drains to make them fully functional, and redefine the tread. If this work is not done, there is a chance of the Pacific Crest Trail being lost in places.

Work was not done by first rain event but monitoring showed the PCT to be in good shape so it was decided to monitor after events, and assume minor problems can be addressed with District Trails program.

Bouquet Canyon Drainage Basin Cleanout – 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. This will help protect the road and minimize its closure, as it is a commuter route that sees heavy traffic during “rush hour.” Any closures will result in economic loss, based on loss of productivity due to the extended driving time by commuters and other travelers having to take detours. There will be no funding identified in this report for this work as it can not be determined at this time.

Contact made with Los Angeles County Representatives on the BAER Team and report recommendations provided to them.

Structures:

No structure treatments are deemed necessary at this time.

Other:

Boundary Management - There are over 25 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 4.5 miles of Forest boundary affected, and protecting all of the 15 boundary corners and at least 50% of the 10 controlling corners located within the fire area.

This treatment was not approved and funding request was submitted as part of the Forest's National Fire Plan Restoration and Rehabilitation funding request.

I. Monitoring Narrative:

(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

It has been decided that, due to the nature and extent of the proposed treatments as well as the designed treatment objective, that no monitoring is being proposed.

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

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				All Total \$
			# of	WFSU		# of	Fed	# of	Non Fed	
			Units	SULT \$		units	\$	Units	\$	
A. Land Treatments										
Natural Recovery				\$0			\$0		\$0	\$0
Waddle Diversion	ft	2.5	500	\$1,250			\$0		\$0	\$1,250
Costs										\$937
<i>Subtotal Land Treatments</i>				\$1,250			\$0		\$0	\$313
B. Channel Treatments										
Straw Bales Dams (rei	ft	5	1000	\$5,000			\$0		\$0	\$5,000
Costs										\$4,378
<i>Subtotal Channel Treat.</i>				\$5,000			\$0		\$0	\$622
C. Road and Trails										
PCT Storm Proofing	ea	0.75	2600	\$1,950			\$0		\$0	\$1,950
Costs										\$0
Basin Cleanout	ea	0	0	\$0			\$0	TBD		
<i>Subtotal Road & Trails</i>				\$1,950			\$0		\$0	\$1,950
D. Structures										
	ea	0	0	\$0			\$0		\$0	\$0
<i>Subtotal Structures</i>				\$0			\$0		\$0	\$0
E. Other										
Boundary Establishmn	pro	49000	1	\$0						\$0
Arch Treatmt Surveys	ea	500	1	\$500			\$0		\$0	\$500
Cost										\$161
Biological Surveys	ea	500	1	\$500			\$0		\$0	\$500
Cost										\$480
<i>Subtotal Other</i>				\$1,000			\$0		\$0	\$359
F. BAER Evaluation										

PART VII - APPROVALS

1. /s/ Raina Fulton for
Forest Supervisor (signature)

June 4, 2003
Date

2. _____
Regional Forester (signature)

Date