

Date of Report: August 15, 2008

**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: PiuteB. Fire Number: CA-SQF-001356C. State: CAD. County: KernE. Region: Pacific Southwest (R-5)F. Forest: SequoiaG. District: Kern RiverH. Fire Incident Job Code: P5D88BI. Date Fire Started: June 28, 2008J. Date Fire Contained: July 24, 2008K. Suppression Cost: \$25,000,000

## L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 52  
2. Fireline seeded (miles):  
3. Other (identify):

M. Watershed Number: Huc 6 watersheds Upper Kelso Ck (#180300020501) Middle Kelso Crk (#180300020502), Lower Kelso Crk (#180300020503), Kern River/Erskine (#180300030102), Kern River/Bodfish Crk (#180300030102), Clear Ck (#180200030103), Headwaters Walker Basin (#180300030301)

N. Total Acres Burned: 37,026NFS Acres(32,923) Other Federal (2,613) State ( ) Private (1,490)

O. Vegetation Types: Jeffrey Pine Forest, Pinyon-Juniper Woodland, Mixed Fir Forest, Live Oak Forest, Chaparral & Montane Chaparral, Desert Shrub

P. Dominant Soils: Typic Xeroorthent, Entric Haploxeroll, Dystric Xerochrept, Rock Outcrop

Q. Geologic Types: Granodiorite of Castle rock, Granodiorite of Waggy Flat, Granodiorite of Kelso Peak, Granite of Bob RabbitCanyon and metavolcanic/metasedimentary rocks including marble and dolostone

R. Miles of Stream Channels by Order or Class: Perennial 22 miles and 130 miles Intermittent

S. Transportation System

Trails: 24 miles      Roads: 39 miles

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

A. Burn Severity (acres): 15,063 (low) 12,241 (moderate) 3,655 (high) (6,033 unburned/rock outcrop)

B. Water-Repellent Soil (acres): 1,000

C. Soil Erosion Hazard Rating (acres):  
28 (low) 15,546 (moderate) 17,356 (high) (4,088 non-NFS land /no data)

D. Erosion Potential: 21 tons/acre

E. Sediment Potential: 14,784 cubic yards / square mile

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

A. Estimated Vegetative Recovery Period, (years): 6-7

B. Design Chance of Success, (percent): 90%

C. Equivalent Design Recurrence Interval, (years): 10

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 2.2 -2.6

F. Design Flow, (cubic feet / second/ square mile): (see Table 1 in Hydro Report–by watershed)

G. Estimated Reduction in Infiltration, (percent): 2.7%

H. Adjusted Design Flow, (cfs per square mile): (see Table 1 in Hydro Report–by watershed)

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

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

1. Threat to public safety due to runoff impact to roads.
2. Risk to road infrastructure due to loss of water control.
3. Indirect threat to soil productivity due to OHV and grazing inhibiting natural recovery.
4. Increased visibility and vulnerability of heritage resources along the roads accessed from French Gulch.
5. Potential erosion damage to four heritage sites.
6. Continuing debris flow threat to roads and structures off-forest along south fork of Erskine Creek, Thompson Creek, and Woolstaff Creek.
7. Potential risk to the integrity of the cap over the Bright Star Tailings and associated release potential from increased erosion.
8. Risk to investment in system trail due to runoff impact.
9. Potential risk of noxious invasive weeds into an area currently unaffected by this problem.

### **B. Emergency Treatment Objectives:**

1. Reduce the risk of debris flow damage to life and property downstream from the fire-affected area.
2. Reduce the threat to public safety from runoff impacts to forest roads.
3. Prevent unacceptable levels of damage to Forest system roads and trails.
4. Protect heritage resources from erosion and human-caused damage.
5. Prevent the establishment of noxious invasive weeds into the fire-affected area.
6. Prevent damage and potential hazardous substance release from the capped Bright Star Tailings.
7. Prevent erosion and release of arsenic-contaminated tailings at Jeanette Grant Mine.
8. Reduce the indirect threat to soil productivity.

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

Land 98 % Channel     % Roads/Trails 95 % Protection/Safety 98 %

### **D. Probability of Treatment Success**

	Years after Treatment		
	1	3	5
Land	95	100	
Channel			
Roads/Trails	95	98	
Protection/Safety	95	100	

### **E. Cost of No-Action (Including Loss):**

### **F. Cost of Selected Alternative (Including Loss):**

### **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 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"/>

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## H. Treatment Narrative:

### Land Treatments:

#### ◆ **Area Closure to Motorized Vehicles**

The open conditions created by the fire (lack of vegetation) provides the opportunity for illegal OHV trespass off of established routes. This will create many new/unstable trails and slope impacts. Additionally, due to the instability of existing trails in the burn area and the lack of restrictive vegetation, allowing motorized use could impact soil productivity recovery, add to further watershed degradation (soil erosion). It will also slow vegetative recovery, which is crucial to the return of watershed stability. Additionally, other fire hazards such as damaged trees and rockfall lead to human safety concerns.

The recommended treatment is an area closure to motorized vehicles within the Piute fire area. This will involve the placement of gates at four intersections along Piute Mountain road and closure of all system and user-defined trails within the Piute fire area. The closure would also require information signs explaining the need for excluding motorized use (for a minimum of 1 year). This will facilitate soil productivity and watershed recovery by allowing plants to regrow/resprout on areas of high/moderate/low burn severity where understory vegetation no longer limits OHV access. Finally, an area OHV closure will also assist with treatment effectiveness for heritage site conservation. (See Appendix A for details)

#### ◆ **Noxious Weed Delayed Assessment**

The unknowing introduction of invasive noxious weeds into areas disturbed by fire suppression and rehabilitation has the potential to establish persistent weed populations. These persistent populations could affect the structure and habitat function of plant communities within the burn area. Forest Service direction is to minimize the establishment of non-native invasive species to prevent unacceptable degradation of the burned area. Consequently, delayed assessment of roads, dozer lines, drop points, and safety zones is necessary to detect the spread and introduction of weeds in the first year after fire. Assessing the establishment of weeds and treating small outlying populations before they expand, will prevent the weeds from becoming serious threats to the recovery of native plants. (See Appendix B for details)

- ◆ **Grazing Rest** for the portion of allotments affected by the Piute Fire for a minimum of 1 year with evaluation to consider whether a second year might be instituted prior to return to normal grazing patterns. This closure will require repair of 3 pasture fences (2 miles of fence total) damaged by the fire, and some additional allotment administration.

### Channel Treatments: **None Proposed**

### Roads and Trail Treatments:

- ◆ **Selective Maintenance on System Trails** to prevent concentration of runoff through the installation of water bars where trail conditions and high burn severity may lead to such conditions during the winter rains. Specific placement would be under the direction of the local recreation officer or experienced trail personnel.

#### **Trail Treatments**

- OHV Single Track and Hiking Trail Stabilization
- Stream Crossing Stabilization

- Trail Gully Stabilization  
Trail Treatment Miles = 26  
Trail Treatment Cost = **\$117,000** (\$4500/mile)

#### **Treatment Monitoring/Maintenance/Review**

Treatment Cost = **\$ 2,000**

#### **Burn Area OHV Use closure**

<b>Treatment</b>	<b>Equipment, Supplies, Personnel</b>	<b>Days</b>	<b>Cost Per Each/Day</b>	<b>Total Cost</b>
Closure	Small Sign x14		\$250	\$3,500
	Large Sign x7		\$1,500	\$10,500
	FS Pipe Gates, Wing Barriers x 5		\$6,000	\$30,000
	GS-5 FPO x1	90	\$150	\$13,500
	PAO	10	\$350	\$3,500
	GS-11 Engineer	4	\$300	\$1,200
			<b>Total Cost</b>	<b>\$62,200</b>

#### **Closure Monitoring/Storm Patrol**

Treatment Cost = **\$ 3,200**

**Total Overall Trail Treatment Request = \$184,400**

#### ♦ **Selective Treatments on Roads**

Road treatments in combination with an area closure would protect the investment in the existing system roads. Specific treatments include, berms to close roads beyond certain points, installation of rolling dips, outsloping, and the placement of spillways/risers to improve drainage at others. This work would be in conjunction with warning signs for the road users (See Engineering Specialist Report for details.)

- Recommend warning signs be installed on county road #148 Erskine Creek Road and 27S01.
- Recommend earthen berm or boulder barrier be installed at the beginning of road 28S23 below Piute Peak.
- Recommend earthen berm or Boulder barrier be installed at the beginning of road 28S17B.
- Recommend rolling dips be constructed at stream crossing locations with identified diversion potential on roads 28S27 and 28S24.
- Recommend storm patrol on all roads in the burn to restore designed road drainage function and repair or maintain BAER treatments.
- Recommend out sloping in areas identified on 28S24 to prevent concentration of surface flows.
- Recommend installing gates at strategic locations on road 28S27 French Gulch Road to prevent vehicle damage to BAER treatments. Road surface drainage structures (e.g. dips) can be compromised in wet weather from wheel rutting.
- Recommend installing risers at identified locations on 28S24 to prevent culvert plugging.
- Recommend to County that diversion prevention dips and possibly armored spillways be installed at identified locations on Piute Mtn. Road.

<b>ITEM</b>	<b>Unit Cost</b>	<b>#</b>	<b>Total cost</b>
<b>Gates</b> (install large)	\$10,000	1	\$10,000.00
<b>Closure signs</b> (information/warning)	\$250	1	\$250.00
<b>Road Closure</b> (berm or boulders)	\$2,000	2	\$4,000.00

<b>Storm Patrol</b> (pickup)	\$ 2,000	6	\$12,000.00
<b>Storm Patrol</b> (backhoe)	\$ 4,000	6	\$24,000.00
<b>Dips</b>	\$3,000	11	\$33,000.00
<b>Spillway</b>	\$10,000	1	\$10,000.00
<b>Out Sloping</b>	\$5,000	3	\$15,000.00
<b>Riser</b>	\$3,000	4	\$12,000.00
<b>Signs</b> (Warning)	\$1,000	1	\$1,000.00
<b>Grand Total</b>			<b>\$121,250.00</b>

#### Protection/Safety Treatments:

- **Notification to Kern County and other appropriate agencies** to ensure that people living downstream along the potential debris flow path, have adequate information to take preventative or mitigating measures for their safety and the preservation of their property. Potential debris flow path areas include Erskine creek and Thomson Canyon. This notification should ensure that Kern County Public Works knows of the potential problems along Piute Mountain road and is urged to take actions to protect this important access route for both Forest Service and emergency agency traffic during future storms/emergencies.
- **Installation of replacement erosion control at Bright Star Tailings** to prevent breaching of the cap and the release of arsenic-contaminated tailings into the South fork of Erskine Creek. This is for public safety and protection of the several hundred thousand dollars in investment to this CERCLA response action. The fire increased the runoff potential onto this cap where existing erosion control was destroyed. It is recommended that actions to redirect water from the site and to limit its effect on the cap be undertaken.
- **Placement of erosion control at four heritage sites** to prevent damage from erosion. This would involve the installation of straw wattles and/or fabric matting at the vulnerable points at these identified sites.
- **Installation of erosion control at Jeanette Grant Mine** is necessary for a 175 cubic yard tailings pile located near the remains of the mill site. These tailings are on the slope adjacent to the channel. The loss of vegetation makes them likely to be released during the rainy season into Erskine Creek and potentially transported to Lake Isabella area. Erosion control by covering with filter fabric in combination with wattles should prevent this off-site migration of this material.
- **Hazard Tree Assessment/Removal** along roads/trails and fire-safe areas for safety of implementation crews and public. This includes the 39 Miles of roads, 24 miles of system trails, and at 5 fire-safe areas within the Piute burn area.

#### **I. Monitoring Narrative:**

##### **Treatment Monitoring/Maintenance/Review**

It is important that treatment sites be monitored post-implementation to determine prescription effectiveness and for documentation purposes, and to assess maintenance needs. Without monitoring and maintenance, treatments could lose their effectiveness and the initial investment could be lost. The monitoring sites should also be surveyed by a qualified watershed or trails specialist. Monitoring of treatments should be completed after the first post-fire storm damage and any other major events thereafter for at least 2 years and identify maintenance and additional treatment needs.

**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>										
Area closure	1	\$62,200	1	\$62,200	\$0		\$0		\$0	\$62,200
Grazing Rest/Fence Repair				\$13,000	\$0		\$0		\$0	\$13,000
Noxious Weeds survey	1	\$8,450	1	\$8,450	\$0		\$0		\$0	\$8,450
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>				<b>\$83,650</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$83,650</b>
<b>B. Channel Treatments</b>										
				\$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
<i>Subtotal Channel Treat.</i>				<b>\$0</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$0</b>
<b>C. Road and Trails</b>										
Trail Tread/Stream Crossing Maintenance/Patrol				\$120,200	\$0		\$0		\$0	\$120,200
Road Pre-season Maintenance/Storm Patrol				\$121,250	\$0		\$0		\$0	\$121,250
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Road &amp; Trails</i>				<b>\$241,450</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$241,450</b>
<b>D. Protection/Safety</b>										
Notification				\$2,000	\$0		\$0		\$0	\$2,000
Bright Star Cap				\$12,000	\$0		\$0		\$0	\$12,000
Jennette Grant tailings				\$25,000	\$0		\$0		\$0	\$25,000
Heritage Site Mulching	4	\$2,000		\$8,000	\$0		\$0		\$0	\$8,000
Hazard Tree Assessment/Removal				\$16,000	\$0		\$0		\$0	\$16,000
<i>Subtotal Structures</i>				<b>\$63,000</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$63,000</b>
<b>E. BAER Evaluation</b>										
Assessment Team					\$53,750		\$0		\$0	\$53,750
<i>Insert new items above this line!</i>					\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>				<b>\$0</b>	<b>\$53,750</b>		<b>\$0</b>		<b>\$0</b>	<b>\$53,750</b>
<b>F. Monitoring</b>										
Trail Treatment Monitoring				\$2,000	\$0		\$0		\$0	\$2,000
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Monitoring</i>				<b>\$2,000</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$2,000</b>
<b>G. Totals</b>				<b>\$390,100</b>	<b>\$53,750</b>		<b>\$0</b>		<b>\$0</b>	<b>\$443,850</b>
Previously approved										
Total for this request				<b>\$390,100</b>						

**PART VII - APPROVALS**

 1. /s/ Tina J. Terrell  
 Forest Supervisor (signature)

8/15/08  
 Date

 2. /s/ Chris Knopp (for)  
 Regional Forester (signature)

8/18/08  
 Date