

Date of Report: 8/16/07

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: Colby FireB. Fire Number: CA-LNF-003801C. State: CAD. County: TehamaE. Region: 5F. Forest: LassenG. District: AlmanorH. Fire Incident Job Code: P5DV2RI. Date Fire Started: 8/9/2007J. Date Fire Contained: 8/13/2007K. Suppression Cost: \$1.2 million

- L. Fire Suppression Damages Repaired with Suppression Funds
 1. Fireline waterbarred (miles): 0
 2. Fireline seeded (miles): 0
 3. Other (identify): _____

M. Watershed Number: 180201570000 (North Fork Calf Creek)

N. Total Acres Burned: 168
 NFS Acres(168) Other Federal () State () Private ()

O. Vegetation Types: Mixed Conifer, Oak, Manzanita, Bitterbrush, GrassP. Dominant Soils: Iron Mountain Series in upper area, McCarthy in lower, Rock Outcrops, Rocky Sandy Loam to Sandy Loam

Q. Geologic Types: Volcanic Mudflows. Pliocene pyroclastic deposits with rock outcrops and steep rocky slopes.

R. Miles of Stream Channels by Order or Class: 0.1 miles of first order ephemeral, 0.38 miles of second order perennial stream

S. Transportation System

Trails: miles Roads: 0.18 mi of state highway, 1.3mi of Forest Service Road

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 65 (low) 93 (moderate) 10 (high)

B. Water-Repellent Soil (acres): 35

C. Soil Erosion Hazard Rating (acres):
 (low) 168 (moderate) (high)

D. Erosion Potential: 18 tons/acre post fire. 1.7 tons per acre pre fire.

E. Sediment Potential: 4000 cubic yards / square mile (assuming density of 2.88 tons/cu. yd)

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): 90

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

D. Design Storm Duration, (hours): 2

E. Design Storm Magnitude, (inches):

F. Design Flow, (cubic feet / second/ square mile): 349

G. Estimated Reduction in Infiltration, (percent): 23% (40 acres proposed for treatment / total area of fire)

H. Adjusted Design Flow, (cfs per square mile): 365

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Federally Listed Threatened Fish Species:

The fire is located in the NF Calf and Rattlesnake Creek sub-watersheds of Deer Creek, approximately ½ mile upstream of anadromous habitat. Deer Creek is one of the few streams tributary to the Sacramento River that still provides habitat for naturally reproducing populations of spring-run Chinook salmon (*Oncorhynchus tshawytscha*) and Central Valley steelhead (*Oncorhynchus mykiss*). Of these remaining streams, Deer Creek is

widely regarded as providing the best habitat and is recognized as a key to recovery of these species, which are federally listed as threatened.

Deer Creek just below the fire also provides habitat for native rainbow trout, Forest Service sensitive species foothill yellow-legged frog (*Rana boylei*) and numerous aquatic invertebrates.

Recent surveys of adult of spring-run Chinook salmon revealed population levels are among the lowest in the past twenty years. For this reason, survival of eggs and fry this fall and winter is especially important. Directly downstream of the fire, both holding and spawning habitat is limited for about the first mile. Below this however, is some of the best habitat on Deer Creek for both holding and spawning. Increased erosion and sediment delivery from the fire poses the risk of increased deposition of fine sediment on spawning gravels in the fall and early winter when eggs and fry are still in the gravel. If this occurs, then increased mortality of eggs and fry is likely.

Spring-run salmon move into reaches that could be affected by the fire in mid to late May and hold in a few, deep pools until they spawn in late September or early October. The quality of the pools, in terms of depth, volume and cover is important to the survival of adult fish. Increased sediment delivery to Deer Creek from NF Calf could result in reduction of pool depths and adversely affect adult salmon.

A Watershed Analysis of Deer Creek was completed in 2000. It identified chronic erosion as one of the primary issues in the watershed. The analysis identified roads, especially roads located near streams as the primary source of accelerated sediment in the watershed, but also identified wildfire as a potential sediment source. Since the analysis, extensive road improvement work has been conducted by the Lassen National Forest in both NF Calf and Rattlesnake Creek sub-watersheds to reduce delivery of sediment to Deer Creek from these chronic sources. These investments reflect the importance of the anadromous fish resource in Deer Creek.

B. Emergency Treatment Objectives:

The on-site objective of the treatment is to provide ground cover to areas where severe burn intensities have removed all or nearly all ground cover and that have high potential to deliver sediment to Deer Creek. Ground cover would reduce the risk of erosion and subsequent delivery of sediment to Calf Creek and Deer Creek. Ultimately, the objective is to reduce the risk of increased sediment deposition (and egg and fry mortality) in areas used for spawning by spring-run Chinook salmon. Secondary objectives are to reduce the risk of pool filling in Deer Creek, and to reduce risk of adverse impacts to habitat for rainbow trout and other aquatic species that would occur if sediment delivery were increased substantially as a result of the fire.

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

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

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90	70	70
Channel			
Roads/Trails			
Protection/Safety			

E. Cost of No-Action (Including Loss): \$300,000

F. Cost of Selected Alternative (Including Loss): \$93,000

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input type="checkbox"/> Range	<input type="checkbox"/>
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input type="checkbox"/> Engineering	<input type="checkbox"/>
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input type="checkbox"/> Botany	<input type="checkbox"/> Archaeology	<input type="checkbox"/>
<input checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input type="checkbox"/> GIS	

Team Leader: Scott Tangenberg

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H. Treatment Narrative:

Land Treatments:

Aerial Heli-mulching: Severely burned portions of the fire (approx 40 acres) will be covered with straw mulch (rice or wheat depending on availability) in order to reduce accelerated runoff, surface erosion, and subsequent sedimentation of the North Fork Calf Creek and Deer Creek. Treatments will be applied on the south facing slope above the North Fork Calf Creek. Mulch would be applied at a rate of 1 ton per acre. Replacing ground cover lost during the fire is expected to provide interception of raindrop splash, thereby minimizing surface sealing and enhancing infiltration. Several of the areas have large black oak trees that were completely consumed. Trunks and limbs of these trees would be dropped in some locations to provide additional surface roughness to aid in stabilization of the mulch treatments. Dropping some of the black oak would also provide additional canopy openings so that aerial mulch applications will have a higher chance of reaching the ground surface and not getting caught in the canopy of the trees. Black oak would be felled with hand crews and chainsaws.

Channel Treatments:

No Channel treatments are proposed

Roads and Trail Treatments:

No road treatments are proposed

Protection/Safety Treatments:

No safety treatments are proposed.

I. Monitoring Narrative:

Part VI – Emergency Stabilization Treatments and Source of Funds

Interim #

			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											
aerial mulch	acres	800	40	\$32,000	\$0			\$0		\$0	\$32,000
oak falling	acres	100	3	\$300	\$0			\$0		\$0	\$300
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Land Treatments				\$32,300	\$0			\$0		\$0	\$32,300
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											
				\$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 Road & Trails				\$0	\$0			\$0		\$0	\$0
D. Protection/Safety											
				\$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 Structures				\$0	\$0			\$0		\$0	\$0
E. BAER Evaluation											
Assessment Team	each	1714	1	\$1,714				\$0		\$0	\$1,714
Insert new items above this line!				---	\$0			\$0		\$0	\$0
Subtotal Evaluation				---	\$0			\$0		\$0	\$1,714
F. Monitoring											
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0			\$0		\$0	\$0
G. Totals				\$32,300	\$0			\$0		\$0	\$34,014
Previously approved											
Total for this request				\$32,300							

PART VII - APPROVALS

1. /s/ Jack T. Walton 8/16/07
Acting Forest Supervisor (signature) Date
2. /s/ James M. Pena (for): 8/20/07
Regional Forester (signature) Date