

BAR COMPLEX BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST



(East fork of the New River looking into Trinity Alps Wilderness)

A. Type of Report (first stage of a two part request due to scale of fires in the Bar Complex)

- 1. Funding request for estimated WFSU-SULT funds
- 2. [Accomplishment Report](#)
- 3. No Treatment Recommendation

B. Type of Action

- 1. Initial Request (Best estimate of funds needed to complete initial eligible rehabilitation 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: Bar Complex

B. Fire Number: CA-SHF-1693 ; CA-SHF-2120

C. State: CA

D. County: Trinity

E. Region: 5

F. Forest: Shasta-Trinity

G. District: Trinity River

H. Date Fire Started: 7/26/2006

I. Date Fire Containment: 11/05/06

J. Suppression Cost: \$ 80 million current

K. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 30

2. Fireline seeded (miles): 5

3. Other (identify):

L. Watershed Number: 26539846, 2653846 – Pigeon; 27252500 - Bakeoven

M. Total Acres Burned: 102,000 - (Bakeoven - Pigeon -)
NFS Acres() Other Federal () State () Private ()

N. Vegetation Types: Mixed conifer and chaparral

O. Dominant Soils: Neuns, Marpa, Holland, Goulding, Etsel

P. Geologic Types: Phyllite and Metavolcanic

Q. Miles of Stream Channels by Order or Class: 30 miles total; (4 miles class 1, 16 miles class 2, 10 miles class 3) – only for nonwilderness areas consisting of 7,200 acres.

R. Transportation System: (only for nonwilderness areas consisting of 7,200 acres)

Trails: 5 miles

Roads: 20 miles

PART III - WATERSHED CONDITION

(Bakeoven area and Pigeon area that is nonwilderness)

A. Burn Severity (7,200 acres): Bakeoven: 1,200 (low) 500 (moderate) 100 (high)
Pigeon: 2,600 (low) 2,000 (moderate) 800 (high)

B. Water-Repellent Soil (acres): 500

C. Soil Erosion Hazard Rating (acres):
80 (low) 1,560 (moderate) 5,560 (high)

D. Erosion Potential: Bakeoven: 30 tons/acre
Pigeon: 40 tons/acre

E. Sediment Potential: Bakeoven: 13,440 cubic yards / square mile
Pigeon: 17,920 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

(Bakeoven area and Pigeon area that is nonwilderness)

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

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

C. Equivalent Design Recurrence Interval, (years):	<u>10</u>
D. Design Storm Duration, (hours):	<u>24</u>
E. Design Storm Magnitude, (inches):	<u>5.6</u>
F. Design Flow, (cubic feet / second/ square mile):	<u>135-165 (aver – 150))</u>
G. Estimated Reduction in Infiltration, (percent):	<u>20</u>
H. Adjusted Design Flow, (cfs per square mile):	<u>160-200 (aver – 180)</u>

PART V - SUMMARY OF ANALYSIS

A. *Describe Watershed Emergency.* The Bar Complex fires consist of 3 separate wildfires. The Bakeoven and Little Fires were started by lightning on July 26th, 2006 and the Pigeon Fire started on Sept. 2nd, 2006. The cause is under investigation. The Bakeoven (Bakeoven Ridge) and Little (Canyon Ck. area) fires originated in the Wilderness and the Pigeon fire began next to Highway. 299 near Pigeon Point and quickly spread north into the canyons above the main stem of the Trinity River. The Bar Complex burned **102,000** acres and is **100%** contained. The values at risk are anadromous fish habitat (New River, North fork of Trinity River, and main stem of Trinity River), water quality, loss of soil productivity (erosion), exposure of archeological sites, domestic water supplies (the communities of Denny, Big Flat, and Helena), sediment and mud flows above the communities of Helena, Big Flat and on to Hwy 299, rolling rocks and trees onto Hwy 299, introduction of noxious weeds, road and trail damage due to fill burnouts and culvert plugging and topping. Due to the scope of the fire, the large component of wilderness, limited access and visibility. The initial focus of emergency stabilization will concentrate on the non-wilderness component of these fires. These areas consist of the New River area of Jim Jam Ridge above the east fork of the New River (Bakeoven fire) and the canyons above Big Flat and Helena (Pigeon fire).

B. *Emergency Treatment Objectives:* The objectives of the emergency treatments are to reduce impacts to water quality, minimize sedimentation, protect human life and property, protect fish habitat, protect heritage sites, and to control the spread of noxious weeds. The majority of the values threatened are the areas above the east fork of the New River (JimJam Ridge) and the canyons above the communities of Helena and big Flat (Wheel and Hobo Gulch). Treatment objectives are to prevent erosion on the most highly erodible soils where burn intensity was high, capture eroded material high in the watersheds during the first winter and allow for a metered flow of sediment in years thereafter.

Land Treatments – Land treatments will focus on the upper parts of Wheel Gulch, Cutthroat Gulch, Logan Gulch in the canyons behind the communities of Big Flat and Helena and the draws along the lower East Fork of the New River. These areas have burned hot and hydrophobic layers extend to 4 inches in fine gravelly loam soils with mixed brush and scrub oak. If untreated these areas will severely erode depositing fine sediments into prime anadromous fish habitat of the New River, North Fork Trinity and main stem of the Trinity River. Helimulching will mitigate these effects and will significantly reduce erosion in these sensitive draws.

Road Treatments – Due to the fire emergency many roads have been severely impacted. Suppression rehabilitation will fix most of these issues but due to burned hillslopes, culvert replacement and mitigations will be necessary to buffer the effects of increased runoff. Culvert replacements, risers, trash racks, dissipators, and culvert cleanouts will be necessary. Fresh scraped road sidecast will need to be mulched to protect from erosion. Additional rolling dips will be necessary to construct to handle additional road runoff on native surface roads.

Protection and Safety Treatments – Burned areas pose a threat to public safety of falling trees and rolling rocks. Signing will be necessary to protect the public to warn them of burned areas and to control their speed in these areas. Control of public access is necessary to protect sensitive soils from OHV damage by gates

and boulder barriers. Noxious weed detection survey is necessary to insure that noxious weeds do not get introduced to the wilderness or the Manazinita Creek RNA.

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:

Land 70 % Channel % Roads 90 % Other %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	90	95
Channel	(too steep	no storage	capacity)
Roads	90	95	100
Other	80	90	95

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

Team Leader: Brad Rust

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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.)

The following are proposed interim emergency treatments for the Bar Fire Complex to insure rehabilitation happens in a timely manner before the first damaging rains. The survey is not completed at this date, but enough preliminary data has been collected to make the following estimates of needs on the critical non-wilderness areas of the fire. The treatments proposed are thought to be reasonable applications of treatments that have been determined to be effective for their purpose when used under similar conditions in other wildfire areas. The number of treatments proposed are a conservative considering the size of the fire, values at risk, and burn intensities. The final set of treatments will be determined with the full input of all BAER survey team members, forest staff and local authorities when the fire is fully contained in late October.

Land Treatments:

Heli-mulching

Mulching with certified weed-free rice straw is proposed for 350 acres in Wheel, Logan, and Cutthroat gulches above the communities of Big Flat and Helena where soils burned hot. The purpose of the treatment is to provide suitable ground cover where there presently is none. The extent of this treatment is confined to sensitive areas of highly erodible soils in high value watersheds of the North fork Trinity and main stem Trinity River.

Interim #1 – This interim request is for increased cost for weed-free rice straw due to increase shipping costs, gas costs, harvesting cost, and the lack of large supplies.

Treated steep hot burned hydrophobic soils in Wheel and Logan Gulch above Trinity River with weed-free rice straw flown in by helicopter (helimulching). Treated 340 acres of 500 acres targeted = 66% before being stopped by late season increment weather.



Natural Recovery

Natural recovery is preferred on low to moderate severity burns since the seed source has not been burned out and recovery is rapid after the first rains. Severely burned areas need cover since seed source is lacking and organic matter is destroyed. The areas of concern for immediate cover are the upper reaches of Wheel, Logan, and Cutthroat Gulches above Big Flat and Helena.

On June 25th to 26th a team of geologists and soil scientists (Klamath and Shasta-Trinity National Forest) conducted a field trip assessment of the headwaters section of the North Fork of the Trinity River. Little erosion or mass wasting was detected and good vegetative response was observed (see Bakeoven Fire Recovery report).



Channel Treatments:

None planned – no storage capacity, gradients are too steep, and little destruction of riparian zone is present.

Roads and Trail Treatments:

Culverts

Fire effects to soil and vegetation will increase the inputs of watershed products to culverts draining

burned areas including increased peak water flows and increased loading of woody debris and sediment. This increases the probability of exceeding culvert capacity and failure of crossings, with the added inputs of sediment, in some cases potentially delivered “dambreak” type failure scenarios. Where existing culverts drain a substantially burned watershed (>20% of the watershed) culvert sizing will be necessary to insure culvert can pass anticipated flows. If culvert is too small it will be replaced with proper sized culvert. If size is sufficient then trash racks will be installed or risers to mitigate floating debris that would clog culverts. There are 3 culverts that need redesigning and 6 culverts that need trash racks and end dissipators on the 7N01, 7N03, 33N46A, and the 34N14 roads.

Protective measure oversized culvert on 33N14, culvert riser on 33N46A, culvert cleanouts and catchments on 33N46A (3ea), trash racks on 34N46A (3 ea), and rock outlet dissipaters on 33N46 (5ea).



Rolling Dips

Many roads were scraped and bermed for fire suppression. Suppression rehabilitation will remove the berms and restore many of the rolling dips on natural surfaced dirt roads but with a dirt road surface, more rolling dips need to be installed to reduce road prism erosion. These will be located on 33N46 and 34N14 on fine textured non-gravelly roads.

Redesign and reconstruction of rolling dips on 34N14 and 33N46 (7 ea).



Roadside Mulching

Road fill and sidecast slopes are sites of greatly increased surface runoff. When combined with the soil effects of severe burning, erosion hazard is increased, and cover is needed to minimize erosion in these areas. There are 6 miles of road within moderate to high burn severity areas along road 33N46, 33N46A, 34N14, and 7N01A. The soils within these areas have high erosion hazard ratings. The fill slopes will be treated by using straw blowers to mulch on the average a width of 30 feet, equating to a total area coverage of 30 acres.

Roadside mulching (10 acres) on 34N14 and 33N46. Mulching on the non-wilderness portion of East Fork trailhead of the New River.



Structures:

Signs

Many of the roadside safety signs were destroyed and need to be replaced to insure public safety. Also safety signs need to be installed warning the public of burned area of hazard trees and flooding. These signs are needed for areas that access wilderness trailheads.

Signing of burned areas (10ea) - Denny, Hobo Gulch, and Manzanita Ridge areas. Signs were "Entering Burned Area, Stay on Roads & Trails".



Barriers

Boulder barriers and gates are needed to control public access of OHV's to areas where sensitive soils need time for recovery. Boulder barriers are necessary on the East Fork of the New River trailhead and the 33N46 wilderness trailhead.

Gates are necessary on the 34N14 road to limit OHV access to the Trinity Alps Wilderness and to protect sensitive soils that were severely burned.

Three earthen barriers for trailhead entrances were installed to limit OHV damage on trails.



Other:

Noxious weed detection survey

Due to multiagency response to the Bakeoven and Pigeon fires washing was done after a few days into each response, noxious weeds could have been introduced. Also with fires comes greater access for OHV traffic that brings noxious weeds with them. Due to these factors a noxious weed detection survey is necessary to insure noxious weed are not introduced. If detected they will be pulled, bagged, and eradicated.

Noxious weed detection surveys were performed within the Bar Fire area in early August in the Trinity Alps Wilderness south of the Siskiyou/Trinity County divide and within the Shasta-Trinity National Forest. Seventy-four miles were walked to look for any new noxious weed populations, including focused surveys at seven openings used as staging or spike camps during the fire suppression effort. No high priority noxious weeds were found, but several isolated populations of bull thistle (*Cirsium vulgare*) and Klamath weed (*Hypericum perforatum*) were found throughout the transect. Neither of these species is new to the Trinity Alps Wilderness and neither is high priority for treatment efforts because of their widespread nature in Trinity County.

Detection surveys were also performed in early August north of the Siskiyou/Trinity County divide on the portion of the 2006 Bar Fire within the Klamath National Forest. Twenty-three miles of trail and system roads were traversed. A single population each of dyers woad (*Isatis tinctorius*) was found along Forest Roads 37N07 and 37N10. A total of 130 plants were found and all were pulled at the time. All openings used for staging or spike camps were given focused surveys.

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.)

Monitor mulched roadside fill to insure treatment is working by establishing photo points and monitoring every 6 months for 2 years.

Monitor hillside mulching to insure treatment is working by establishing photo points and monitoring every 6 months for 2 years.

Effectiveness monitoring conducted in the spring of 2007 showing all treatments working effectively (see pics above).

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

Line Items	Units	Unit Cost	NFS Lands		Spent \$	Other Lands			Total \$	
			# of Units	WFSU SULT \$		# of units	Fed \$	# of Units		Non Fed \$
A. Land Treatments										
heli-mulching	acres		350							
machine mulch	acres		20							
heli-mulching increase	acres									
<i>Insert new items above this line!</i>										
<i>Subtotal Land Treatments</i>										
B. Channel Treatments										
<i>Insert new items above this line!</i>										
<i>Subtotal Channel Treat.</i>										
C. Road and Trails										
Culvert replacement & rede	each		1							
Dips 34N14 & 7N03	each		7							
Trash racks	each		8							
Outlet dissipators (rock)	each		5							
Culvert end-sections	each		2							
Culvert cleaning	each		10							
<i>Insert new items above this line!</i>										
<i>Subtotal Road & Trails</i>										
D. Structures										
Replace road signs + post	each		5							
Boulder barrier	each		10							
Gates	each		2							
<i>Insert new items above this line!</i>										
<i>Subtotal Structures</i>										
E. Other										
Noxious weed detection sur	each		20							
<i>Insert new items above this line!</i>										
<i>Subtotal Structures</i>										
E. BAER Evaluation										
BAER Assessment Team	each		1							
<i>Insert new items above this line!</i>										
<i>Subtotal Evaluation</i>										
F. Monitoring										
Effectiveness monitoring	each		1							
<i>Insert new items above this line!</i>										
<i>Subtotal Monitoring</i>										
G. Totals										

