USDA-FOREST SERVICE
FS-2500-8 (7/00)

Date of Report: October 26, 2006

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

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

B. Type of Action

[ ] 1. Initial Request (Best estimate of funds needed to complete 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

[X] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Deer

B. Fire Number: P5B**3SJ** (note correction from initial)

C. State: CA

D. County: Lake

E. Region: 05

F. Forest: 08 Mendocino

G. District: 54 Upper Lake

H. Date Fire Started: 9 Aug 05

I. Date Fire Contained: 15 Aug 05

J. Suppression Cost: $3.9 MM as of containment

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 3.2 dozer; 3.7 hand
2. Fireline seeded (miles): 0
3. Other (identify):

L. Watershed Number: 18 01 01 03 02 Rice Fork; minor acreage in 18 01 01 03 01 Upper Main Eel

M. Total Acres Burned: 1714
NFS Acres(1161) Other Federal ( ) State ( ) Private (553)

N. Vegetation Types: Chaparral, knobcone, annual grass, oak woodland, live oak/conifer

O. Dominant Soils: Maymen, Neuns, Okiota, Shortyork, Speaker

P. Geologic Types: Franciscan metavolcanics and metasedimentary

Q. Miles of Stream Channels by Order or Class: Order 1 = 10.7 ; Order 2 = 3.8 ; Order 3 = 1.0 ;
Order 4+ = 1.4 .

R. Transportation System

Trails: 0 miles Roads: 1.0 miles FS classified; 5.5 unclassified on private land

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 584 (low) 281 (moderate) 849 (high)

B. Water-Repellent Soil (acres): 0

C. Soil Erosion Hazard Rating (acres):
36 (low) 1385 (moderate) 299 (high)

D. Erosion Potential: 7.8 tons/acre

E. Sediment Potential: 2243 cubic yards / square mile

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

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 2.4

	Rice Creek	Deer Creek
F. Design Flow, (cubic feet / second/ square mile):	51	53
G. Estimated Reduction in Infiltration, (percent):	9	3
H. Adjusted Design Flow, (cfs per square mile):	56	54

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency: The BAER assessment determined that an emergency exists in regard to the roads, potential sedimentaion into Lake Pillsbury, and possible spreading of noxious weeds during suppression work.

Roads

The fire severity was high in entire sub-watersheds above a 1 mile section of road M-3. Analysis of post-fire run-off indicates infiltration rates in the three largest of these subwatersheds are reduced by 67 to 74%. The 3 culverts that serve these largest subwatersheds are inadequate to pass the expected flows or debris. 5 culverts were determined to be adequate to pass expected flows of the smaller subwatersheds, but are at risk of plugging because they do not have inlet sections needed to facilitate passage of expected debris. The road is insloped and has potential for stream diversion and cascading culvert failure. Some sections have excessive distance between cross drainage and are susceptible to road surface and ditch erosion with the increased hillslope runoff that they will be receiving. In addition to potential damage to the road from these threats, resulting sediment would end up in Lake Pillsbury reservoir, which would decrease its storage capacity.

Noxious Weeds

About 1.5+ miles (roughly mapped at this time due to problems downloading GPS data) of dozer fire line were constructed on NF lands by a dozer that passed through yellow starthistle infested areas, which created potential for noxious weed establishment. Other weeds from outside the area could have hitched in on the dozers. Additional potential was created where handlines and crew access trails depart staging areas, and tracking of seed into the burn interior could have occurred.

B. Emergency Treatment Objectives: - *Implementation Results*

Roads

Prevent costly road damage, reservoir sedimentation. Reduce risk of culvert plugging by improving debris-passing capacity of inlets, by increasing the size of some culverts to pass expected flows + debris, and by providing for inter-storm detection and removal of culvert obstructions (storm patrol). Provide for ‘least damage’ diversion of overflow in the event of culvert failure by constructing dips down-grade from crossings as a back-up

treatment. Reduce risk of excessive erosion and road damage from high rates surface runoff affecting road surfaces.

Under the road contract, end sections were added onto eight culverts, three culverts were removed and replaced with larger pipes, rock rip rap was placed below culverts as energy dissipators and one mile of road had "roughed in" rolling dips. This work was completed prior to winter shut down. When the road bed was dry in the spring of 2006, road grading and rolling dip installabtion was completed. See attached photos. Storm patrol was not done due to lack of winter access across a stream ford.

Noxious Weeds - *Implementation Results*

Prevent establishment of new noxious weed populations. Survey dozer lines, hand lines, crew access trails, and safety zones to detect noxious weed establishment in previously uninfested areas. Destroy any minor infestations incidental to survey activities, if possible. An interim report would be required to obtain funding for eradication needs beyond what the survey staff could accomplish if they find a few isolated weeds.

Invasive weed surveys along dozer and handlines were conducted in June and July. St. John's Wort was discovered in two locations on/near one dozer line. Gross area affected was 6.5 acres with 0.6 acres containing plants. Since no eradication was done prior to one year after the fire, treatment will be with invasive plant funds in 2007.

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

Land **NA** % Channel **NA** % Roads **95** % Other **NA** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	NA	NA	NA
Channel	NA	NA	NA
Road			
Stream xing mitigation	90	95	100
Road drainage impr	95	100	100
Storm patrol	90	NA	NA
Other			
Nox Weed	90	95	95

E. Cost of No-Action (Including Loss): $72,235

F. Cost of Selected Alternative (Including Loss): $64,865
Actual cost of BAER treatment was $63,038.

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	**[X] Soils**	[ ] Geology	[ ] Range	[ ]
[X] 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

Email: mvandame@fs.fed.us Phone: 530-934-1141 FAX: 530-934-7384

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: None

Channel Treatments: None

Roads and Trail Treatments: Replace 3 undersize culverts; add inlet sections to 5 adequately sized culverts to improve debris passage; construct critical dips to prevent cascading failure in event of culvert plugging; conduct storm patrol to detect and mitigate insipient culvert plugging; outslope and construct dips in 1000 feet of insloped road that is inadequately cross-drained.

Structures: None

Noxious Weeds: Conduct detection surveys according to attached Noxious Weed Detection Survey Plan, to determine if need exists for eradication of new infestations in the burned area resulting from suppression activities.

I. **Monitoring Narrative:**

Implementation and effectiveness monitoring of the road treatments will be achieved incidental to the contract administration and storm patrol activities. No additional monitoring activities or funding is recommended.

Planned

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

Line Items	Units	Unit Cost	# of Units	WFSU SULT $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land 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 Land Treatments				$0	$0		$0		$0	$0
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 Contract	Job	63825	1	$63,825	$0		$0		$0	$63,825
Storm Patrol	Job	900	1	$900	$0		$0		$0	$900
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$64,725	$0		$0		$0	$64,725
D. Structures										
				$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 Survey	Job	6320	1	$6,320	$0		$0		$0	$6,320
Admin & Reporting	Job	1500	1	$1,500	$0		$0		$0	$1,500
Nox Weed Detection Survey	Job	4025	1	$4,025	$0		$0		$0	$4,025
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Evaluation				$11,845	$0		$0		$0	$11,845
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				**$76,570**	**$0**		**$0**		**$0**	**$76,570**

Accomplished

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

			NFS Lands				Other Lands			All
		Unit	# of	WFSU	Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	SULT $	$	units	$	Units	$	$
A. Land 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 Land Treatments				$0	$0		$0		$0	$0
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 Contract	Job	54084	1	$54,084	$0		$0		$0	$54,084
Storm Patrol	Job	900	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				$54,084	$0		$0		$0	$54,084
D. Structures										
				$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 Survey	Job	6320	1	$6,320	$0		$0		$0	$6,320
Admin & Reporting	Job	1500	1	$1,500	$0		$0		$0	$1,500
Nox Weed Detection Survey	Job	1134	1	$1,134	$0		$0		$0	$1,134
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Evaluation				$8,954	$0		$0		$0	$8,954
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				**$63,038**	**$0**		**$0**		**$0**	**$63,038**

PART VII - APPROVALS

1. /s/ Thomas A. Contreras — 11/06/2006
   Forest Supervisor (signature) — Date

2. _____ — _____
   Regional Forester (signature) — Date

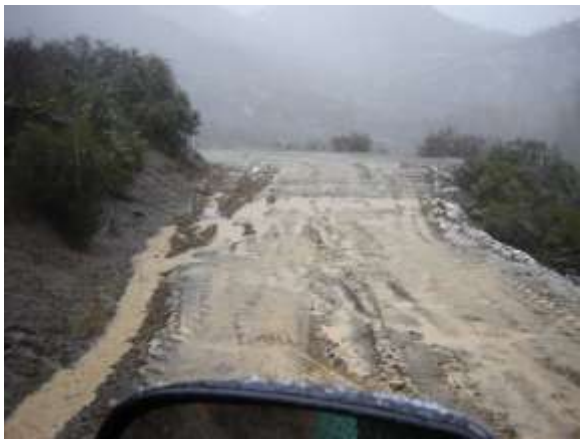

Photo 1. Water from inside ditch being diverted into a rolling dip prior to the ditch terminating in a stream around the bend in the road. *(Click to expand size of photo).*

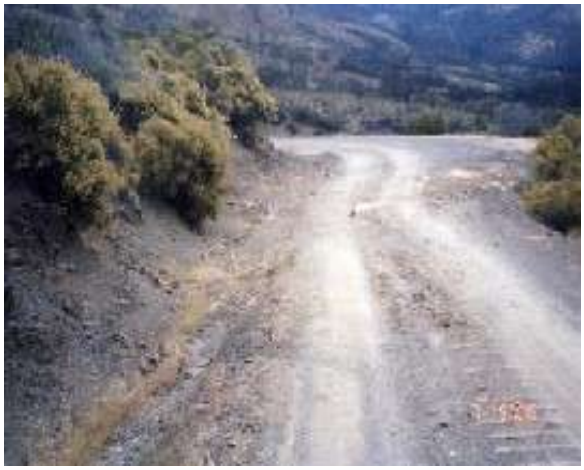

Photo 2. Same section of road after rolling dip was reconstructed.

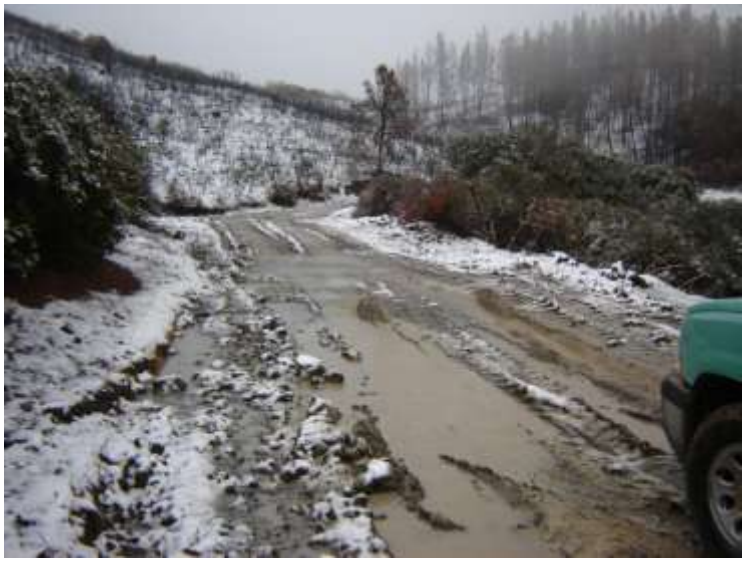

Photo 3. Road contract was terminated after installation of new culverts and culvert end sections. "Rough" rolling dips were installed before a heavy early snow storm. *(Click to expand size of photo).*

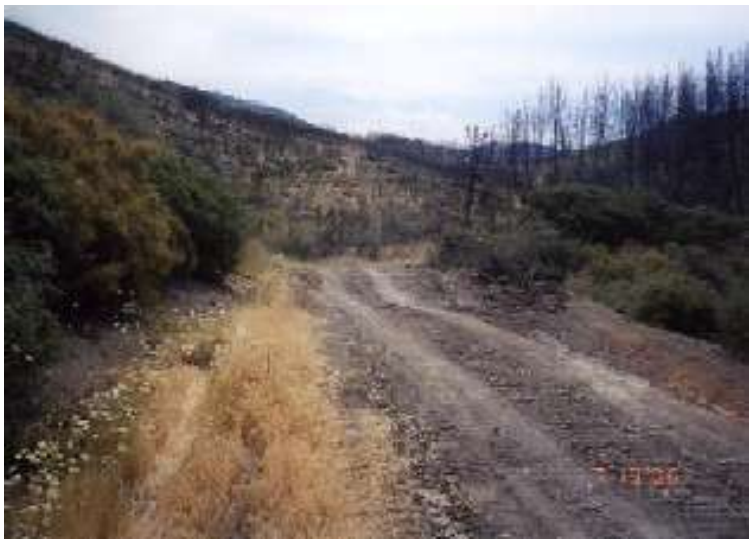

Photo 4. Reconstructed rolling dip draining inside ditch water before the ditch reaches a stream. The Snow Mountain Wilderness boundary is upslope from the road.

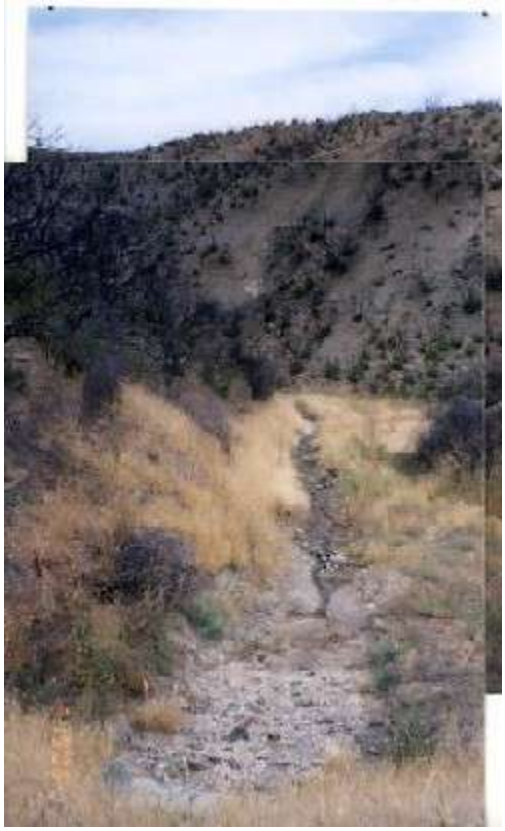

Photo 5. Area upstream of a 36 inch culvert had unstable slopes. An end section was added to the culvert inlet to pass debris.

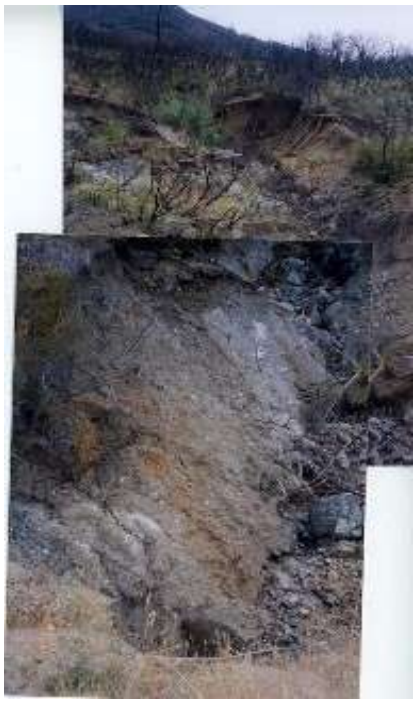

Photo 6. Stream bank collapsed above the end section. Without the end section more than likely the culvert would have plugged and washed out the fill.

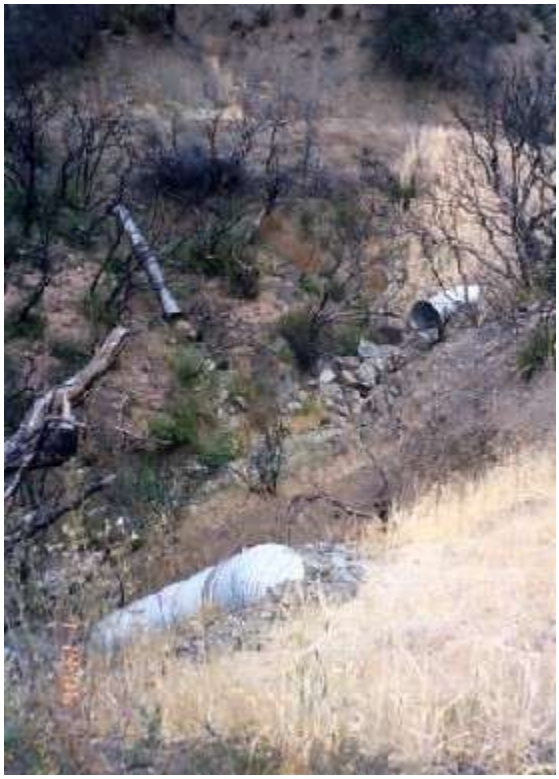

Photo 7. A new larger diameter culvert was installed to handle the calculated Increased peak flows. The culvert passed the heavy rains of 2006. Rock rip rap was placed below the culvert outlet for erosion control on the streambanks.