

Date of Report: 11/05/07

**BURNED-AREA REPORT**  
(Reference FSH 2509.13)

## Executive Summary

The Ranch Fire started October 20, 2007 near Townsend Peak, southwest of Templin Highway and Interstate 5 on the Angeles National Forest. Intense Santa Ana winds peaking above 100 mph on the ridge tops drove the fire southwest across 13000 acres of the Angeles National Forest then onto the Los Padres National Forest and private lands in Los Angeles and Ventura Counties burning 58,401 acres total. Most of total acreage burned during the first 48 hours after ignition. The fire reached its final boundary on October 26, and was fully contained on November 3. Because of the speed of this fire suppression impacts on National Forest land were limited to two miles of dozer line on the Angeles N.F., and some hand line and water/retardant drops along the west side of the fire on the Los Padres N. F. Approximately 14,000 acres burned on the Los Padres National Forest, 13,000 acres burned on the Angeles National Forest, 1900 acres on the Hopper Mountain Wildlife Refuge, 1400 acres on BLM land, and 28,000 on private land near Val Verde and Hasley Canyon. The Los Padres manages 8000 acres of the Angeles National Forest within the burn perimeter and east of Piru Creek. Fifth-field watersheds within the Ranch Fire area used for BAER analysis include: Castaic, Sespe Creek, middle Santa Clara River and lower Piru Creek.

The BAER team leader was assigned on October 23 and assembled a team which finalized field work for soils and hydrology by October 30 with other field work finalized on November 1. The team leader was selected from the Los Padres but coordinated with District Ranger Mike McIntyre from the Angeles National Forest, an experienced BAER team leader, local district ranger and a representative of the Santa Clara/Mojave Rivers Ranger District, whose employees were displaced after their district office burned in the Buckweed Fire. Cooperators from Natural Resource Conservation Service (NRCS), US Fish and Wildlife Service (USFWS), Ventura County Flood, Los Angeles Public Works, California Geological Survey, United Water Conservation District, National Oceanic and Atmospheric Administration (NOAA) and the City of Fillmore, as well as several landowners were contacted early in the process and the BAER team hosted a meeting on October 29<sup>th</sup> to share information and concerns, coordinate field work and reporting, and clarify roles and responsibilities.

Nearly half of the fire was on private land. Extensive aerial reconnaissance revealed potential watershed problems in the Val Verde and Hasley Canyon as well as other private residences in the southeast portion of the fire where the private property and watersheds above them lie off the national forest. This information was shared with NRCS and Los Angeles County Public Works who have been examining these areas thoroughly and contacting local home owners and communities regarding preventive measures.

The western half of the Ranch Fire was burned in the Piru fire of 2003 and also the Hopper Fire of 1997. The southeastern section of the fire was also burned in the Verdale Fire of 2003. These areas consist mostly of grassland/buckwheat light fuels; any areas of heavy fuels had not recovered from fires four years ago. The northern portion of the fire is in a very arid zone with little vegetation on south facing slopes, but did have some area of heavy fuels on the north slopes. This area and Hopper Mountain Wildlife refuge is where most of the moderate intensity burning took place. Fire burn patterns were very patchy due to the light fuel and high winds. Eighty seven percent of the fire area was unburned or of low soil burn severity, twelve percent was moderate soil burn severity, and only one percent burned with high soil burn severity. The Day Fire of

2006 stopped the northern progression of the Ranch Fire. Most of the Sespe, Hopper, and Piru watersheds have burned in the Wolf (2002), Piru (2003), and Day (2006) fires, so these HUC 5 watersheds were already highly impacted before the Ranch Fire, and many BAER treatments on National Forest and private lands have been implemented already.

This BAER report and funding request is done under the US Forest Service Burned Area Emergency Rehab authority and is intended to assess and prevent post fire watershed damage to Forest Service lands or lands directly downslope/downstream of Forest Service lands. Treatments requested in this report must be known to be effective and occur on land managed by the Forest Service. In some cases treatments may occur on private lands that flow onto Forest Service property and could cause damage there. Treatments on property managed by other state, local, or private entities are their responsibility to design and fund. However, the BAER team will help assess the potential for damage to all properties within the burn perimeter and share data, maps, concerns, and options for treatment. Individuals from other agencies such as NRCS, County Flood and other agencies attend BAER meetings and are aware of our work as it progresses and can offer financial and technical assistance to private land owners and communities at risk. They also augment the BAER analysis with field surveys of their own and make individual contacts with landowners. Los Angeles County Public Works has contacted most landowners on private property in the southeast section of the Ranch Fire on private property near Val Verde and Hasley Canyon, as well as other private properties. NRCS has also visited the area and can offer support through the Emergency Watershed Protection plan. Ventura County Flood has assessed the area and feels that treatments already made during the Hopper, Piru, and Day Fire would be the same as treatments proposed for the Ranch Fire, with some repair of weather monitoring stations damaged by wind/fire.

Treatments proposed on the Angeles National Forest are noxious weed monitoring along the two miles of dozer line here and monitoring of three archeological sites for vandalism. On the Los Padres National Forest work is needed to prepare the Piru Lake Road and Pothole trail for rain impacts, provide signs for visitor information and to monitor archeological sites with a volunteer program.

## **PART I - TYPE OF REQUEST**

### A. Type of Report

- 1. Funding request for estimated emergency stabilization funds
- 2. Accomplishment Report
- 3. No Treatment Recommendation

### B. Type of Action

- 1. Initial Request (Best estimate of funds needed to complete eligible stabilization 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: Ranch

B. Fire Number: CAANF004306

C. State: California

D. County: Ventura and Los Angeles

- E. Region: Pacific Southwest/R5 F. Forest: Angeles and Los Padres
- G. District: Santa Clara/Mojave River and Ojai Ranger Districts H. Fire Incident Job Code: P5D1Q3
- I. Date Fire Started: 10/20/07 J. Date Fire Contained: Estimated 11/03/07
- K. Suppression Cost: approximately 9 million
- L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles) 20
  2. Fireline seeded (miles): 0
  3. Other (identify):
- M. Watershed Number: Castaic = 1807010204, Lower Piru Creek = 1807010206, Sespe Creek = 1807010207, Middle Santa Clara River = 1807010208
- N. Total Acres Burned: 58,401  
NFS Acres( **24,836**) Other Federal ( **3294**) State ( ) Private (**30271**)
- O. Vegetation Types: California Sagebrush, annual grassland, chamise chaparral, mixed chaparral, blue oak woodland, live oak woodland
- P. Dominant Soils: Trigo, Lodo, Castaic, Saugus
- Q. Geologic Types: Monterey formation, un-named sandstone, Towsley formation, Sisquoc formation
- R. Miles of Stream Channels by Order or Class: USFS perennial = 9.0 miles, Intermittent = 6.4 miles
- S. Transportation System
- Trails: 10 miles Roads: 8 miles

### **PART III - WATERSHED CONDITION**

- A. Burn Severity (acres): 48754 (low) 7476 (moderate) 21 (high)
- B. Water-Repellent Soil (acres): 2100
- C. Soil Erosion Hazard Rating (acres):  
37,249 (low) 7272 (moderate) 11,741 (high)
- D. Erosion Potential: 4.4 tons/acre (1<sup>st</sup> year) background level = 2.8 tons/acre
- E. Sediment Potential: 2277 cubic yards / square mile (1<sup>st</sup> year)

### **PART IV - HYDROLOGIC DESIGN FACTORS**

- A. Estimated Vegetative Recovery Period, (years): 5-7 (2 in grasslands)
- B. Design Chance of Success, (percent): 95

C. Equivalent Design Recurrence Interval, (years):	<u>5</u>
D. Design Storm Duration, (hours):	<u>24</u>
E. Design Storm Magnitude, (inches):	<u>5.5</u>
F. Design Flow, (cubic feet / second/ square mile):	<u>12.8</u>
G. Estimated Reduction in Infiltration, (percent):	<u>4%</u>
H. Adjusted Design Flow, (cfs per square mile):	<u>18.3</u>

## **PART V - SUMMARY OF ANALYSIS**

### A. Describe Critical Values/Resources and Threats:

Threats to Life: Threats to life from burned areas exist along the Piru road (about 5 miles) from rockfall, landslide activity, and the potential of road washouts from loss of water control due to plugged culverts and drains. The Little Sespe crossing on the Dough Flat Road will also be challenged by increase flow off of the burned area. The Whittaker Peak Road is not threatened by increased runoff.

There could also be a hazard to hikers on the Potholes or Agua Blanca trails from falling rock, eroded tread, or falling trees, or to boaters on Lake Piru who pull onshore under burned slopes prone to rockfall.

Homes in the Val Verde, Hasley Canyon, San Martinez Grande, Oak Canyon and other locations off-Forest on the southeastern section of the fire may be in danger from increased chances of mud flow and flooding in these neighborhoods. Two recreational homes on private inholdings within the Los Padres on Piru Creek could experience flooding if there was extremely high rainfall; these homes lie on older, higher floodplains. There is only minor hazard of rockfall onto these homes, but the road access along Piru Creek could experience small landslides or flooding over the crossings.

Threats to Property: The Pothole and Agua Blanca trail loop (about 10 miles) will likely lose the tread definition due to dry ravel and increased slope runoff. The Agua Blanca trail follows the Agua Blanca drainage floodplain, and will likely be lost to high flows. The Lake Piru road will also sustain damage from higher overland flows off of the burned area.

Lake Piru will experience increased sedimentation and loss of water storage capacity, but also increased runoff from the burned area. There will be some increase in floating debris delivered through Piru Creek, but very little large timber burned on the Ranch Fire and any debris from the Ranch Fire will only be a small part of the total coming from the 2006 Day Fire, which burned several thousand acres of timber but has not had enough rain to move debris through the system, or to allow significant re-growth that would reduce runoff and sediment delivery.

#### Threats to Resources:

Dozer lines used to control the fire create a noxious weed seedbed that germinates from seeds introduced by heavy equipment or vehicles used on the fire. Native plants and wildlife can suffer increased competition and loss of forage from the establishment of noxious weeds, which could spread onto burned areas or into sensitive riparian areas.

Heritage resource sites have been exposed through burning of vegetative cover and are susceptible to vandalism or erosion.

Arroyo toads and other riparian species of concern could experience increased risk to habitat and individuals from higher flows in Piru Creek. Steelhead may be at risk from increased sediment coming down the Little Sespe Creek into steelhead habitat in Sespe Creek. Condors may have a higher risk of exposure to microtrash along the ridgeline between Whittaker Summit and Townsend Peak.

OHV users may have access to the burned watershed along trails near Townsend Peak.

**B. Emergency Treatment Objectives:**

The primary objective of emergency treatment is to protect life and property through closure, avoidance and warning in the burned area while vegetation recovers, and by pre-treating trails and roads to withstand increased winter flows, then patrolling these areas to maintain these treatments after storms. Heritage resources will be protected through public education and patrolling with volunteers. Other responsible agencies will be notified and consulted with about possible risks in burned areas they manage. Some noxious weed monitoring is proposed to track infestations and then plan treatments to slow the spread of noxious weeds into the burned area and dozer lines. The objective for flood control districts is to monitor rainfall events and flows to give residents warning about impending floods and mudflows, and some monitoring stations are on USFS land. We will continue to coordinate with other agencies throughout the first winter post fire.

**C. Probability of Completing Treatment Prior to Damaging Storm or Event:**

Land 90 % Channel n/a % Roads/Trails 90 % Protection/Safety 90 %

**D. Probability of Treatment Success**

	Years after Treatment		
	1	3	5
<b>Land</b>			
Weed monitoring	80	60	50
Heritage signs/monitoring	70	80	90
<b>Channel</b>			
<b>Roads/Trails</b>			
Piru road	80	80	90
Potholes Trail	80	80	90
<b>Protection/Safety</b>			
Signs/closures	90	n/a	n/a

**E. Cost of No-Action (Including Loss):\_ \$734,700**

**F. Cost of Selected Alternative (Including Loss):\_ \$506,700**

**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 type="checkbox"/> |
| <input type="checkbox"/> Forestry             | <input checked="" type="checkbox"/> Wildlife | <input checked="" type="checkbox"/> Fire Mgmt. | <input checked="" type="checkbox"/> Engineering | <input type="checkbox"/> |
| <input type="checkbox"/> Contracting          | <input checked="" 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         |                          |

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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.)

##### Land Treatments:

###### Heritage Resources:

Because the Ranch fire has exposed up to 24 archeological sites within the burn perimeter, it will be necessary to protect these from potential vandalism, which has been shown to occur regularly after fires in this area. The treatment proposed is to first patrol the area using site steward volunteers working under our Forest Service employees to re-locate and monitor these sites to detect if digging or other vandalism starts. If so, the appropriate law enforcement personell can be contacted. In particular, there are five sites known at this time to need monitoring, but other sites may be found during volunteer surveys in the burned area that would need monitoring. Three of these sites occur on the Angeles National Forest but in an area that has traditionally been managed by the Los Padres because of easier access. The second part is to establish signs to advise visitors of the penalties for violation of laws protecting these sites.

###### Noxious weed monitoring:

Yellow star thistle and perennial pepperweed are known to occur in the vicinity of the dozer lines established near Whittaker Peak on the Angeles National Forest. Creation of these lines has established a seedbed that could trigger an infestation of these weeds, and the most effective way to halt this spread is early detection. Also, heavy equipment and vehicles on the fire may have introduced other noxious weeds that could become established here. Monitoring is proposed during the spring of 2008 to determine if any of these weeds have become established, and if they are, they will be pulled by hand. If it appears that further treatment is needed, an interim BEAR request will be sent in.

##### Channel Treatments:

No channel treatments have been proposed for this fire by either the USFS or other agencies, including the United Water Conservation District who manages Piru Lake. It was not felt by the BAER hydrologists that any channel treatments on the National Forest would be effective in reducing sediment accumulations or in diverting debris.

##### Roads and Trail Treatments:

###### Piru Lake Road:

The slopes above Piru Lake road that is administered by the USFS have burned and are experiencing heavy dry ravel onto the paved and native surface creating a hazard for flat tires and personal injury from rockfall. There are several culverts and drains that have filled in from dry ravel and will likely fail during a rain event. Dry ravel and sediment from overland flow will continue to impact the road surface and drainage throughout the winter. The proposal to mitigate this hazard is to clean the road surface and replace several drains, and clean out culverts, then monitor the road conditions throughout the winter and conduct minor cleaning of these features. If future substantial work is needed, an interim BAER request will be sent in.

###### Potholes Trail:

The Pothole Trail was entirely burned over in the Ranch Fire and will likely experience increased erosion during the first winter from increased runoff. The objective of a treatment here will be to protect the tread by shedding water from the trail by strengthening the waterbars and dips and outsloping the trail tread. A trail crew will spend one 10 day shift working this trail during the fall before winter rains come.

The road along Piru Lake has a gate past the campground that is normally closed and so should remain so to keep recreationists out of this area during wet weather, and a sign warning hikers and bicyclists of the danger from rockfall along the west shore of the lake should be placed on this gate and at the marina so that boaters will observe it. The Sespe road is also normally closed during the winter and so will also be closed during this winter and until the threat of a road washout is passed. Road work intended to reinforce the Little Sespe crossing from increased runoff after the Piru Fire in 2003 is being re-worked this fall and this repair will stabilize the crossing from increased runoff due to the light severity burn that occurred here during the Ranch Fire.

### Protection/Safety Treatments:

Continuing to cooperate with other agencies regarding post fire events will be crucial to timely response to problems. Several days will be needed throughout the winter months to attend meetings, conduct site visits, and prepare updated reports for all agencies involved, and to manage the BAER implementation. We will also provide signs for visitor education and safety.

Area administrative closures are recommended for the burned area during the first winter post-fire to protect the public from rockfall, falling trees, and high water flows. The specifics of these closures dates and locations will be determined by Forest line officers.

No treatments were proposed to help protect wildlife species that may have lost habitat in the burn. Wildlife biologists feel that the changes from the burn are not irreversible and will eventually recover on their own and that there is no practicle way to accelerate the the natural recover of the habitat for riparian species.

The Angeles National Forest (ANF) is examining the microtrash issue near Whittaker Summit to determine if there is more microtrash exposed or if it may have burned in the fire, and if a treatment is required. If so, it will be submitted in an interim report. The ANF is also looking at the potential for OHV trespass in this area and will submit an interim request if it is determined that OHV trespass onto burned slopes is an issue. Detailing these two issues was delayed because ANF personell are dealing with the Buckweed Fire and the loss of an office in this fire.

### **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.)

Because our policy is to minimize the establishment of non-native invasive species to prevent unacceptable degradation of the burned area, it is necessary to conduct monitoring to evaluate the potential for spread from both existing populations and from the activities associated with fire suppression. Therefore, noxious and invasive weed monitoring is proposed for a period of three years to verify the suspected infestations and determine the fire's potential impact on weed populations within the burned area. If the monitoring shows that there is successful reproduction of certain noxious or invasive weed species and a sharp upward trend occurs as a result of the Ranch fire, it may trigger the need for further treatment and action. Reports will be turned in to the Regional BAER coordinator annually, which will disclose the prior year funding and explain and justify the future year funding.

It is necessary to examine the heliport and fire camp parking area for weeds as a potential source which could have been carried to the forest on helicopters or vehicles. Monitoring of all dozer lines and travel routes for the next three years especially if new weed detections take place in the first year (FY 2008). There are 2 miles of dozer line on the Angeles National Forest that will have to be monitored by walking. All travel routes on the Angeles and Los Padres National Forests will need to be monitored and checked for new weed infestations.

A Weed Detection Survey Report would be submitted to Regional BAER coordinator and to the Ojai District (LPF) and Santa Clara/Mojave Rivers District (ANF) Rangers. If weed introduction and spread has increased due to effects of the Ranch Incident, an Interim BAER report would be completed to request eradication funding.

The following noxious weeds are present within the Ranch fire burned area:

*Centaurea solstitialis* (yellow star thistle) is found along Templin highway and forest roads. It is a southern European annual with longer spines than tocolote, rated as a “A” Pest on the State Noxious Weed List. Yellow star thistle is spread almost exclusively by seed, which may lie dormant for as long as 10 years and is known to cause “chewing disease” and death in horses. Studies have shown that repeated prescribed burns (at least 3 consecutive years) may reduce the yellow star thistle seed bank, but burning during the appropriate phenological stage is critical for the elimination of seed production. Although yellow star thistle is not known to out-compete chaparral, it is critical to minimize potential spread while native vegetation recovers within the burned area. It will persist along roads and continuously disturbed areas.

*Lepidium latifolium* (perennial pepperweed) is found in one location in the Templin highway area. This perennial native of southern Europe and western Asia is rated as an “A” Pest on the State Noxious Weed List. Perennial pepperweed is spread primarily by propagating from its brittle rhizome-like roots but it also produces a large quantity of viable seed. This species forms dense monoculture stands that out-compete the native plant community, reducing species diversity. Removal is best accomplished by mowing to expose sensitive tissue prior to carefully timed herbicide application. Disking or tilling the soil can cause perennial pepperweed to spread because root fragments of less than an inch in size can produce new stems.

**Costs:**

**Fiscal Years 2008– Total estimated costs =**

**FY 2008** – Monitor extent of noxious weed species occurrence, concentrating in the burned area along travel routes and dozer lines. Survey the heliport and fire camp parking areas as potential sources of weeds. Submit report to Regional BAER Coordinator. Evaluate need for further action and treatment.

GS –11 Botanist	x 5 days =
GS – 9 Forester/Botanist	x 5 days =
GS – 5 Forestry Technician	x 5 days =
Mileage:	300 miles =

**Total Cost Estimate for FY 2008 =**

Part VI – Emergency Stabilization Treatments and Source of Funds

Interim #

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands			All Total \$	
			# of Units	BAER \$		# of units	Fed \$	# of Units		Non Fed \$
<b>A. Land Treatments</b>										
Heritage sites protection					\$0		\$0		\$0	\$0
					\$0		\$0		\$0	\$0
					\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>					\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>					\$0		\$0		\$0	\$0
<b>B. Channel Treatments</b>										
					\$0		\$0		\$0	\$0
					\$0		\$0		\$0	\$0
					\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>					\$0		\$0		\$0	\$0
<i>Subtotal Channel Treat.</i>					\$0		\$0		\$0	\$0
<b>C. Road and Trails</b>										
Piru Lake Road					\$0		\$0		\$0	\$0
Potholes Trail					\$0		\$0		\$0	\$0
					\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>					\$0		\$0		\$0	\$0
<i>Subtotal Road &amp; Trails</i>					\$0		\$0		\$0	\$0
<b>D. Protection/Safety</b>										
Safety signs	ea		6		\$0		\$0		\$0	\$0
					\$0		\$0		\$0	\$0
					\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>					\$0		\$0		\$0	\$0
<i>Subtotal Structures</i>					\$0		\$0		\$0	\$0
<b>E. BAER Evaluation</b>										
Cooperator coord.	day		10							
Implementation TL	day		5				\$0		\$0	\$0
<i>Insert new items above this line!</i>					\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>					\$0		\$0		\$0	\$0
<b>F. Monitoring</b>										
<b>Noxious weeds</b>					\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>					\$0		\$0		\$0	\$0
<i>Subtotal Monitoring</i>					\$0		\$0		\$0	\$0
<b>G. Totals</b>										
Previously approved					\$0		\$0		\$0	\$114,562

