

Date of Report: November 21, 2007
AS APPROVED**BURNED-AREA REPORT**
(Reference FSH 2509.13)**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 DESCRIPTIONA. Fire Name: Poomacha
WitchB. Fire Number: CA-MVU-010643
CA-MVU-010432C. State: CaliforniaD. County: San DiegoE. Region: Pacific Southwest Region (R5)F. Forest: ClevelandG. District: Palomar and DescansoH. Fire Incident Job Code: Poomacha: P5D1SF (0502)
Witch: P5D1RC (0502)I. Date Fire Started: Poomacha: 10/23/2007
Witch: 10/21/2007J. Date Fire Contained: Poomacha: 11/10/2007 (est.)
Witch: 10/31/2007K. Suppression Cost: Poomacha: \$18,300,000 (as of 11/6/2007)
Witch: \$16,000,000 (as of 11/6/2007)

- L. Fire Suppression Damages Repaired with Suppression Funds
 1. Fireline waterbarred (miles): Dozer lines = 28 miles
 2. Fireline seeded (miles): 0
 3. Other (identify):

M. Watershed Number: HUC 5: 1807030201 (Upper Temecula Creek), 1807030202 (Lower Temecula Creek), 1807030302 (Middle San Luis Rey River), 1807030401 (Upper Santa Ysabel Creek), 1807030402 (Middle Santa Ysabel Creek), 1807030405 (Upper San Diego River), 1807030406 (San Vicente), 1807030407 (Lower San Diego River).

N. Total Acres Burned: Poomacha: 49,410
NFS Acres(5,180) Other Federal (22,529) State (1,097) Private (20,604)
Witch: 163,240
NFS Acres(44,144) Other Federal (12,141) State (124) Private (106,831)

O. Vegetation Types: Chaparral, Coast Live Oak Woodland, Coastal Sage Scrub, and Mixed Conifer Forest.

P. Dominant Soils: Acid igneous rock land (AcG): very shallow loam to loamy course sand; Cieneba-Fallbrook association: shallow to very shallow excessively well drained, coarse sandy loam in material weathered from granodiorite. La Posas association: stoney sandy loams that have a clay subsoil over decomposed gabbro. Hallarnd Boomer Association: Well drained stoney fine sandsy loams over weathered schist and decomposed gabbro on 9-60 % slopes. All include rock outcrops and boulders.

Q. Geologic Types: Predominately Mesozoic granitic bedrock.

R. Miles of Stream Channels by Order or Class: 1=56 miles, 2=21 miles, 3=23 miles, 4=13 miles, 5=1 mile

S. Transportation System

Trails: 14.1 miles Roads: 62.0 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): Unburned = 105,552 (50%); Low = 62,366 (29%);
Moderate = 41,374 (19%); High = 3,361 (2%)

B. Water-Repellent Soil (acres): very little detected

C. Soil Erosion Hazard Rating (acres): *Note: Acres for NFS land only.
8 (low) 1,144 (moderate) 882 (high) 78,024 (very high)

D. Erosion Potential: 38 tons/acre

E. Sediment Potential: 6,000 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): 80%

C. Equivalent Design Recurrence Interval, (years): 2.65

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 5

F. Design Flow, (cubic feet / second/ square mile): 30

G. Estimated Reduction in Infiltration, (percent): 66

H. Adjusted Design Flow, (cfs per square mile): 50

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

1. **Threats to Human Life and Property:**

Threats to Life: The Witch/Poomacha Fire burned a total of 212,651 acres. A total of 49,378 acres (23%) burned on National Forest System (NFS) lands and 163,273 acres (77%) burned on non-NFS lands. The following values were identified during the initial phase of the Witch/Poomacha Fire BAER assessment process as being potentially “at risk” from the effects of the fire both on and adjacent to the Cleveland National Forest: users of National Forest System roads; users of non-Forest Service roads and facilities both within and outside the Witch/Poomacha Fire perimeter. These values are “at risk” from increased runoff and debris flows; rock and debris fall; erosion and sedimentation; and landslides.

Threats to Property: Values identified as “at risk” due to the Witch/Poomacha Fire include:

National Forest System Property

Forest Service roads, trails, campgrounds, research natural areas (RNA), Agua Tibia Wilderness, and heritage sites. Numerous locations on the NFS 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. Off Highway Vehicle (OHV) use off of designated roads and trails is going to increase with the loss in natural vegetation. The natural vegetation, which burned, helped restrict users to the established routes. This unauthorized use by OHVs will damage the already fragile hillsides and hamper the natural recovery of the ecosystem burned in the Witch and Poomacha Fires. Cattle currently have access to the Organ Valley RNA, from private lands and the grazing allotment. The Organ Valley RNA was burned over and needs protection to recover from the Witch Fire. It contains a spring water source that is attractive to cattle. The grazing allotment is managed as a year round permit and there are no improvements that exist to prevent cattle from leaving the private lands and crossing the Forest into the Organ Valley RNA. The fencing would also discourage trespass of ATV/motorcycle traffic on the Forest below the Penny Pines plantation on Black Mountain. It would tie into proposed pipe barrier work near the road gates.

Private Property

City of San Diego: Sutherland Lake, dam structure, and associated Sutherland-San Vicente pipeline; El Capitan Reservoir and dam; and Pauma Valley,
State of California: State travel routes within and adjacent to the Witch/Poomacha Fire boundary,
Private property within and adjacent to the Witch/Poomacha Fire boundary,
County of San Diego: County roads within and adjacent to the Witch/Poomacha Fire.

2. Threats to Water Quality and Quantity: A portion of the water supply system for the City of San Diego is located within the Witch/Poomacha burn perimeter. The Sutherland Lake and dam, along with the Sutherland-San Vicente water pipeline, and the El Capitan Reservoir and dam are part of the infrastructure used to deliver water to the City of San Diego. These domestic water sources are potentially “at risk” due to the increase in sediment delivered to the facilities. Peak flow increases from the fire will also be bulked by ash, debris and other floatable and transportable material within the channel areas. There is a high probability that post-fire flows from the first runoff producing rain events will see a high concentration of ash discharged from the burn area to the Sutherland and El Capitan Reservoirs. This has high potential for the Witch/Poomacha Fire to affect the municipal water supplies in both Sutherland and El Capitan Reservoirs. There is potential for increases in sediment yield from the sub-watersheds above Sutherland and El Capitan Reservoirs. Sediment yields from these watersheds could increase over the next 5 years and then begin to return to normal levels as the vegetation in the burned watersheds recover.

All of the sub-watersheds within the burn area are expected to see an increase in sedimentation that could potentially affect in-stream beneficial uses such as cold water fish habitat. Potential for short-term effects on water quality are expected to be high in the San Luis Rey River, Santa Ysabel Creek, San Diego River, and all their tributary drainages.

Because the majority of the high severity burn area is inaccessible and on slopes exceeding 60%, most of the burned area is too steep and/or rocky to meet the site selection criteria for hillslope treatments and is therefore untreatable. BAER hillslope treatments are not effective or proven on slopes steeper than 60 percent. Unfortunately, these are steep slopes that are most prone to slope failure. No hillslope treatments are generally proposed on moderate burn severity lands for a combination of reasons such as the positive vegetative response in grasslands and shrub communities.

3. Threats to Long Term Soil Productivity: There are no threats to long term soil productivity due to the Witch/Poomacha Fires.

4. Threats of Noxious Weeds and Invasive Weed Invasion: Burned areas provide opportunities for invasive plants to establish quickly because of disturbed soil, release of nutrients, and lack of competition. Noxious weeds could have been introduced to the area during fire suppression activities as there were no wash stations for vehicles and equipment arriving to the fire. Additionally, there exists noxious weed populations within the fire perimeter in the urban intermix and at areas used as drop points and safety zones. An emergency exists because there is a potential for spread from existing and introduced noxious and invasive weed populations within the burned areas.

5. Threats to Wildlife Resources: The wildlife concerns in the Poomacha and Witch Fires are:

1. Fragmentation of suitable habitat and isolation of TES populations (Laguna Mountain skipper).
2. Loss of vegetative cover and foraging habitat on TES and MIS species (California gnatcatcher, mule deer, mountain lion, reptiles etc.).
3. Impacts of potential sedimentation to riparian and meadow environments (Least Bell's vireo, southwestern willow flycatcher, arroyo toad).
4. Loss of stand attributes important for late-seral species at risk (California spotted owl).

Invasion of non-native noxious weeds (tamarisk, arundo) into TES habitats.

The emergency situation as discussed in the above section cannot be mitigated by direct treatment of wildlife habitats. This is due to the steepness and inaccessibility of the terrain with the Poomacha and Witch fire boundaries on Forest Service System lands. Additionally, some of these habitats occur within the Agua Tibia Wilderness and/or private, state, or other non-Forest Service lands. Any BAER treatments to wildlife habitat would likely not be effective in reducing post-fire impacts such as erosion or sedimentation. However, indirect treatments such as closure of burn areas will help reduce disturbance to sensitive habitats.

6. Threats to Botanical Resources: The potential values at risk for sensitive plants are the stability and viability of sensitive plant populations. There are 12 sensitive plants known to occur within the Witch/Poomacha Fire area. All of these sensitive plants are highly restricted in distribution. There is one plant within the Witch/Poomacha Fire area that is listed as Federally Endangered with the US Fish & Wildlife Service, San Bernardino Bluegrass (*Poa atropurpurea*), that occurs within the Poomacha Fire perimeter.

7. Threats to Heritage Resources: The Witch/Poomacha Fire burned in a diverse heritage resource area including historic and pre-historic sites. At least 67 recorded sites are located within and/or adjacent the burn area. Ten of the sites were located within areas of moderate to high soil burn severity. Seven sites were evaluated. It was determined that there was not an emergency situation with regards to heritage resources for the Witch/Poomacha Fires.

B. Emergency Treatment Objectives:

To protect life and property associated with the public and administrative use of the travel routes within and downslope/downstream of the Witch/Poomacha Fires, the BAER Assessment Team recommends the temporary, seasonal closure of the burn area to all recreational users. The closures will be accomplished by installing new gates at strategic locations at route access points to the fire which will effectively close off the burn area when combined with the existing gates present in the area. Short segments of pipe rail

barriers will accompany the gates to help close potential the entry points. Information boards with vehicle closure signs will be installed at the gate locations. Additional closure signs and warning signs will be installed at strategic route locations leading to the burn area to give users an early advisory of conditions ahead. Storm patrol and monitoring the effectiveness of road closures, to insure physical closure features (i.e. signs, gates, temporary fencing, etc.) are effective and in good repair, will occur. The temporary closure of the burn area will also give the burned slopes a chance to establish a vegetative cover without the potential for disturbance by public use in the burn area.

In the past, dense chaparral was an effective barrier to keeping motorized vehicles on the roads. This natural barrier is no longer present and it will take years before this natural barrier is once again an effective means of stopping unauthorized motorize use. 46 areas have been identified in association with the Witch Fire where barriers, gates and/or fencing are recommended to effectively stop unauthorized motorized use, of these 30 are adjacent to County Roads where the Forest Service can not control access by use of closing the road with gates.

The treatments proposed will help reduce the risk to life and safety, the effects on water quality and soil productivity, the infrastructure (roads) investments, adjacent resource values and assure road function and future availability for access and administration of the fire area.

The road surface patrol objective is to maintain function to all identified drainage structures and features and to identify and correct hazards during and after storm events to reduce the risk of road surface failure. Actions include cleaning plugged culverts, over-side drains, and road crossings of ephemeral drainages to prevent stream flow from becoming diverted down the road surface. Minor slump and slide areas would be removed where needed to assure continued operation of drainage facilities. By clearing blockages and restoring drainage function, the road surface should be able to accommodate flows during the next storm. The road segments selected for emergency BAER treatments have reliable access for road crews to meet treatment objectives during the first 180 days (fall and winter).

To determine if the fire has enabled the establishment and spread of noxious weeds, and to detect such establishment and spread as early as possible, the BAER team recommends noxious weed detection surveys be conducted. Early detection dramatically increases the likelihood of successful treatment.

Repair of or installation of fencing is recommended to contain cattle within the current management system while brush boundaries regrow adjacent to the Organ Valley RNA.

The BAER Team recommends maintaining communications with State, County, and Local governmental agencies and adjacent private landowners regarding the inherent watershed reponse to impending precipitation events.

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

Land 90 % Channel N/A % Roads/Trails 90 % Protection/Safety 95 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90%	90%	90%
Channel	N/A	N/A	N/A
Roads/Trails	90%	90%	90%
Protection/Safety	90%	90%	90%

E. Cost of No-Action (Including Loss): \$3,426,000

F. Cost of Selected Alternative (Including Loss): \$906,000

G. Skills Represented on Burned-Area Survey Team:

Hydrology Soils Geology Range Recreation
 Forestry Wildlife Fire Mgmt. Engineering Contracting Ecology Botany
 Archaeology Fisheries Research Landscape Arch GIS

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Core Team

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H. Treatment Narrative:

Land Treatments:

Weeds: To determine if the fire has enabled the establishment and spread of noxious weeds, and to detect such establishment and spread as early as possible, the BAER team recommends noxious weed detection surveys be conducted. Early detection dramatically increases the likelihood of successful treatment. A detailed weed detection survey plan and cost analysis is found in Appendix C attached.

Pipe Rail Barriers: Treatment Type: Gates, swinging pipe gates, pipe barriers, signing & monitoring/public information

Treatment Objective: Minimize soil impact. Protect cultural values. Allow the vegetative cover an opportunity to recover. Keep motorized vehicles on designated roads. Secure gates. Discourage the use of existing unauthorized routes or the development of new unauthorized motorized in areas which are wide open.

Treatment Description: Install gates, swinging pipe gates, 21' pipe barriers, and informational signage

Channel Treatments: N/A

Roads and Trail Treatments:

Road Treatments

The following treatments were identified as BAER treatments for the Poomacha / Witch Fire area:

- A. Restore and Improve Drainage Function.
- B. Install Rolling Dips with Lead-Off Ditches
- C. Install Culvert Inlet Treatments (MES)
- D. Install Drainage Armor
- E. Install and Repair Overside Drains
- F. Install 18" Overside Drain w/ Flume
- G. Remove and Install Culverts
- H. Install closure gates
- I. Install pipe rail barriers
- J. Install Signs (BAER Warning / Information, and Administrative Closure)
- K. Monitoring and Storm Patrol

The above proposed treatments will be implemented on the following roads located on the Cleveland NF within the Poomacha / Witch fire perimeter.

Palomar Divide Road	09S07
Esmeralda Road	11S02
Lusardi Road	11S03
Black Mt. Road	11S04
Pine Mountain Road	11S07
Orosco Ridge Road	12S02
Boden Canyon Road	12S03
Lower Santa Ysabel	12S04
Black Mt. Spur	12S04A
Southerland Dam	12S05
Upper Santa Ysabel	12S07
Westside truck Trail	13S10
Cedar Creek Road	13S11
Tule Springs Road	14S10

Estimated cost of the proposed treatments is approximately \$or \$ per mile for those roads assessed and summarized in this report.

Detailed treatment specifications and locations are found in the Road Report on file.

The treatments proposed will help reduce the risk to life and safety, the affects on water quality and soil productivity, the infrastructure (roads) investments, adjacent resource values and assure function and future availability for access and administration of the fire area.

Trail Treatment

Minimize soil impact. Protect cultural values. Allow the vegetative cover an opportunity to recover. Keep motorized vehicles on designated roads. Secure gates. Discourage the use of existing unauthorized routes or the development of new unauthorized motorized in areas which are wide open. Construct/reconstruct drainage structures along the trail to stabilize the trail tread and protect the investment while decreasing the erosion and sediment flow. Remove slough and outside berms. Rip-Rap and armor drainage crossings. Replace and add signage to inform users of hazards both on and off the trails. Minimize the threat to life and safety of trail uses by developing and erecting signs to explain

the safety concerns associated with this trail. On the San Diego River /Thornbush/Cedar Creek Falls trail, it is recommended that trail re-assurance markers with a stay on the trail message are installed so that users will stay on the designated trail and minimize the use of the multiple-user created routes.

1. Clearing and improving both earthen and rock water bars,
2. Trail out-sloping and berm removal (as needed),
3. Clear and improve locations on the trails where ephemeral streams cross the tread, and
4. Armor spillways with native materials

BAER treatments will focus on trail segments in areas of increased in erosion potention.

Protection/Safety Treatments: To protect life and property associated with the public use of the travel routes, hiking trails, and campgrounds within and downslope/downstream of the Witch/Poomacha Fires, the BAER Assessment Team recommends the temporary, seasonal closure of the burn area to all recreational users. The closures will be accomplished by installing gates, along with closure signs and informational signs, at strategic locations at route access points to the fire perimeter which will effectively close off the burn area when combined with the existing gates present in the area. Short segments of pipe rail barriers will accompany the gates to help close potential the entry points. Information boards with closure signs will be installed at the gate locations. Additional closure signs will be installed at strategic route locations leading to the burn area to give users an early advisory of conditions ahead. Patrol and inspect each trailhead for the purpose of making personal contact with forest visitors and to insure physical closure features (i.e. signs, gates, temporary fencing, etc.) are effective and in good repair. The temporary closure of the burn area will also give the burned slopes a chance to establish a vegetative cover without the potential for disturbance by recreation use in the burn area.

I. Monitoring Narrative:

Forest personnel will monitor the BAER treatments to check that signs, information boards, temporary fencing, and gate closures are present and functioning properly to maintain closure integrity. For areas with seasonal closures because of storm events or possible high water flows, the monitor will ensure gates are closed and the area is swept for visitors prior to closure.

Treatment includes maintenance, repair, or replacement of closure features as needed during the closure period. The frequency of monitoring visits will vary depending on precipitation event frequency and to match the highest period of public use. Monitoring of the gates, pipe rail barriers, information boards, temporary fencing, and trespass prevention into the burn area will occur on a regular basis to maintain closure integrity.

Part VI – Emergency Stabilization Treatments and Source of Funds Initial

Line Items	Units	Unit Cost	NFS Lands	BAER \$	Other \$		Other Lands		Non Fed \$	All
			# of Units				Fed \$			# of Units
A. Land Treatments										
<i>Weed Survey:</i>										
Salaries: GS-11	days									
Salaries:GS-9	days									
PerDiem	days									
Vehicles	miles									
Subtotal Weeds										
Gates/Barriers/Fencing										
Install Gates	each									

Pipe Rail Barriers - gates	LF									
Pipe Rail Barriers - roads	LF									
Range Fencing	LF									
Contract Prep/Inspect/CO	each									
<i>Subtotal Gates, et al</i>										
<i>Subtotal Land Treatments</i>										
B. Channel Treatments										
<i>Subtotal Channel Treat.</i>										
C. Road and Trails										
Road Treatments										
Drainage Function	Mile									
Rolling Dips	each									
Intercepting Dips	each									
Culvert Inlets	each									
Drainage Armor	cu. yd.									
Overside Drains	each									
Remove/Install Culvert	each									
<i>Subtotal Road Treat.</i>										
Trail Treatments										
Trail Stabilization	days									
<i>Subtotal Trails</i>										
<i>Subtotal Road & Trails</i>										
D. Protection/Safety										
Warning Signs	each									
Info Signs - roads	each									
Info Signage – unauth	each									
Info Signage unauth	each									
Trail Mark	each									
Trail Warning Signs	each									
<i>Subtotal Signs</i>										
E. BAER Evaluation										
Salaries	days									
PerDiem	days									
Travel - land	miles									
Travel - air	flights									
Supplies	all									
<i>Subtotal Assessment</i>										
BAER Implement.										
BAER Impl. Leader	days									
BAER Coord.	days									
<i>Subtotal Implementation</i>										
<i>Subtotal Evaluation</i>										
F. Monitoring										
Road Storm Patrol	each									
Monitor unauth. treatment	Person-days									
<i>Subtotal Monitoring</i>										
G. Totals										
Previously approved					\$942,126	\$0		\$0	\$0	\$742,770
Total for this request					0					0
					\$942,126					\$742,770

