Date of Report: 8/5/2008

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: Soda Complex

B. Fire Number: CA-MNF-2008-645

C. State: CA

D. County: Lake, Mendocino

E. Region: 05 Pacific Southwest

F. Forest: 08 Mendocino

G. District: 54 Upper Lake

H. Fire Incident Job Code: 0508 P5D8QZ

I. Date Fire Started: 21 Jun 2008

J. Date Fire Contained: 26 Jul 2008

K. Suppression Cost: $17.2 million as of 29 July 2008

L. Fire Suppression Damages Repaired with Suppression Funds
1. **Fireline waterbarred (miles)**: 25.5 dozer / 23.5 hand
2. **Fireline seeded (miles):** 0
3. **Other (identify):** Road surface drainage restored to pre-fire function; safety zones

M. Watershed Numbers:
Back 18 01 01 03 02 (Rice Fork);
Big 18 01 01 03 03 (Soda Creek); trace in 18 01 01 03 04 (Tomki)
Mill 94% in 18 01 01 03 04 (Tomki); 6% in 18 01 01 03 01 (Upper Main Eel)
Monkey 18 01 01 04 04 (Elk Creek); trace in 18 01 01 03 01 (Upper Main Eel)

N. Acres Burned:

Fire	Acres by Ownership				
	Total	**NFS**	**Other Fed**	**State**	**Private**
Back	1565	1326	0	0	239
Big	2191	0	31	1101	1059
Mill	3040	2453	0	0	587
Monkey	1829	1829	0	0	0

O. Vegetation Types: Conifer, conifer-hardwood, oak woodland, chaparral.

P. Dominant Soils:

Fire	Soils
Back	Bamtush complexes, Sanhedrin complex
Big	Madonna, Neuns complex, Sheetiron
Mill	Sheetiron, Neuns complex, Madona, Tyson
Monkey	Sheetiron, Rock Outcrop, Yolla Bolly

Q. Geologic Types: Franciscan

R. Miles of Stream Channels by Order or Class:

Fire	Miles per Order				
	Total	**1**	**2**	**3**	**4+**
Back	19.1	11.7	3.8	2.1	1.5
Big	12.0	9.8	2.1	0	.1
Mill	26.3	16.9	4.7	3.9	.9
Monkey	22.0	13.9	3.6	4.2	0.3

S. Transportation System (NFS only – Big has pvt roads)

Fire	Trail Miles	Road Miles
Back	0	12.1
Big	0	0
Mill	0	2.8
Monkey	0	0.8

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Fire	Acres by Severity Class		
	Low	Moderate	High
Back	1345	220	0
Big	1269	855	67
Mill	2576	457	6
Monkey	1603	223	3

B. Water-Repellent Soil (acres): Back – 0; Big – not measured; Mill – 375; Monkey – 35

C. Soil Erosion Hazard Rating (acres):

Fire	Acres by EHR Class		
	Low	Moderate	High
Back	0	0	1565
Big	Insufficient soils coverage on private lands		
Mill	912	1803	324
Monkey	0	1829	0

D - E. Erosion & Sediment Delivery Potential

Fire	D. Erosion Potential tons/acre	E. Sediment Potential cu yd/sq mi
Back	4	1800
Big	Insufficient soils coverage on private lands	
Mill	5	2100
Monkey	7	2500

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 7

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

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

D. Design Storm Duration, (hours): 6 hr

E - H. Design Storm Runoff Predictions:

Fire	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)
Back	2.4	64	2	65
Big	2.4	58-63	0-3	58-65
Mill	2.5	57	2	58
Monkey	3.0	65	1	66

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats (narrative):

Affected HUC5	Aquatic TEPS Species Occurrence P = Present; CH = Critical Habitat				
	Federal T/E			FS Sensitive	
	Chinook Salmon	Coho Salmon	Steelhead	Yellow Legged Frog	Western Pond Turtle
Elk Creek	P	CH	P	P	P
Rice Fork	-	-	-	P	P
Soda Creek	P	CH	P	P	P
Tomki	P	CH	P	P	P
Upper Main Eel	-	-	-	P	P

Fire-specific Narratives

Back Fire

The Back fire burned about 2% of the Rice Fork HUC5 watershed in the upper end of one of its lower HUC7s (inconsequential portions of the fire lapped over into Soda HUC5). The Rice Fork's HUC7 was partially burned (~25%), at predominantly low severities. Consequently, the reduction in infiltration for the design event is only 2%. There is clearly no post-fire flood threat. Sedimentation effects are expected to be mild, transient and localized to Packsaddle Creek; there should be no adverse effects on aquatic TESP species.

Packsaddle Creek, which drains the burned area, empties directly into the Rice Fork arm of Lake Pillsbury reservoir. The reservoir impounds runoff from the Upper Main Eel and Rice Fork HUC5s for the primary purpose of supplying water to Sonoma County via a diversion into the Russian River. Past large fires have resulted in post fire algae blooms in the lake due to the nutrient pulse from mobilized ash and sediment. However the small size and lower severity of the Back fire are not expected to result in a large enough pulse to cause much more than a localized bloom in the upper Rice Fork arm of the lake.

Property and infrastructure values within the burn area are limited to several Forest Service roads. The roads are generally outsloped and should be able to handle the expected upland runoff, However, incomplete consumption of woody debris has left readily mobilizable amounts of woody debris, sediment, and ash in stream channels above roads, and poses a threat of plugging to several culverts.

Big Fire

The Big Fire burned almost entirely on State and private lands (32 acres on BLM), and not at all on NFS lands (about 780 acres are located within the MNF administrative boundary). Therefore no flood threat is possible from NFS lands.

The Big Fire burned small portions of two HUC5 watersheds: about 4% of the Soda Creek, and a trace of the Tomki Creek. Three of Soda's HUC7s were partially burned (4% to 12%), at predominantly low to moderate severities. Consequently, the reduction in infiltration for the design event ranges from 1% to 3%. There is no post-fire flood threat for the design storm. Sedimentation effects are expected to be mild, transient and localized to the affected HUC7 streams (Panther, Van Arsdale, Dashiel, and Whitney); there should be no adverse effects on aquatic TESP species and there is clearly no post-fire flood threat to NFS resources or facilities from the burned private lands.

Mill Fire

The Mill fire burned in and adjacent to the Sanhedrin Wilderness (2088 NFS acres w/in). It burned small portions of two HUC5 watersheds: about 2% of the Tomki, and a trace of the Upper Main Eel. The single affected HUC7 in Tomki HUC5, Thomas Creek, was partially burned (~29%), at predominantly low severities. Consequently, the reduction in infiltration for the design event is only 2% for that HUC7, and there is clearly no post-fire flood threat.

Property and infrastructure values within the burn area are limited to several Forest Service roads. Incomplete consumption of woody debris has left readily mobilizable amounts of woody debris, sediment, and ash in stream channels above roads, and poses a threat of plugging to a culvert.

Monkey Fire

The Monkey Fire burned mostly in the Yuki Wilderness. It burned small portions of two HUC5 watersheds: about 2% of the Elk Creek, and a trace of the Upper Main Eel. Two of Elk Creek's HUC7s were partially burned (12% & 19%), at predominantly low severities. Consequently, the reduction in infiltration for the design event is only 1%, and there is clearly no post-fire flood threat.

The one road that passes through the burned area is on a ridge and therefore not subject to any post-fire runoff impact.

There are six known prehistoric sites located within the burned area. None require protection measures.

Values at Risk:

Roads:

Several stream crossings are vulnerable to debris plugging their culverts. This situation exists in the Back and Mill Fires. Such plugging would cause road damage from failure at the incident crossings (the affected roads are generally outsloped, so there is low risk of stream diversion down the road with cascading failures of other culverts). One of the vulnerable culverts is 48" diameter; it poses the greatest risk of damage to both the road facility and sediment damage to aquatic habitat.

Potential New Noxious Weed Infestations:

It is unknown if suppression equipment was washed before being deployed to this fire. Noxious weed detection survey is therefore needed to detect any possible introduction of invasive plants by suppression actions, and to determine need for treatment beyond incidental removal. The survey would be needed at the beginning of 2009 growing season, prior to 1 year anniversary of fire.

Private Property:

No private property is threatened by any flood source areas located on NFS lands.

B. Emergency Treatment Objectives (narrative):

Land Treatments:

Prevent ecosystem disruption and high costs of tardy eradication through early detection and eradication of any new infestations of noxious/invasive plants possibly introduced by suppression actions.

Channel Treatments:

Reduce potential for debris to plug vulnerable culverts.

Roads and Trail Treatments:

Improve debris-passing capacity of vulnerable culverts to prevent plugging and washout of stream crossing fills.

3 post-storm patrols: after each of the first two runoff-producing storms to detect and remove any incipient plugging of culverts, to prevent complete blockage in subsequent events; and repeat once at end of season to ensure inlets are clear for 2009-2010 season.

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

Land NA**%** **Channel** 98**%** **Roads/Trails** 98**%** **Protection/Safety** NA**%**

D. Probability of Treatment Success

	Years after Treatment		
	1	**3**	**5**
Land	NA	NA	NA
Channel	NA	NA	NA
Roads/Trails	95%	97%	99%
Protection/Safety	NA	NA	NA

E. Cost of No-Action (Including Loss): $78,560

F. Cost of Selected Alternative (Including Loss): $35,011

G. Skills Represented on Burned-Area Survey Team:

[x] Hydrology	**[x] Soils**	**[ ] Geology**	**[ ] Range**
[ ] Forestry	**[x] Wildlife**	**[ ] Fire Mgmt.**	**[x] Engineering**
[ ] Contracting	**[ ] Ecology**	**[x] Botany**	**[x] Archaeology**
[x] Fisheries	**[ ] Research**	**[ ] Landscape Arch**	**[x] GIS**

Team Leader: Mike Van Dame

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H. Treatment Narrative:

Land Treatments:

Conduct spring survey of suppression-disturbed areas to detect if any new infestations of invasive plants were introduced by suppression actions; determine need for treatment beyond incidental removal. Submit interim 2500-8 request, if treatment is needed, prior to 1 year anniversary of fire. Noxious Weed Detection Survey Plan is attached.

Channel Treatments:

Channel cleaning treatments are incidental to culvert treatments under *Road & Trail Treatments*.

Roads and Trail Treatments:

Clean approximately 6 culvert inlets of partial blockages; install inlet sections to improve debris passage on 6 other culverts; clear channel debris incidental to culvert treatments; clean section of inboard ditch to prevent diversion of increased ditch flow onto road surface.

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.)

None identified.

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										
Nox weed detection	job	5550	1	$5,550	$0		$0		$0	$5,550
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$5,550	$0		$0		$0	$5,550
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										
Road work	job	19920	1	$19,920	$0		$0		$0	$19,920
Post-storm patrol	job	950	3	$2,850	$0		$0		$0	$2,850
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$22,770	$0		$0		$0	$22,770
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										
initial eval				---	$6,200		$0		$0	$6,200
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$6,200		$0		$0	$6,200
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				$28,320	$6,200		**$0**		**$0**	**$34,520**
Previously approved										
Total for this request				**$28,320**						

PART VII - APPROVALS

1. /s/ Thomas A. Contreras 8/5/08
   Forest Supervisor (signature) Date

2. _____ _____
   Regional Forester (signature) Date