

Date of Report: June 28, 2006

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 DESCRIPTION

- A. Fire Name: Perkins
- B. Fire Number: CA-LPF-00160
- C. State: CA
- D. County: Santa Barbara
- E. Region: Pacific Southwest
- F. Forest: Los Padres
- G. District: Mt. Pinos
- H. Fire Incident Job Code: P5CQ47
- I. Date Fire Started: June 19, 2006
- J. Date Fire Contained: June 25, 2006
- K. Suppression Cost: \$5.7 million
- L. Fire Suppression Damages Repaired with Suppression Funds
 - 1. Fireline waterbarred (miles): 41
 - 2. Fireline seeded (miles): 0
 - 3. Other (identify): Helispots and roads - 86 acres; System roads rehabilitated - 20 miles and Non-system roads and trails - 15 miles

M. Watershed Number: 35109 (Branch Canyon) 6th field HUC

N. Total Acres Burned: 14,988
NFS Acres(12,696) Other Federal () State () Private (2,292)

O. Vegetation Types: annual brome grass, California buckwheat, wild oats, chamise, Mountain mahogany, scrube oak, ceanothus, manzanita

P. Dominant Soils: Primarily the following Families Associations: Rincon-Livermore-Modesto, Millsholm Exchequer-Stonyford and Kilmer-Nacimiento

Q. Geologic Types: Sandstone, siltstone, and shales of the Monterey, Mint Canyon, Caliente, Santa Margarita and Rincon Formations

R. Miles of Stream Channels by Order or Class: 79.3 miles intermittent

S. Transportation System

Trails: 17.2 miles Roads: 3.9 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 10,463 (low includes unburned) 4055 (moderate) 470 (high)

B. Water-Repellent Soil. None

C. Soil Erosion Hazard Rating. 14,988 High

D. Erosion Potential. Enter the estimated total potential erosion in tons per acre. 0.009 tons/acre on average

E. Sediment Potential: R,C,&S analysis cubic yards / square mile

Watershed	normal annual erosion rate (cu.yd./sq.mi.)	1 year post burn annual erosion rate	Percent of normal unburned	2 year post burn annual erosion rate	Percent of normal unburned	3 year post burn annual erosion rate	Percent of normal unburned
Upper Cuyama	260	393	151%	303	117%	287	110%
Branch Canyon	67.6	206	305%	113	166%	95.7	142%

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period, (years): 1
- B. Design Chance of Success, (percent): 90
- C. Equivalent Design Recurrence Interval, (years): 2-year storm
- D. Design Storm Duration, (hours): 6
- E. Design Storm Magnitude, (inches):
- F. Design Flow, (cubic feet / second/ square mile): Using Rowe et al. Method

For Upper Cuyama

equal or exceeded peak discharge	normal peak discharge (cfs/sq mi)
Q 2	12.6
Q 5	22.1
Q 10	29.7
Q 25	42.4

For Branch Canyon

equal or exceeded peak discharge	normal peak discharge (cfs/sq mi)
Q 2	3.3
Q 5	5.7
Q 10	7.7
Q 25	11.0

- G. Estimated Reduction in Infiltration, (percent): 5

- H. Adjusted Design Flow, (cfs per square mile): Using Rowe et al. Method

For Upper Cuyama

Peak discharge: equal or exceeded peak discharge	1 year post burn peak discharge	Percent of normal unburned	2 year post burn peak discharge	Percent of normal unburned	3 year post burn peak discharge	Percent of normal unburned
Q 2	13.4	106%	12.9	103%	12.8	102%
Q 5	23.0	104%	22.5	102%	22.4	101%
Q 10	30.6	103%	30.2	102%	30.0	101%
Q 25	43.4	102%	43.0	101%	42.8	101%

For Branch Canyon

Peak discharge: equal or exceeded	1 year post burn peak discharge	Percent of normal unburned	2 year post burn peak discharge	Percent of normal unburned	3 year post burn peak discharge	Percent of normal unburned

peak discharge						
Q 2	4.1	125%	3.7	111%	3.5	107%
Q 5	6.6	116%	6.2	108%	6.0	105%
Q 10	8.7	112%	8.2	107%	8.1	105%
Q 25	12.0	109%	11.6	105%	11.4	104%

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats: The BAER Team identified potential values-at-risk through consultation with local specialists, BAER directives, review of topographic maps, and aerial overflight. These included: 1) potential flood and/or sedimentation, 2) Grazing, 3) wildlife and sensitive plants (including T&E species), 4) **noxious and invasive weeds** and 5) **heritage resources** (highlighted items indicate those associated with an emergency situation due to the Perkins Fire).

The Perkins Fire area burned 14988 acres of the Los Padres National Forest to the south of New Cuyama. The fire encompassed portions of the Salisbury Canyon, Newsome Canyon, and Lion Canyon subwatersheds of the HUC6 Branch Canyon watershed on the north side of the Sierra Madre Ridge. Small portions of the fire burned to the south side of the ridge. The Perkins Fire burned through multiple watersheds and in some cases, large percentages of the watersheds burned. However, analysis indicates that the majority of fire was in the low to moderate soil burn severity with a mosaic of unburned material within the perimeter. Therefore, the hydrologic effects in the watersheds were postulated to be small and do not constitute an emergency. Localized effects of some subwatersheds could be moderate in severity.

Disturbed WEPP modeling indicates that only a 15-year or greater storm event has the potential to deliver sediment given the majority of the fire had a low soil burn severity and there are a number of unburned sections within the fire perimeter. Given 30 years of climate simulations, the probability of sediment delivery in the first year is only 10%. Though it behooves the Forest Service to inform local land owners of the potential of increased sediment yield affecting road crossings and culverts, road related property is determined to not be in an emergency condition.

The Twitchell Reservoir is located below the Upper Cuyama watershed, greater than 40 miles from the location of the fire. Concern for sediment contribution to this reservoir was raised by Thomas Gibbons, a director of the Santa Maria Valley Water Conservation District. The depositional area below the fire is large enough to expect that the Twitchell Reservoir will not see a detectable increase in sediment attributable to this fire. These factors indicate sediment to the reservoir is determined not to be an emergency due to the Perkins Fire.

The Branch Canyon Allotment within the perimeter of the Perkins fire allows for 126 cow/calves and five horses from March 16 to November 30, and includes grasslands in Montgomery Potrero, the Sierra Madre fuelbreak, and in lower sections of Lion and Newsome Canyons near the private boundary with the permittee. Several fences along the Rocky Ridge trail and the forest boundary, as well as bluffs and brush barriers, control livestock movement. The livestock will be removed from the allotment for the remainder of this year and possibly for a second year to allow for re-generation of plant vigor, so there will not be any watershed impacts from grazing during the first rainy season. While the impact of the fire is of serious consequence to the permittee, it is not an emergency under the Burned Area Emergency Response categories.

General habitats within the perimeter of the Perkins burn consisted, from higher elevations to lower, of open annual grassland potreros along the ridgeline, mixed chaparral on the north facing slopes that grade into drier chamise and coastal sage chaparral on the lower slopes, and finally dry annual grasslands on the valley debris fan near the origin of the fire. Interspersed within this matrix lies a mosaic of sandstone rock outcrops and some narrow riparian stringers consisting of sedges and willows in the lower elevations and narrow strips of cottonwood tucked between deep rock folds in the upper canyons. There are no emergencies created by this fire regarding Threatened, Endangered, or Sensitive plant or animal species.

Several circumstances related to fire suppression efforts could contribute to the spread of noxious weeds in the burn area:

1. It is unknown whether equipment on the Perkins fire was weed free prior to arriving at the incident. Equipment includes engines, dozers, passenger vehicles, contractor's equipment, aviation equipment, etc.
2. The helibase appeared to be noxious weed free but needs to be re-inspected to determine if that initial observation is correct. There were six helispots established within the fire perimeter during the incident that could serve as introduction points for weeds if the helibase was not weed free. The same is true for the large parking area behind the fire camp where vehicles were constantly coming and going to the fire area. Initially it appeared to be weed free but needs to be inspected again at a later time.
3. A known population of yellow star thistle (YST) (*Centaurea solstitialis*) occurs along one of the major access routes to the fire in Santa Barbara Canyon. The population is found along Big Pine Buckhorn Rd. (Forest road 9N11) between its intersection with Foothill Rd. and the southern end of Santa Barbara Canyon Ranch. This was an approximately a 5 mile stretch of road. The narrow condition of the road forced vehicles to drive over the YST in order to pass. The road was first used on June 20 and the YST was mowed on June 23 to allow for safer two-way traffic. The mowing could have allowed additional YST seed to be carried into the forest.

Two populations of Russian knapweed (*Centaurea repens*) are of concern. One is located near the point of the fire origin in Newsome Canyon (UTM Zone 11, 252900mE, 3863600mN). This population did not burn and it was observed that several vehicles had driven through it. The other population is located on the Sierra Madre Rd. (UTM Zone 11, 249013mE, 3857037mN) a major travel corridor for the fire. This population was bladed by a dozer and loose material could have been carried to other locations by vehicles traversing this route. This species spreads vegetatively so seeds are not necessarily required. Given these conditions the potential increase in invasive weed presence due to the Perkins Fire is considered to be an emergency condition. A Noxious Weed survey deferred until the spring to verify and locate infested areas is the current recommended treatment.

The Perkins Fire occurred in an area of high archaeological sensitivity, burning from the Cuyama Valley floor upslope through three major canyons to a National Register of Historic Places Archaeological District named for the ridge on which it sits, Sierra Madre. This district is comprised of 47 archaeological sites of which the majority are rockshelters and caves with rock art and/or occupational deposits. It is a special emphasis area in the forest Land and Resource Plan.

The area is of extreme importance and interest to the local Native Americans and the federally recognized Chumash tribe, the Santa Ynez Band of Chumash Indians. Contemporary Native Americans consider the area to have high spiritual significance and continue to come to the area for religious purposes.

The main road through the Cuyama Valley is a major transportation corridor, Highway 166, connecting the coastal zone and the San Joaquin Valley in central California. The abundance of Native American sites in the canyons and on the Sierra Madre Ridge has long made the collection of artifacts a popular leisure activity in this area for both locals and visitors to the area. Looting of antiquities continue to has been an issue on the Los Padres. Protection efforts for this culturally-rich area go back to prosecutions contemporaneous with the inception of the Antiquities Act and continue through today. Consequently, efforts to discourage disturbance or looting of artifacts now made more visible by the loss of vegetation is part of the emergency situation created by the Perkins Fire. Another is the localized potential for erosion of surface sites due to localized increased runoff at noted earlier in the hydrologic section as well as burial of identified artifacts and their potential location loss. Finally, the Perkins Fire created an emergency to some rock art where heat from the fire has instituted spalling from the massive bedrock on which they were painted.

B. Emergency Treatment Objectives:

- 1) Prevent expansion of existing invasive weed populations within the Perkins Fire area.
- 2) Prevent the establishment of invasive weed species not previously found in the Perkins Fire area.
- 3) Mitigate the impact of heat-cause spalling damage to rock art at known sites in the Perkins Fire area..
- 4) Mitigate possible looting to artifacts at known site made more visible by the Perkins Fire.
- 5) Mitigate erosion or burial disruption to known archeological sites in the Perkins Fire area.

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

Land **100** % Channel ___ % Roads/Trails ___ % Protection/Safety _ %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90	100	
Channel			
Roads/Trails			
Protection/Safety			

E. Cost of No-Action (Including Loss): Potential spread of Russian knapweed, yellow starthistle beyond existing localized infestations to significant parts of the nearly 15,000 acres Perkins Fire area. There is also the potential that other noxious and invasive weeds introduced from suppression equipment may become established throughout the area. Both circumstances would result in significant degradation of the grazing allotments for this area and impact wildlife habitat as well. Failure to mitigate the impact to rock art and other archeological sites in the area would result in irreplaceable loss of cultural knowledge and spiritual value to a present-day Chumash tribal group and to humanity as a whole.

F. Cost of Selected Alternative (Including Loss): **\$58,639 (cost of extensive weed reduction + loss of cultural knowledge – priceless)**

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 type="checkbox"/>
<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 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	

Team Leader: Jerome V. DeGraff

Team Members: Robert Taylor, Kevin Cooper, Lloyd Simpson, Done Bedford, Joan Brandoff-Kerr with assistance from Melody Fountain, John Kelly, Donna Toth, Annette Howell, Gary Montgomery and Diana Dyste Anzures

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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:

Weed Detection Survey

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, travel routes and helispots for the next three years especially if new weed detections take place in the first year (FY 2007). There are 20 miles of dozer lines that will have to be monitored by walking. Six helispots (6 acres) which may not all be accessible from the ground. Fifteen miles of non-system roads and trails and 20 miles of system roads were bladed and will need to be monitored. All travel routes on the forest will need to be monitored and checked for new weed infestations.

FY 2007 – Monitor extent of noxious weed species occurrence, concentrating in the burned area along travel routes, dozer lines and helispots. Survey heliport and fire camp parking area as potential source of weeds. Submit report to Regional BAER Coordinator. Evaluate need for further action and treatment.

GS –11 Botanist - Simpson	\$372.96/day x 5 days = \$1,864.80
GS – 9 Forester - Madden	\$251.80/day x 15 days = \$3,777.00
GS – 5 Forestry Technician – Meiners	\$156.89/day x 15 days = \$1,568.90
Mileage:	300 miles 0.45/mile = \$135.00

Total Cost Estimate for FY 2007 = \$ 7,345.70

Archeological Resources Treatments

Evaluation for design of protective measures –

- Hire two crew leaders to lead volunteers from the forest's Site Steward program to verify site records and maps for sites at risk from erosion or deposition and design site specific protection measures. Provide for travel and per diem expenses for volunteers. Provide salary and expenses for a Forest Service coordinator.

Line Item	units	Unit cost	#units	SULT \$
FS coordinator GS9 - salary	days	\$250	10	\$2,500
2 hired crew leaders salary & expenses	days	\$300	20	\$6,000
10 volunteers - expenses	trips	\$100	20	\$2,000

- Protect occupation deposits on slopes with the installation of geojute, or similar product, to reduce soil loss from heavy rain events. Provide salary and expenses for FS coordinator. Provide expenses for volunteers.

Line Item	units	Unit cost	#units	SULT \$
FS coordinator GS9 – salary & expenses	days	\$300	10	\$3,000
Materials – geojute, staples	site	\$500	8	\$4,000
Haul vehicle for geojute	trip	\$200	1	\$ 200
10 volunteers - expenses	trips	\$100	20	\$2,000

- Monitor sites treated for effectiveness for winter season subsequent to the incident. Utilize Site Steward volunteers. Covered under Site Steward 110 program. No costs.

Protection of pictographs –

- Hire photographer to digitally record all pictographs at risk and process through a program called Dstretch which enhances and makes visible painted elements the human eye does not detect. This will provide a permanent record of the paintings.

Line Item	units	Unit cost	#units	SULT \$
FS coordinator GS9 – salary & expenses	days	\$300	10	\$3,000
photographer salary & expenses	days	\$300	10	\$3,000

Protect against looting –

- Provide for patrols during the next year, emphasizing times when the area is most heavily used (spring, early summer, fall hunting season), to deter looting and vandalism, and monitor effectiveness of signs. Utilize Site Stewards to assist in both patrolling and educating the public.

Line Item	units	Unit cost	#units	SULT \$
Site Stewards - expenses	days	\$50	10	\$500

- Place signs at public entries to the area (trailheads, roads) to educate public users about proper behavior around sensitive and fragile heritage resources, laws protecting these resources, and that violations will be prosecuted. Utilize Site Stewards for assistance in installation.

Line Item	units	Unit cost	#units	SULT \$
FS coordinator GS9 – salary	days	\$250	5	\$1,250
Expenses for FS & volunteers	days	50	3	\$ 150
Sign & mount - design & construction	each	\$2500	2	\$5,000

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.)

The effectiveness of signs describing the special nature of this Archeological District at trailheads will be evaluated by using the Site Stewards volunteer program to complete patrols periodically through the area to determine if there is increased disturbance. This will be monitored by the Forest Archeologist.

Channel Treatments:

Roads and Trail Treatments:

Protection/Safety Treatments:

Part VI – Emergency Stabilization Treatments and Source of Funds

Interim #

Line Items	Units	Unit Cost	NFS Lands		Other \$		Other Lands		Non Fed \$	All Total \$
			# of Units	BAER \$			# of units	Fed \$	# of Units	
A. Land Treatments										
Weed Detection	Surv		1	\$7,346	\$0		\$0		\$0	\$7,346
Arch Site stabilization	site		40	\$26,600	\$0		\$0		\$0	\$26,600
Rock art stabilization	site		10	\$6,000	\$0		\$0		\$0	\$6,000
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Land Treatments				\$39,946	\$0		\$0		\$0	\$39,946
B. Channel Treatments										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Road & Trails				\$0	\$0		\$0		\$0	\$0
D. Protection/Safety										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Structures				\$0	\$0		\$0		\$0	\$0
E. BAER Evaluation										
				---			\$0		\$0	\$0
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
Subtotal Evaluation				\$18,693	\$0		\$0		\$0	\$18,693
F. Monitoring										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0		\$0		\$0	\$0
G. Totals				\$58,639	\$0		\$0		\$0	\$58,639
Previously approved										
Total for this request				\$58,639						

PART VII - APPROVALS

1. /s/ Kenneth E. Heffner for
Forest Supervisor (signature)

6/28/06
Date

2. /s/ Thomas L Tidwell (for)
Regional Forester (signature)

7/05/2006
Date