

Date of Report: September 12, 2013

**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: Rim Fire
- B. Fire Number: CA-STF-002857
- C. State: CA
- D. County: Tuolumne, Mariposa
- E. Region: 05
- F. Forest: Stanislaus NF
- G. District: Groveland, MiWok, Summit RD
- H. Fire Incident Job Code: P5HV2F (0516)
- I. Date Fire Started: 08/17/2013
- J. Date Fire Contained: est. 09/20/2013
- K. Suppression Cost: \$100+ million to date
- L. Fire Suppression Damages Repaired with Suppression Funds
  - 1. Fireline waterbarred (miles): x.x
  - 2. Fireline seeded (miles): 0.0
  - 3. Other (identify):
- M. Watershed Number:

180400091002	Big Creek
180400090301	Kendrick Creek
180400080303	Cascade Creek
180400090601	Upper Middle Tuolumne River
180400090804	Lower Clavey River
180400091001	Jawbone Creek-Tuolumne River
180400090404	Upper Cherry Creek

180400080306	Crane Creek-Merced River
180400080307	Moss Creek-Merced River
180400091004	Grapevine Creek-Tuolumne River
180400090802	Reed Creek
180400080402	Bull Creek
180400080401	Bean Creek-North Fork Merced River
180400090304	Miguel Creek-Eleanor Creek
180400090405	Lower Cherry Creek
180400090504	Hetch Hetchy Reservoir-Tuolumne River
180400090701	Upper South Fork Tuolumne River
180400090602	Lower Middle Tuolumne River
180400090902	Lower North Fork Tuolumne River
180400090403	West Fork Cherry Creek
180400090303	Kibbie Creek
180400090803	Middle Clavey River
180400090702	Lower South Fork Tuolumne River
180400090302	Frog Creek
180400090505	Poopenaut Valley-Tuolumne River

N. Total Acres Burned: 253,360  
 NFS Acres(153,825) Other Federal (75,695-Yosemite NP, 130-BLM) State (0) Private (23,711)

O. Vegetation Types: mixed conifer, chaparel sp.

P. Dominant Soils: granitic, volcanic, metasedimentary

Q. Geologic Types: granitic pluton, metasediments

R. Miles of Stream Channels by Order or Class:

S. Transportation System

Trails: 118 miles      Roads: 722 miles

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

A. Burn Severity (acres): unburned- 48,717, low- 99,243, moderate- 67,454 high- 38,822 (These numbers are from the draft BARC map and will be updated as the assessment team completes the soil burn severity map)

B. Water-Repellent Soil (acres):

C. Soil Erosion Hazard Rating (acres):  
       \_\_\_ (low)    \_\_\_ (moderate)    \_\_\_ (high)

D. Erosion Potential: \_\_\_ tons/acre

E. Sediment Potential: \_\_\_ cubic yards / square mile

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

- A. Estimated Vegetative Recovery Period, (years): \_\_\_\_\_
- B. Design Chance of Success, (percent): \_\_\_\_\_
- C. Equivalent Design Recurrence Interval, (years): \_\_\_\_\_
- D. Design Storm Duration, (hours): \_\_\_\_\_
- E. Design Storm Magnitude, (inches): \_\_\_\_\_
- F. Design Flow, (cubic feet / second/ square mile): \_\_\_\_\_
- G. Estimated Reduction in Infiltration, (percent): \_\_\_\_\_
- H. Adjusted Design Flow, (cfs per square mile): \_\_\_\_\_

**PART V - SUMMARY OF ANALYSIS**

A. Describe Critical Values/Resources and Threats:

The Rim Fire has burned over 250,000 acres in the central Sierra Nevada with an estimated containment date of September 20<sup>th</sup>. A significant percentage of this area burned intensely, consuming all organic duff on the soil surface along with all leaves and needles on standing, live vegetation. A BAER team began assessing the area for post-fire emergencies on September 9<sup>th</sup>. In that time the team has identified the following values at risk to post-fire threats. The team is submitting this initial Burned Area Report in order to begin implementing measures to mitigate these threats. Interim reports will be submitted as the team completes additional assessments.

**1. Life, Safety and Property**

*a. Hazard Trees*

Hazard trees exist along private lands that threaten safety of land owners and structures on these lands. Hazard trees also exist in areas where treatments are proposed that threaten the safety of crews implementing treatments along roads and within designated recreation sites.

*b. Rock Fall*

There is an increased chance of rock fall in several locations, along the FS Roads 1N07 and 3N01. This poses a threat to humans both by direct impact of falling rocks and obstacles on roadways.

*c. Roads and Trails*

There are 722 miles of road and 118 miles of trails in the burn area. Roads throughout the burned watersheds are likely to be impacted by runoff, sediment, and debris derived from burned areas. US and state highways, county roads, and Forest roads exist in these watersheds. Culverts, bridges, low water crossings, roadside ditches, and other road drainage features are at risk from these watersheds. Increased runoff and sediment from the burned areas can negatively affect the road prism, damaging the road, eroding land downslope of the road and routing flow and sediment directly to stream channels. Culverts associated with these roads are at risk of plugging from debris carried down channels from burned watersheds. Some culverts are undersized for the expected increases in peak flows and are at risk of failure from overtopping. Culvert failures may increase the magnitude of flood, sediment and erosion hazards in downstream communities and private lands and increase scouring of stream channels on NFS lands.

*d. Hazardous Materials*

Burned structures have exposed hazardous materials. This includes several buildings at the Berkely-Tuolumne Camp. Also, 2 vault toilets have burned, exposing human waste and melted

construction materials. This material could pollute surface and groundwater, threatening human safety and water quality.

## Values at Risk:

The risk matrix below, Exhibit 2 of Interim Directive No.: 2520-2010-1 was used to evaluate the Risk Level for each value identified during Assessment. Only treatments that had a risk of Intermediate or above are discussed.

Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
	<b>RISK</b>		
Very Likely	<b>Very High</b>	<b>Very High</b>	<b>Low</b>
Likely	<b>Very High</b>	<b>High</b>	<b>Low</b>
Possible	<b>High</b>	<b>Intermediate</b>	<b>Low</b>
Unlikely	<b>Intermediate</b>	<b>Low</b>	<b>Very Low</b>

## Human Life, Safety and Property

### Roads

There are multiple Level 3, 4 and 5 roads (main artery) that are open and within the burned area. There is an increased risk to Forest visitors, especially in high and moderate burn severity areas due to hazard trees, increased potential for rock fall, mudflows plugging culverts and travelling across the roads, and increased water/debris on the roads.

**Risk Assessment** – Threats to travelers on Forest Roads

**Probability of Damage or Loss:** Likely. Flash flood risk, culverts plugging and overtopping roads, increased water and ash creating potentially hazardous driving conditions.

**Magnitude of Consequence:** Moderate. Possible injury of both administrative users and Forest visitors.

**Risk Level: high:** treatment considered for threats to human life or safety. Seasonal closure, hazard tree removal, gates to control access, warning signs, culvert cleaning, and rolling dip construction.

### Hazardous Materials

Hazardous materials exist generated from burned infrastructure throughout the fire area (see above for further details).

**Risk Assessment** – Threat to human safety from exposure and water quality deterioration from materials entering water bodies during flood flows.

**Probability of Damage or Loss:** Likely. Materials are easily accessible and flood risk is increased due to changes in post-fire watershed function.

**Magnitude of Consequences:** Moderate. Possible injury and water quality deterioration.

**Risk Level: High.** Treatment considered for threats to human life and safety and water quality. Seal vault toilets and install erosion control devices around the hazardous materials to contain it until it can be properly disposed of.

**B. Emergency Treatment Objectives:**

To protect life with warning signs relaying the hazards within the burned area on entry points that will be open to the public and at specific areas that have been identified for debris flows that could reach the roads. Maintain control of runoff, reduce erosion/sedimentation from the road, and protect road infrastructure.

Treat snag hazard trees along roads and recreation sites that will be open to public and administrative use.

Remove exposure of hazardous materials to protect public safety and water quality.

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

Land \_\_\_ % Channel \_\_\_ % Roads/Trails 80 % Protection/Safety 80 %

**D. Probability of Treatment Success**

	Years after Treatment		
	1	3	5
Land			
Channel			
Roads/Trails	80	80	60
Protection/Safety	80	100	100

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

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

**G. Skills Represented on Burned-Area Survey Team:**

- Hydrology     Soils     Geology     Range
- Forestry     Wildlife     Fire Mgmt.     Engineering
- Contracting     Ecology     Botany     Archaeology
- Fisheries     Research     Landscape Arch     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: None identified at this time. Assessment of hazards and potential treatments is currently in progress.

Channel Treatments: None identified at this time. Assessment of hazards and potential treatments is currently in progress.

Roads and Trail Treatments: Grade and shape roads to improve road surface drainage. Construct/maintain drainage dips/waterbars, clean culverts and install culvert inlets on up to 23 miles of road.

Protection/Safety Treatments:

1. Treat imminent hazards trees on roads, trails and recreation sites that will be open to the public or will be accessed by workers implementing emergency treatments.
2. Install 'burned watershed' warning signs along roads at points of entry (12 signs). Install rock fall and debris flow warning signs at identified high risk sites (24 signs)
3. Install 10 gates and several barricades on roads to prevent access to unsafe areas.
4. Install route markers at road intersections to protect users.
5. Install sealed cap on 2 vault toilets to protect water quality and protect public safety.
6. Install 1000 feet of erosion control materials at hazards material sites to prevent impacts to public safety and water quality.

**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.)

**Part VI – Emergency Stabilization Treatments and Source of Funds**

**Interim #**

			NFS Lands				Other Lands			All
	Unit	Cost	# of Units	BAER \$	Other \$		Fed \$	# of Units	Non Fed \$	Total \$
Line Items	Units	Cost	Units	BAER \$	\$	# of units	\$	Units	\$	\$
<b>A. Land Treatments</b>										
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>				\$0	\$0		\$0		\$0	\$0
<b>B. Channel Treatments</b>										
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Channel Treat.</i>				\$0	\$0		\$0		\$0	\$0
<b>C. Road and Trails</b>										
Out-slope Road.	MI	REDACT	23	REDACT	\$0		\$0		\$0	REDACT
Construct dips	EA	REDACT	19	REDACT	\$0		\$0		\$0	REDACT
Construct water bars	EA	REDACT	42	REDACT	\$0		\$0		\$0	REDACT
Culvert Inlets (18-24")	EA	REDACT	12	REDACT	\$0		\$0		\$0	REDACT
Culvert Inlets (30-36")	EA	REDACT	6	REDACT	\$0		\$0		\$0	REDACT
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Road &amp; Trails</i>				\$154,680	\$0		\$0		\$0	\$154,680
<b>D. Protection/Safety</b>										
Hazard Tree Removal	Day	REDACT	30	REDACT	\$0		\$0		\$0	REDACT
Route Markers	EA	REDACT	250	REDACT	\$0		\$0		\$0	REDACT
Warning and Regulatory signs	EA	REDACT	30	REDACT	\$0		\$0		\$0	REDACT

