

Date of Report: 01/08/2009

SHU Lightning – Venture Fire BURNED-AREA REPORT

(Reference FSH 2509.13)

Graphics have been removed from initial 2500-8.
Accomplishments and monitoring narrative are in red.

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 # 1
☐ 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: Venture FireB. Fire Number: CA LNF Venture D8LPC. State: CAD. County: ShastaE. Region: 5F. Forest: Shasta-Trinity NF (Administered by the Lassen NF)G. District: Hat CreekH. Fire Incident Job Code: PND8LPI. Date Fire Started: June 21, 2008J. Date Fire Contained: 7/20/2008K. Suppression Cost: \$35 million (Entire Shu Lightning Complex)

L. Fire Suppression Damages Repaired with Suppression Funds 1. Fireline waterbarred (miles): _____
2. Fireline seeded (miles): __ 3. Other (identify): _____.

M. Watershed Number: 1802000309, 1802000307, 1802000302, 1802000308N. Total Acres Burned: 1,910O. Vegetation Types: Grey and Ponderosa pine; manzanita; and northern oak woodlands

P. Dominant Soils: Brownlee-Bobbitt families association (0 to 35% slopes) &
Skalan-Holland families: moderately deep, diatomaceous association (15 to 50% slopes)

Q. Geologic Types: **Pleistocene volcanic basalt and alluvium; stream to basin fill deposits (undifferentiated)**

R. Miles of Stream Channels by Order or Class: **5 perennial (Pitt R & Hat Cr) + 7 seasonal**

S. Transportation System

Trails: **1.2 miles (Pacific Crest Trail)** Roads: **12.5 miles**

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Burn Severity	Fire Acres	NFS Lands Only
Low severity	508 27%	146 13%
Moderate severity	1132 59%	846 78%
High severity	142 7%	96 9%
Unburned within perimeter	128 7%	

B. Water-Repellent Soil (acres): 0

C. Soil Erosion Hazard Rating (acres):

Erosion Hazard Rating	Fire Acres
Low	808 42%
Moderate	579 30%
High	523 27%

D. Erosion Potential: 9 tons/acre

E. Sediment Potential: 6 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 8

B. Design Chance of Success, (percent): 95

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

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 1.4

- F. Design Flow, (cubic feet / second/ square mile): 2.5
(based on 0.73 sq mi intermittent drainage w/ high severity fire burn near values at risk)
- G. Estimated Reduction in Infiltration, (percent): 17%
- H. Adjusted Design Flow, (cfs per square mile): 2.6

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The Venture Fire occurred on a portion of the Shasta-Trinity National Forest that is administered by Hat Creek Ranger District of the Lassen National Forest.

The **Pacific Crest Trail** within the fire area burned at moderate severities and snags along the 1.2 mile section of trail will place hikers at risk as long as the trail remains open.

The **Lake Britton Archaeological District** was damaged by the fire. It is on the National Register of Historic Places for the scientific value of its abundant, often-complex prehistoric sites as related to a life-way that focused upon the resources of the Pit River. The BAER archaeologist has been in consultation with the Pit River Tribe regarding the protection of sites within the Venture fire.

The post-fire survey identified one new historic site, one new historic/prehistoric site, and four new prehistoric sites. Of these, five are in previously surveyed areas, convincingly demonstrating that the vegetation removal has increased site visibility. In addition, the size of one already substantial prehistoric site has been roughly tripled, and another prehistoric site boundary significantly increased, as a result of the post-fire survey. As a result of the fire, these sites are now vulnerable to vandalism and/or looting. Protecting these sites falls within the emergency determination.

The two **stream adjacent routes** with proposed treatments are expected to receive increased runoff and presently do not have adequate infrastructure to accommodate the increased surface flow. Without treatment these areas will erode directly into the unnamed tributary draining into Lake Britton.

All values at risk are listed in table 1.

Table 1. Values at risk for the Venture Fire 2008.

Value at Risk	Emergency Disposition
Pacific Crest Trail	Emergency determination for safety: There are hazard trees along the entire 1.2 miles of trail. Burned trees pose a risk to human life.
Lake Britton Archaeological District Archeologic site FS0506-53-246	Emergency determination that erosion from the steep (50%) slopes within high burn severity that are expected to damage erode and displace elements of this prehistoric site.
Lake Britton Archaeological District ¹Archeological Sites	Emergency determination to 5 archeologic sites as there is an increased risk of looting caused by the fire. Damage to sites from OHV/off-road use could also occur as a result of a loss of vegetation. Sites are historic/prehistoric sites.
Stream adjacent routes surrounded by burn NFSR 36N09 and 36N09B	Emergency determination-increased runoff from moderate and high burn severity areas onto 36N09 and 36N09B could cause significant road damage. These routes parallel a tributary to Lake Britton and would lead to increased sedimentation of the reservoir.

1. Sites: 0506-53-242/CA-SHA-1463; 0506-53-246/CA-SHA-1464; 0506-53-1301; 0506-53-13-4.

B. Emergency Treatment Objectives:

1. **Eliminate risk to human life of hikers on the Pacific Crest Trail due to hazard trees.**
2. **Mitigate damage to archeological sites from erosion Mitigate looting and damage to archeological sites, that were previously hiddden and disguised by unburned vegetation.**
3. **Reduce erosion and sedimentation associated with the following roads within the fire area.**

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

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

D. Probability of Treatment Success

Treament Type	Years After Treatment		
	1	3	5
Land	95	100	100
Channel	None Proposed		
Roads/Trails	90	90	90
Protection/Safety	90	90	90

E. Cost of No-Action (Including Loss): **\$281,000**

F. Cost of Selected Alternative (Including Loss): **\$110,370**

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input type="checkbox"/> Range	<input checked="" type="checkbox"/> Recreation/Lands
<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 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: **Andrew Breibart**

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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

- Straw Mulch by hand (\$2,069) which includes archaeology and watershed support) Weed free and seed free rice straw will be applied by hand to 0.75 acres of a hillslope with a 52% slope in an area of high soil burn severity. This treatment would reduce the risk of eroded sediment from damaging archeologic site FS0506-53-246. Application rate is 1 ton per acre.

- **Treatment Accomplishment:** Approximately 0.75 acres of high soil burn severity were treated with mulch. Application was done by hand to a depth between 1 and 3 inches the last week of October 2008. The Forest Soil Scientist, the Hat Creek Ranger District Archaeologist, a fire crew, and a tribal liaison implemented the project in one day. The Forest watershed program provided one ton of rice straw that it had stockpiled for road decommissioning projects on the Forest. There was no cost for this product.



Area of Hand mulch.

- **Noxious Invasive Weeds Monitoring (\$5,400)**-Surveys will begin in 2009 during the flowering periods of weed species. Completion of surveys along dozer lines, staging areas, and known invasive plant populations will be the first priority. The second survey priorities will be along roads, handlines, and drop points. Surveys of general habitats in the burned area will be the lowest priority. All locations of weed species will be documented and mapped using GPS equipment. Surveys will be completed using the NRIS protocol available at the national website: <http://fsweb.ftcol.wo.fs.fed.us/frs/rangelands/index.shtml> Results will be entered into the NRIS database.

Channel Treatments: None Proposed

Roads and Trail Treatments

- Pacific Crest Trail Hazard Tree Removal – see below under Safety
- Improving road drainage (\$13,211) to reduce erosion and sedimentation on NFSR 36N09 and NFSR 36N09B. Work needed includes archaeologist's field time and consultation with SHPO and Pit River Tribe, hazard tree removal in work areas, contracting, engineering, construction and watershed specialist support.

Road work	Costs
Mobilization	\$3,000
Construct 15 waterbars	\$1,500
Riprap for outlets 5 cyds ea @ \$60 per cy	\$4,500
Hazard Tree Removal	\$1,400
<i>Total Contract</i>	<i>\$10,400</i>
Engineering support (survey, design, contract admin, reporting)	\$1,000
Hydrology specialist time and design input	\$500
Archaeology specialist time, including consultation with Pit River Tribe and SHPO	\$1,311
<i>Total Support Costs</i>	<i>\$2,811</i>

- **Road Treatment Accomplishment:** Hat Creek Construction was contracted to construct 6 earthen waterbars with imported material and 4 riprap check dams on 36N09 (Table below). Total costs for earth berms equaled \$4,200 and check dams cost \$2,800. Total contract including archeological site protection was \$8,320.

Task	Quantity	Unit cost	Total Cost
Earth berms (waterbars), using imported material, with riprap outlets	6	\$700	\$4,200
Check dams	4	\$700	\$2,800
Furnish and install road closure device, Boulders, 24"-36" diameter	15	\$23	\$345
Sign Installation; signs furnished by FS	3	\$125	\$375
TOTAL			\$8,320

Protection/Safety Treatments

- Pacific Crest Trail (\$1,680)-Hazard tree removal will occur along 1.2 miles of the Pacific Crest Trail. Unit cost is \$1,400 per mile.
- Boulder barriers for the protection of archeological sites (\$9,000 which includes the cost of boulders; contracting, and installation. Boulder locations include 36N04A and both ends of 36N09. At each site, 5 boulders will be installed 2 feet apart to prevent motorized traffic within the burned area. Installation will be contracted out (See figure below for placement locations).
- **Treatment Accomplishment:** Fifteen boulders were installed on NFSR 36N09 and 36N04 at a total cost of \$345 as part of the overall contract with Hat Creek Construction.



Boulder placement of NFR 36N04

- Signs for the protection of archeological sites (\$1,500 which includes purchase and installation of signs). Signs will be installed at each site of boulder installation. Signs will indicate that the area is closed for motorized use. Signs will not advertise the presence of archeological sites, but will indicate area is closed for protection of resources.
- Treatment Accomplishment: Three signs were furnished by the Forest Service at total cost of \$1,500. Hat Creek Construction installed the signs at a total cost of \$375.

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.)

Monitoring Archaeologic Protection Effectiveness

1. Effectiveness Monitoring. Archaeologists will examine the BAER treatments and associated archaeological sites to determine whether the treatments fulfill their intended purposes for the protection of archeologic resources within the Venture Fire. If treatments do not meet this objective, archaeologist will identify necessary corrective measures.

2. Treatment Objectives

For boulders blocking roads, signs indicating that the roads are closed, and rice straw ground cover, the monitoring objective is to determine whether the treatments are effectively protecting the sites and, if not, why not. For the erosion-control features (waterbars and check dams), an additional monitoring objective is to ensure that the treatment does not damage a site by redirecting water inappropriately.

3. Treatment Descriptions

Given sensitive cultural resources and persistent threats (especially from OHV use), frequent monitoring is imperative to ensure that treatment limitations are promptly identified and remedied. Therefore, monthly monitoring will be needed for at least one year. (Demonstrating a Forest Service presence near the treatment features may also help encourage Forest visitors to respect the treatments.) Monitors will: (1) describe their BAER monitoring observations in field notes; (2) take photographs documenting the conditions of the treatment features (rice straw, water control features, signs, and boulders) and any pertinent site damage; (3) obtain GPS readings for any areas of site damage.

4. Reporting

Monitors will report their findings in cultural resource documents including (1) a project monitoring report and (2) site monitoring reports. Cultural resource personnel will summarize their findings in an interim BAER report to the regional BAER Coordinator and if necessary request additional funding to supplement the existing treatments.

5. Monitoring Costs

GS – 11 Archaeologist	\$270/day x 6 days =	\$1,620
GS – 7 Archaeological Technician	\$162/day x 4 days =	\$648
Mileage:	408 @ 0.46/mile =	\$188
Total Monitoring Cost Estimate for FY 2009 =		\$2,500

Part VI – Emergency Stabilization Treatments and Source of Funds
Interim # 1

			NFS Lands				Other Lands			All	
		Unit	# of		Other		# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER \$	\$		units	\$	Units	\$	\$
A. Land Treatments											
Noxious Invasive Weeds	plan	5,400	1	\$5,400	\$0			\$0		\$0	\$5,400
mulch	acres	2,758	0.75	\$2,069	\$0			\$0		\$0	\$2,069
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Land Treatments				\$7,469	\$0			\$0		\$0	\$7,469
B. Channel Treatments											
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0			\$0		\$0	\$0
C. Road and Trails											
hazard tree-PCT	mile	1400	1.2	\$1,680	\$0			\$0		\$0	\$1,680
road work contract	ea	10,400	1	\$10,400	\$0			\$0		\$0	\$10,400
FS support for road work co	ea	2,811	1	\$2,811	\$0			\$0		\$0	\$2,811
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Road & Trails				\$14,891	\$0			\$0		\$0	\$14,891
D. Protection/Safety											
road barriers	boulder	600	15	\$9,000	\$0			\$0		\$0	\$9,000
signs	sign	500	3	\$1,500	\$0			\$0		\$0	\$1,500
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Structures				\$10,500	\$0			\$0		\$0	\$10,500
E. BAER Evaluation											
assessment				---			1	\$10,688		\$0	\$10,688
Insert new items above this line!				---	\$0			\$0		\$0	\$0
Subtotal Evaluation				---	\$0			\$10,688		\$0	\$10,688
F. Monitoring											
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0			\$0		\$0	\$0
G. Totals				\$32,860	\$0			\$10,688		\$0	\$43,548
Previously approved											
Total for this request				\$32,860							

PART VII - APPROVALS

1. /s/ Lorene T. Guffey for Kathleen S. Morse 2/9/09
 Forest Supervisor (signature) Date
 Lassen National Forest

2. _____
 Regional Forester (signature) Date