USDA-FOREST SERVICE

FS-2500-8 (6/06)

Date of Report: July 1, 2013

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[X] 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: Carstens Fire

B. Fire Number: CA-SNF-001252

C. State: CA

D. County: Mariposa

E. Region: 05

F. Forest: Sierra NF

G. District: Bass Lake RD

H. Fire Incident Job Code: P5HK35 (0515)

I. Date Fire Started: 06/16/2013

J. Date Fire Contained: 06/26/2013

K. Suppression Cost: ~ $9,500,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 17.89
2. Fireline seeded (miles): 0.0
3. Other (identify): Fireline excavation in channels

M. Watershed Number: HUC 12 - 180400080502 (Bear Crk); 180400010501 (West Fork Chowchilla); 180400080205 (Devils Gulch)

N. Total Acres Burned: 1,709
NFS Acres (947) Other Federal (0) State (0) Private (762)

O. Vegetation Types: Ponderosa pine, Canyon live oak, Ceonothus, Foothill pine, Annual grass

P. Dominant Soils: Dominant soils are various gravelly loams, and very gravelly loams, mostly shallow to moderately deep, and mostly soil hydrologic group B and D. Specific dominant soil families include Holland, Josephine, Mariposa, Neuns, and Lithic Xerochrepts. These five dominant soil families combine to form eight

individual soil map units, which differ by dominant component and slope phase - Holland family, 5 to 35 percent slopes, Holland / Neuns families association, 15 to 45 percent slopes, Ultic Haploxeralfs / Dystric Lithic Xerochrepts complex, 15 to 50 percent slopes, Josephine loam, 15 to 30 percent slopes, Josephine rock loam, 50 to 75 percent slopes, eroded, Josephine very rock loam, 15 to 50 percent slopes, eroded, Mariposa gravelly silt loam, 50 to 75 percent slopes, eroded, and Stump Springs-Musick rocky sandy loams, 15 to 50 percent slopes, eroded

Q. Geologic Types: Trb – Phyllite of Briceburg – chiefly phyllite, but includes quartzite , chert, graywacke, and limestone. Trh - Phyllite and chert of Hite Cove – Banded chert in a matrix of phyllite with a few limestone lenses. Kbl – Bass Lake Tonalite – Hornblende, biotite tonalite and granodiorite with mafic inclusions.

R. Miles of Stream Channels by Order or Class:

S. Transportation System

Trails: 0 miles Roads: 9 miles NFS; 2 miles Private

PART III - WATERSHED CONDITION

A. Burn Severity (acres): low – 871 (51%); moderate – 403 (24%); high - 435 (25%)

B. Water-Repellent Soil (acres): 435 (25%)

C. Soil Erosion Hazard Rating (acres):
1369 (low) 340 (moderate) 0 (high)

D. Erosion Potential: 7.3 tons/acre

E. Sediment Potential: 10,187 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 2-3

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

C. Equivalent Design Recurrence Interval, (years): 2

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 2.2

F. Design Flow, (cubic feet / second/ square mile): Bear Creek (HUC12) 23.9; WF Chowchilla River (HUC12) 16.9 and Devil Gulch (HUC12) 21.8

G. Estimated Reduction in Infiltration, (percent): 49%

H. Adjusted Design Flow, (cfs per square mile): Bear Creek (HUC12) 0.7; WF Chowchilla River (HUC12) 0.5 and Devil Gulch (HUC12) 0.1

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The area burned by the Carstens Fire contained critical values on both Forest Service and private land. On National Forest System (NFS) land, there are a number of cultural resource sites located within or downslope from where moderate to high soil burn severity was present. Of these sites, one is identified as being threatened by the erosion anticipated during the next few years until vegetative recovery. The emergency posed at this site is a result of its location in a Class 5 ephemeral swale flowing into Snow Creek within an area of the fire that was subjected to a high soil burn severity. The soil structure on the slopes above the site has been compromised and until the vegetation returns it will result in increased runoff and pose a moderate threat to the cultural resource. In addition, the site is now surrounded by standing cedar and pine snags. Should any of these snags fall on the outcrop they could break the outcrop or irreparably damage the bedrock mortar cups. The potential of these snags settling on the outcrop leaves the features vulnerable to adverse effects caused by intense heating and residence times should a fire enter the site boundary again. The site is judged at high risk because the probability of loss/damage is likely with the magnitude of loss being moderate (based on uncertainty of significance).

Forest roads (4S10, 4S13A, 4S33) passing across or below slopes having significant areas of moderate to high burn severity will experience increased runoff in the next 2-3 years which could cause road damage where drainage is impaired. This is also true for the section of Forest Road 4S10 crossing private land. The risk of all road damage is concluded to be high because the probability of loss/damage is likely with the magnitude of loss being moderate (based on current condition of culverts and drainage structures).

An emergency has been determined for the Carstens Fire for noxious weed and invasive non-native plant invasion on Forest lands from bull thistle and yellow starthistle, due to the high risk of these species being in or near the fire area. Seeds or propagules from these known sources will potentially establish on burned or disturbed forest areas, with a potentially significant threat to native vegetation recovery following the fire. In addition, the likelihood that other, more potentially damaging, noxious weed species might have been introduced via equipment and vehicles exists.

B. Emergency Treatment Objectives:

1. Prevent the loss of irreplaceable cultural resources data by preserving the features of the site.

2. Locate new or expanded noxious weed and invasive non-native plant occurrences to enable control/eradication that would prevent or reduce damage to native vegetation.

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

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

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80-90	80-90	-
Channel	-	-	-
Roads/Trails	-	-	- - - -
Protection/Safety	85-90	85-90	-

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

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[X] Soils	[X] Geology	[ ] Range	[ ]
[ ] Forestry	[ ] Wildlife	[ ] Fire Mgmt.	[ ] Engineering	[ ]
[ ] Contracting	[ ] Ecology	[X] Botany	[X] 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: For noxious weeds and other non-native invasive plants, the treatment would be mapping of new weed occurrences with GPS. This would focus on monitoring of moderate or high soil burn severity areas and disturbed areas in the fire boundary. Particularly near areas where noxious weeds or invasive non-native plants were observed during assessment. Monitoring should be done in the spring of 2014 sometime between May through July for the best likelihood of observing these species in their flowering or bolting phase. Monitoring and treatment will be for one year only, as per the new BAER regulations. It is anticipated that controlling new populations of noxious weeds would employ hand pulling and/or hand tools in Forest areas where new weed occurrences are identified.

Channel Treatments:
(None)

Roads and Trail Treatments: No emergency to NFS roads was identified, but the possibility exists for Forest Road 4S10 on private land. Notification of the observed conditions posing a threat will be made to the land owner.

Protection/Safety Treatments: At a minimum, mitigation for the cultural resources site should include photo documentation and ensure a proper sketch map and updated archaeological record are completed. Enough information needs to be gathered to preserve the features of the site should the area change significantly following the storms of 2013/14. Control points should be established as it is recommended that the site be monitored in 2014 to determine if there was a change in condition. Any significant alterations to the site should be mapped and photographed and the CA SHPO should be notified. There is a standing snag adjacent to the milling surface that is posing a physical threat to the mortar cups as well as anyone working in the vicinity. This should be felled prior to Forest personnel working in the area for an extended amount of time and the entire site vicinity should be assessed by a qualified faller for employee safety. Documentation of the site should only occur after the area is safe time.

Part VI – Emergency Stabilization Treatments and Source of Funds

Interim # 1

		NFS Lands				Other Lands				All
Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
GS-11 Botanist	1	32.09	56	$1,797	$0		$0		$0	$1,797
GS-5 Temp botanists	1	15	80	$1,200	$0		$0		$0	$1,200
GS-5 Temp botanists	1	15	80	$1,200	$0		$0		$0	$1,200
Supplies	1	350	1	$350	$0		$0		$0	$350
Mileage		0.47	1280	$602	$0		$0		$0	$602
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$5,149	$0		$0		$0	$5,149
B. Channel Treatments										
				$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										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
GS-12 Archeologist	1	40	24	$960	$0		$0		$0	$960
GS-5 Archeologist	1	15	16	$240	$0		$0		$0	$240
2-person saw team	1	50	8	$400	$0		$0		$0	$400
Mileage		0.47	700	$329	$0		$0		$0	$329
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$1,929	$0		$0		$0	$1,929
E. BAER Evaluation										
Team salaries				$24,055			$0		$0	$0
Mileage/per diem				$5,159			$0		$0	$0
Insert new items above this line!				—	$0		$0		$0	$0
Subtotal Evaluation				—	$0		$0		$0	$0
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				$7,078	$0		$0		$0	$7,078

PART VII - APPROVALS

1. Forest Supervisor (signature) — Date: 7/2/13

2. for Regional Forester (signature) — Date: 7/11/13