

Date of Report: 7/30/2009

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: ForksB. Fire Number: CA-INF-885C. State: CAD. County: InyoE. Region: 05F. Forest: InyoG. District: White Mnt.H. Fire Incident Job Code: P5E2CEI. Date Fire Started: 7/18/2009J. Date Fire Contained: 7/24/2009K. Suppression Cost: 3,031,000

L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred/rehabbed (miles): 1 mile dozerline, 12 miles handline
2. Fireline seeded (miles): None
3. Other (identify): None

M. Watershed Number: 5th field HUC# 1809010205 (Owens River/Bishop Creek), #1809010202 (Owens River/McGee Creek)N. Total Acres Burned: 3,268

NFS Acres(3166) Other Federal (0) State (0) Private (0) LADWP (102)

O. Vegetation Types: Sagebrush/Bitterbrush Scrub, Pinyon and Jeffery Pine Woodland, Cottonwood/Willow Riparian WoodlandP. Dominant Soils: Kilburn, Nanamkin and Preston families

Q. Geologic Types: Lateral Moraines, glacial outwash, granite

R. Miles of Stream Channels by Order or Class: Perennial = 0 miles, Intermittant = 14 miles, Ephemeral=8

S. Transportation System

Trails: 0 miles Roads: 9 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres):): 91 (3%) (unburned) 794 (24%) (low) 2346 (72%) moderate) 37 (1%) (high)

B. Water-Repellent Soil (acres): 626

C. Soil Erosion Hazard Rating (acres):
1179 (low) 1129 (moderate) 960 (high)

D. Erosion Potential: 7 tons/acre

E. Sediment Potential: 3800 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3-5

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

F. Design Flow, (cubic feet / second/ square mile): 4.1

G. Estimated Reduction in Infiltration, (percent): 10

H. Adjusted Design Flow, (cfs per square mile): 4.5

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Threats to Life and Property

Highway 168: In conjunction with CalTrans it was determined that a threat exists for users, vehicles, and the road surface of Highway 168 from falling rock, potential debris slides, possible debris flows, and flooding, due to the steepness of slopes, burned at a moderate severity, above and adjacent to the highway. Observations included loose boulders on steep slopes potentially further destabilized by removal of vegetation which provided partial slope support, insufficient berm height and length to stop or slow rock and soil coming off the slopes, insufficient catch basin depth and width in some areas, and insufficient shoulder width to construct

berms or catchment basins. These conditions do constitute an emergency to both the highway, and travelers along the highway.

Southern California Edison Aqueduct and Associated Access Road: In communication with SCE it was determined that a threat exists for the SCE aqueduct and access road from falling rock, potential debris slides, possible debris flows, and flooding, due to the steepness of slopes burned at a moderate severity above the aqueduct and road. As the aqueduct and road are located on the same slope that is above Highway 168 similar observations of loose rock and destabilization of soil were noted. In addition, the aqueduct access road has several retaining wall structures (approx. 5) with wooden slats that were consumed in the fire. These retaining walls were situated to act as barriers in areas with a greater potential for increased water runoff and rock fall. If these retaining walls are not repaired there is a potential for increased water, sediment, and rock fall to further erode around and below these walls, creating more substantial gullies and rills down the hillslope, potentially further impacting Highway 168 and the Big Trees Campground.

Big Trees Campground: Four campsites, numbered one through four, are located at the toe slope of the steep, rocky slope described under the threats to Highway 168 and the SCE aqueduct. Similar to as noted above, this slope was determined to present a potential threat to campground users and campground infrastructure from rock fall, debris flow/slides, and flooding. However, the likelihood of these threats occurring is thought to be low, due to the presence of unburned vegetation between most of the slope and the campground and Highway 168, the SCE aqueduct road, and naturally occurring benches of lower slope gradient acting as buffers between the slope and the campground.

Forest Service Road 7S15: This dirt road heads southwest from Highway 168, approximately 4 miles northeast of the entrance to Big Trees Campground. The primary uses of this road are for recreational use by the public and aqueduct access by SCE. During the fire, this road was completely burned over. The road crosses several ephemeral and intermittent drainages. At three locations along the road, culverts are used to pass the runoff through the road prism. Due to the potential for increased sediment flow, these culverts are in danger of becoming plugged, which could cause major erosion or complete washout of the road prism.

Threats to Water Quality : None

Threats to Threatened, Endangered and Sensitive Species : None

Threats to Ecosystem Stability/Soil Productivity: See Buttermilk Grazing Allotment description below. Noxious/Invasive weeds, illegal OHV use (off established routes) and livestock grazing pose risks to ecosystem stability and soil productivity. In addition, these risks can prolong watershed recovery.

OHV incursions: Within the Forks Fire burn area there are multiple relatively flat or rolling, open areas that could easily be accessed by unauthorized OHV users. This area receives moderate OHV use. This area is popular due to its proximity to Bishop and loop opportunities. The BAER team observed OHV use in the areas when completing the assessment. Illegal OHV activity can adversely affect native vegetation recovery, spread of noxious/invasive weeds, displace soil negatively affecting soil productivity and prolong watershed recovery.

Increase in Noxious Weed Populations: An emergency exists with respect to vegetative recovery as a result of the threat of post-fire weed introduction and spread. The unknowing introduction and dispersal of invasive weeds into areas disturbed by fire suppression and rehabilitation has the potential to establish large and persistent weed populations. In addition, it is highly likely that existent weed infestations will increase in the burn area, due to their accelerated growth and reproduction and a release from competition with natives. These weed populations could affect the structure and habitat function of native plant communities within the burn area. It is expected that most native vegetation would recover if weed invasions are minimized. The Forks Fire removed the vegetative barriers that previously limited the amount of cross country travel in the burn area. Increased use of this area by horseback riders, mountain bikers, and off road vehicles may facilitate the spread of invasive weeds. Additionally, the erosion and soil compaction caused by these types of uses may also inhibit the recovery of native plant populations. As a result, horseback and illegal vehicle use may

contribute to increased density and distribution of invasive weeds. An increase in invasive weeds can contribute to type conversion and overall reduction in the density and distribution of native plants.

Buttermilk Grazing Allotment: Approximately one fifth of the Buttermilk Allotment burned in the Forks Fire. It is a standard practice in Forest Service and other land management agencies to temporarily close burned allotments for two to three years. This is because of the threat to vegetation recovery if livestock are allowed to graze immediately after fire. Livestock are often detrimental to recently burned landscapes for several reasons such as: the increased possibility of weed invasion from increased disturbance of soil and transport of weed seed; decreased native vegetation regrowth from increased herbivory and trampling, and increased soil erosion, most especially in riparian and steep areas, from trampling and suppression of native plant regrowth. It was therefore determined that an emergency exists for vegetation recovery and soil stability for the Forks Fire.

Threats to Cultural Resources

Historic and Prehistoric Sites:

Ten heritage resources were located within the Area of Potential Effect (APE) for the Forks Fire. Nine of these are prehistoric resources and one is a historic rock wall associated with Southern California Edison's Bishop Creek Hydroelectric operation. All ten recorded sites located within the APE sustained moderate to severe burn severity which resulted in a loss of vegetation and some damage to features and artifacts from burning and smoke damage. These ten sites were visited in order to assess whether they were potentially at risk from post fire processes such as scouring, erosion cuts, or slope wash, as well as increased vulnerability from looting and vandalism.

Three sites are located in an area that burned with high severity. These were visited with Hydrologist Casey Shannon and determined not to be at an immediate risk from erosional processes and do not require treatment under BAER at this time. Physical barriers or deflectors are determined to be ineffective due to on-site specific topography and difficulty in accessing the site with the equipment used to implement such treatment measures. A historic rock wall surrounding an SCE aqueduct pipeline burned in the fire and required stabilization of the slope under this feature. This was accomplished during fire suppression repair with the District Ranger's approval. It is recommended that the effectiveness of this treatment be monitored.

B. Emergency Treatment Objectives:

- Provide for Public Safety— Ensure communication of potential post fire values at risk with CalTrans, SCE, and users of the Big Trees campground has occurred. Reduce threat to life and safety by signing potential hazardous areas (Sites 1-4) within the Big Trees campground until watershed stabilization has occurred and/or the threats/hazards have been removed. Re-evaluate the burned area before removing signage.

- Limit Damage to Property- Highway 168 and the SCE aqueduct and associated access road are at greater risk from rock fall, flash flooding and sedimentation after the fire. The treatment objectives are to increase the awareness of CalTrans and SCE of the potentially hazardous conditions resulting from the Forks fire.

In addition, during a field visit of the SCE aqueduct and road on July 27, 2009, personnel from SCE informed the BAER team of their intent to replace the consumed retaining walls and maintain the overside drains along their access road. SCE also indicated their intent to remove rock fall and sediment from the toe slope behind the aqueduct and in the access road as necessary to prevent impacts to the aqueduct. The BAER team responded with the information that SCE would have to contact the Inyo NF permit administrator and submit a project proposal for proper review from the Forest Service.

- Noxious Weeds - Reduce the potential for impaired vegetative recovery and introduction/spread of noxious weeds.

- Road and Trail Treatments – Objective is to improve road drainage to protect the road system. Reduce erosion from the road surface and sediment delivery to stream channels. Reduce the threat to life and safety for road users.

- Cultural Resource Sites – Objectives are to monitor the possibility for increased erosion/sediment deposition to damage cultural sites.

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

E. Cost of No-Action (Including Loss):_ \$1,338,226

F. Cost of Selected Alternative (Including Loss):_ \$37,226

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 type="checkbox"/> GIS	

Team Leader: Katie VinZant/Todd Ellsworth (Forest Coordinator)

Email: tellsworth@fs.fed.us

Phone: 760-873-2457

FAX: _____

Core Team:

Casey Shannon (Hydrologist)
 Erin Lutrick (Hydrologist/GIS)
 Margie DeRose (Geologist)
 Leanne Murphy (Wildlife Biologist)
 Katie VinZant (Botanist)

Crystal West (Heritage)
 MaryBeth Hennessey (Resources)
 Lisa Simms (Fisheries/Range)

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.)

Implementation Team

To provide for logistics and tracking of treatment implementation.

Estimated Cost:

Implementation Team Leader (\$400/day x 5 days)	\$2000
Hydrologist/Soil Scientist (\$350/day x 5 days)	\$1750
Vehicle mileage (500 miles @0.55/mile)	\$ 275
TOTAL	\$4025

Land Treatments:

Noxious Weed Detection Surveys

Surveys will begin in 2010 during the flowering periods of weed species. Because of differences in flowering times for all potential species, two visits may be required during the growing season. Completion of surveys in riparian areas, dozerlines, and known invasive infestations would be the first priority. The second survey priorities would be along roads, handlines, and staging areas. Surveys of the general habitats in the burned area would be the lowest priority.

Weed detection surveys to determine whether ground disturbing activities related to the Forks Incident and the fire itself have resulted in the expansion of noxious weeds is requested for the first year. Estimated costs are based on the assumption that two visits would be necessary because of the differences in flowering times. If timing is such that all the target species are detectable in one visit, the actual costs would be lower than displayed below.

Estimated Cost:

1 GS-11 botanist (\$350/day x 2 days)	\$ 700
1 GS-9 botanist (\$270/day x 2 days)	\$ 540
Vehicle mileage (100 miles @0.55/mile)	\$ 55
TOTAL	\$1295

Buttermilk Allotment Closure

Two treatments are proposed to restrict livestock use on the Buttermilk Allotment. The first involves contracting with a livestock driver to ensure that the cattle are kept out of the burn perimeter. A Rangeland Specialist will coordinate and enforce this contract, work with the permittee, and monitor treatment effectiveness. The second part of the treatment includes the purchase of material for a temporary electric fence. This mile or less of fenceline will only be utilized in key riparian areas where complete livestock exclusion is essential. The cost of labor is not included in this second treatment as the rangeland rider and/or the permittee will be responsible for erecting and maintaining the fence and this is incorporated into the first treatment cost.

Estimated Cost for Rangeland Livestock Driver and FS Oversight:

GS-11 Rangeland Specialist (\$350/day x 7 days)	\$1750
Rangeland Rider (200/day x3 days a week x 12 weeks)	\$7200
TOTAL	\$8950

Estimated Cost for 1 mile of electric fence:

Battery	\$ 400
Energizer	\$1000
Solar Panel Kit	\$ 500
16 gauge wire (\$75/mile x 1 mile)	\$ 75
Fiberglass posts (\$5/post x 442 posts)	\$2210
Braces (from t-posts) (\$15/brace x 6 braces)	\$ 90
Brace kit (\$6/kit x 6 kits)	\$ 12
Clips (\$15/100 clips x 1326 clips)	\$ 210
Grounding kit (35/kit)	\$ 35

TOTAL

\$4532

TOTAL ALLOTMENT CLOSURE COST= \$13,482

Channel Treatments: None

Road Treatments:

Forest Service Road 7S15

BAER treatments recommended include the cleaning out of sediment and energy dissipator installation for three existing culverts at key drainage locations along FS road 7S15. All three of the culverts are currently plugged with sediment/rock and require installation of energy dissipators or rock armouring on the downstream side of the culverts to prevent further erosion and downcutting.

Estimated Cost:

Sediment Removal/Energy dissipator install	3 culverts @ \$500.00/culvert	\$1500
Archeology survey, GS-9, 1 day at \$300		\$300
Botanical Survey, GS-9, 1 day at \$300		\$300
Vehicle mileage (200 miles @0.55/mile)		\$ 111
TOTAL		\$2211

Protection/Safety Treatments:

Unauthorized OHV Patrolling

Within the Forks Fire burn area there are multiple relatively flat or rolling, open areas that could easily be accessed by unauthorized OHV users. To prevent the creation of unauthorized off-highway vehicle routes within the burn area monitoring will be done by a patrol officer or OHV monitor twice a month.

Estimated Cost:

1-GS-7 Patrol (200/day x 40 days)	\$8000
Mileage, 40 days (2000 miles x .55/mile)	\$1100
TOTAL	\$9100

Interagency Coordination/Interim Reporting

Interagency coordination started during the fire and continued throughout the BAER Assessment. Continuing this coordination by providing the BAER Assessment Report, specialist reports and attending meetings is anticipated. This treatment will also provide funds for the completion of interim/accomplish reports.

Estimated Cost:

Forest BAER Coordinator (\$400/day x 3 days)	\$1200
Geologist (\$330/day x 5 days)	\$1650
TOTAL	\$2850

Hazard and Advisory Signs:

This treatment is preventative. Signs will be placed at access points, along Forest Service roads 7S15, 7S01, and 8S15, at any potential unauthorized OHV use areas, and the Big Trees Campground. The signs will encourage visitors to stay on main roads/trails to facilitate native plant recovery, decrease noxious/invasive weed vectors and protect soil productivity and warn them of the possible dangers of rock fall and wash outs within and downslope of the burn area. Signs will be durable in nature and placed on an existing kiosk at Big Trees Campground.

Estimated Cost:

1 GS-09(\$300/day x 2 days)	\$ 600
Archeology survey, GS-9, 1 day at \$250/day	\$ 250
Botanical survey, GS-9. 1 day at \$300/day	\$ 300
75 Carsonite signs and labels	\$1162
Miscellaneous Materials	\$ 50
Vehicle Mileage (150 miles x .55/mile)	\$ 83
TOTAL	\$2445

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.)

Forest Road Stabilization Effectiveness Monitoring

To monitor the effectiveness of stabilization treatments along Forest Road 7S15 monitoring funds are requested. The treatments are designed to restore existing erosion control structures on Forest Service Roads to facilitate proper water drainage off the road, preserve the road tread, and decrease watershed efficiency.

Estimated Cost:

1-GS-11 Engineering Specialist (400/day x 3 days)	\$1200
Mileage, 3 days (150 miles x .55/mile)	\$ 83
TOTAL	\$1283

Heritage Site Monitoring

Ten heritage resources were affected by the fire. All sustained a complete loss of vegetation, however it is determined that only four sites are potentially at-risk from scouring, erosion cuts, or slope wash.. Treatment of the historic rock wall is proposed for effectiveness monitoring.

Estimated Cost:

Archeologist GS-9, 4 days at \$240/day	\$ 960
Vehicle Mileage (100 miles x .55/mile)	\$ 55
TOTAL	\$ 1015

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 \$	
A. Land Treatments									
Implementation Team	ea	4025	1	\$4,025	\$0		\$0	\$0	\$4,025
Noxious Weed detection	ea	1295	1	\$1,295	\$0		\$0	\$0	\$1,295
Range Rider	ea	8950	1	\$8,950					\$8,950
Allotment fencing	ea	4532	1	\$4,532	\$0		\$0	\$0	\$4,532
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
<i>Subtotal Land Treatments</i>				\$18,802	\$0		\$0	\$0	\$18,802
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
<i>Subtotal Channel Treat.</i>				\$0	\$0		\$0	\$0	\$0
C. Road and Trails									
Culvert cleaning	ea	737	3	\$2,211	\$0		\$0	\$0	\$2,211
				\$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 Road & Trails</i>				\$2,211	\$0		\$0	\$0	\$2,211
D. Protection/Safety									
Interagency Coord	ea	2850	1	\$2,850	\$0		\$0	\$0	\$2,850
Hazard Signs	unit	32.6	75	\$2,445	\$0		\$0	\$0	\$2,445
OHV Patrol	ea	9100	1	\$9,100	\$0		\$0	\$0	\$9,100
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
<i>Subtotal Structures</i>				\$14,395	\$0		\$0	\$0	\$14,395
E. BAER Evaluation									
Team Member Salarie	day	2500	6	\$15,000			\$0	\$0	\$15,000
Perdiem/Mileage	unit	650	1	\$650	\$0		\$0	\$0	\$650
<i>Subtotal Structures</i>				\$30,045	\$0		\$0	\$0	\$30,045
F. Monitoring									
Road stabilization eff	ea	1283	1	\$1,283	\$0		\$0	\$0	\$1,283
				\$0	\$0		\$0	\$0	\$0
Heritage Site Monitoring	ea	1015	1	\$1,015	\$0		\$0	\$0	\$1,015
<i>Subtotal Monitoring</i>				\$2,298	\$0		\$0	\$0	\$2,298
G. Totals				\$53,356	\$0		\$0	\$0	\$53,356

PART VII - APPROVALS

 1. //s//Jim Upchurch
 Forest Supervisor (signature)

7/31/2009
 Date

 2. /s/ Julie Lydick (for)
 Regional Forester (signature)

8/7/09
 Date

Appendix A.

June Fire Fire Road Effectiveness Monitoring

The 2500-8 report requests funds to monitor the effectiveness of road treatments on Forest Road 7S15.

1. Monitoring Questions
 - a. Did the culvert pass water during a storm event and not plug?
 - b. Is the road leading to concentrating runoff leading to unacceptable off-site consequences?
2. Measurable Indicators
 - a. Culvert plugging
 - b. Loss of road bed
3. Data Collection Techniques
 - a. Photo documentation of site
 - b. Inspection Checklist (attached)
4. Analysis, evaluation, and reporting techniques
 - Monitoring will be conducted after storm events. If the monitoring shows the treatment to be ineffective at stabilizing road and there is extensive loss of road bed or infrastructure an interim report will be submitted. A several page report would be completed after the site visit. The report would include photographs and a recommendation on whether additional treatments are necessary.

Road Inspection Checklist

Date: _____
Time: _____

Inspector _____
Forest Road _____

Describe locations reviewed during inspection: _____

Was there road damage?

Was Culvert plugged? _____.

GPS) _____

Describe damage and cost to repair? (GPS) _____

Photo taken of road damage _____

Recommended actions to repair: _____