Date of Report: 10/05/2011

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: Buckeye

B. Fire Number: NV-HTF-000994

C. State: CA

D. County: Mono

E. Region: 4

F. Forest: Humboldt-Toiyabe

G. District: Bridgeport RD

H. Fire Incident Job Code: P4GG6C

I. Date Fire Started: 9/25/2011

J. Date Fire Contained: 9/27/2011

K. Suppression Cost: $855,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 0.5
2. Fireline seeded (miles):
3. Other (identify): 0.3 mile fireline covered with slash

M. Watershed Number HUC 1605030109 (Buckeye Creek)

N. Total Acres Burned NFS Acres (827) Other Federal ( ) State ( ) Private (218)

O. Vegetation Types: mountain big sage, bitterbrush, pinyon, juniper, low sagebrush

P. Dominant Soils: The major soils in the fire are Elaero-Granidry-rock out association, Murain association, Loope-Heenlake-Celeridge association and Loope-Pinew-Heenlake association. Soils are derived from granodiorite, igneous and metamorphic rock.

Q. Geologic Types:
The geology of the burned area is glacial til over andesite and tuff breccias, and andesite and tuff breccias without the till layer.

R. Miles of Stream Channels by Order or Class:

Perennial stream – 0 miles
Intermittent stream – 0.7 miles

S. Transportation System Trails: _ miles Roads: 2.3 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 257 (low) 695 (moderate) 0 (high)

B. Water-Repellent Soil (acres): approximately 220 acres

C. Soil Erosion Hazard Rating (acres): (low) 1045 (moderate) ___ (high)

D. Erosion Potential: 4 tons/acre

E. Sediment Potential: 1688 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3-5

B. Design Chance of Success, (percent): 80

C. Equivalent Design Recurrence Interval, (years): 25

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 1.9

F. Design Flow, (cubic feet / second/ square mile): 22

G. Estimated Reduction in Infiltration, (percent): 20

H. Adjusted Design Flow, (cfs per square mile): 24

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:
The Buckeye Fire burned the east facing slope between Buckeye Creek and Log Cabin Creek near Bridgeport, CA. The burned area includes one intermittent channel and numerous steep draws. These drainages have the potential to produce small debris flows during large storm events. Buckeye Road, Forest Road 017, crosses the burned area. This road receives heavy recreational use and is access to Buckeye Campground. There are seven culverts on the road within the fire perimeter. A large storm event could result in damage to the road from clogging the culverts and diverting debris and water onto and down the road surface. The culverts are currently undersized for the estimated flows or they are non-functioning culverts. There is an irrigation ditch on private land at the base of burned area which could also receive runoff and sediment during a large storm event.

Risk Assessment: The potential risk to FR 017 was assessed using the Interim Directive 2520 BAER Risk Assessment table. The increased runoff due to the fire is “likely” to cause damage to FR 017 at drainage crossings. The magnitude of the consequenses ranges from “minor to major”. The average risk to the road prism at the drainage crossings is “high” due to inadequate existing drainage structures.

B. Emergency Treatment Objectives:
The objective of the treatments is provide capacity in the culverts, either by cleaning them of debris, construcitng inlet basins, or replacing them with a larger size to pass runoff through the culverts and preserve the road surface.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land __ % Channel ___ % Roads/Trails 80 % Protection/Safety ___ %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Channel			
Roads/Trails	80	85	95
Protection/Safety			

E. Cost of No-Action (Including Loss): $150,000
The burned tributary areas above the existing culverts will deliver significantly increased sediment and debris loads to these drainage structures. This increased loading will result in the progressive failure of the culverts when they become plugged. These failures will cause overflow of the roadway, loss of road surface material, undermining of the road shoulders, reduced road width & compaction and eventual closure of the road due to concerns for public safety. The absence of the proposed sediment retention basin and generous use of rock riprap armoring will similarly threaten the safe stability of the roadway. After eventual closure of the road, the cost to return this road to the current condition could exceed $ 150,000.

F. Cost of Selected Alternative (Including Loss) **$69,600** The total cost of the Selected Alternative is the estimated treatment cost $39,600 plus the expected loss with treatment (.20 x cost of no action).

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Sally Champion

Email: schampion@fs.fed.us Phone: 775-884-8116

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:
No treatments proposed

Channel Treatments:
No treatments proposed

Roads and Trail Treatments:
Treatments on Buckeye road include the following:

Rebuild three culvert inlet basins, water jet culvert to remove sediment, armor inlet and outlet with rock riprap, approximately 2 cy/culvert, found on-site.

Remove & dispose of existing culvert, purchase, haul and install new 24" culverts at three sites, armor inlet, and outlet with rock riprap, approximately 2 cy/culvert, found on-site. The existing culverts are 18" and undersized for the potential runoff.

Purchase, haul and place 40 cy rock riprap to stabilize and armor the road embankment above the existing energy dissipation structure at one site. Road overflow events at this location will occur more frequently due to increased runoff from the burned upstream slopes.

Shape the upstream deposition fan at one drainage crossing and excavate a shallow sediment retention basin to capture mud/debris flows and delay (or prevent) overflow of the roadway. Use the excavated basin material to fortify the undercut road embankment shoulder section and place rock riprap (approx 20 cy) to armor existing erosion scars. Purchase, haul, and place concrete "Jersey barriers" between the retention basin and the road shoulder to prevent vehicle entry.

Use a water truck and motor grader combination to reshape and consolidate the road surface of the fire suppression work route between US 395 and the Buckeye Creek Bridge. This activity would occur after the completion of the work activities described above.

Protection/Safety Treatments:
No treatment recommended

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 will entail driving Buckeye Road after storm events to see how effective the road treatments are in handling runoff. Monitoring will most likely occur several times the first year after treatments are installed.

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										
				$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										
24" culverts	ea	800	3	$2,400	$0		$0		$0	$2,400
Equipment (backhoe, dumptruck, water truck, grader, transport)	job	6,150	1	$6,150	$0		$0		$0	$6,150
Excavator rental	job	1,900	1	$1,900	$0		$0		$0	$1,900
Labor	job	15,300	1	$15,300						$15,300
Perdiem for road crew	job	5,850	1	$5,850						$5,850
Jersey barriers	job	6,000	1	$6,000						$6,000
Rock riprap	cy	50	40	$2,000						$2,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$39,600	$0		$0		$0	$39,600
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										
				---			$0		$0	$0
Insert new items above this line!				---	$4,500		$0		$0	$4,500
Subtotal Evaluation				---	$4,500		$0		$0	$4,500
F. Monitoring										
Road inspection	Days	200	3	$600	$0		$0		$0	$600
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$600	$0		$0		$0	$600
G. Totals				$40,200	$4,500		**$0**		**$0**	**$44,700**
Previously approved										
Total for this request				**$40,200**						

PART VII - APPROVALS

1. /s/Stephanie Phillips)for)
JEANNE M. HIGGINS___ October 12, 2011
Forest Supervisor (signature) Date

2. _____ _____
Regional Forester (signature) Date