

Date of Report: 01/28/2013

**BURNED-AREA REPORT**

(Reference FSH 2509.13)

**PART I - TYPE OF REQUEST****A. Type of Report**

- |                                     |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | 1. Funding request for estimated emergency stabilization funds |
| <input type="checkbox"/>            | 2. Accomplishment Report                                       |
| <input type="checkbox"/>            | 3. No Treatment Recommendation                                 |

**B. Type of Action**

- |                                     |  |                                     |  |                          |                                   |
|-------------------------------------|--|-------------------------------------|--|--------------------------|-----------------------------------|
| <input type="checkbox"/>            | 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)   |                                     |  |                          |                                   |
| <input checked="" type="checkbox"/> | 2. Interim Report   # 1  |                                     |  |                          |                                   |
| <input type="checkbox"/>            | <table border="1"><tr><td><input checked="" type="checkbox"/></td><td>Updating the initial funding request based on more accurate site data or design analysis</td></tr><tr><td><input type="checkbox"/></td><td>Status of accomplishments to date</td></tr></table> | <input checked="" type="checkbox"/> | Updating the initial funding request based on more accurate site data or design analysis | <input type="checkbox"/> | Status of accomplishments to date |
| <input checked="" type="checkbox"/> | Updating the initial funding request based on more accurate site data or design analysis   |                                     |  |                          |                                   |
| <input type="checkbox"/>            | Status of accomplishments to date  |                                     |  |                          |                                   |
| <input type="checkbox"/>            | 3. Final Report (Following completion of work)   |                                     |  |                          |                                   |

**PART II - BURNED-AREA DESCRIPTION****A. Fire Name: North Pass****B. Fire Number: CA-MNF-001446****C. State: CA****D. County: Mendocino****E. Region: 05 Pacific Southwest****F. Forest: 08 Mendocino****G. District: 56 Covelo****H. Fire Incident Job Code: P5G6L2 0508****I. Date Fire Started: August 18, 2012****J. Date Fire Contained: September 10, 2012****K. Suppression Cost: \$30,490,474 as of September 19, 2012****L. Fire Suppression Damages Repaired with Suppression Funds**

1. Fireline waterbarred or covered with smashed-in brush (miles): **46 miles**
2. Fireline seeded (miles): **0 miles**
3. Other (chipping in miles): **16 miles**

**K. Watershed Number(s): 1801010405, 1801010401, 1801010402,****N. Total Acres Burned: 41,983 as of September 6****NFS: 31,049****Other Federal: 438 BIA****State: 2,840****Private: 7,457**

- O. Vegetation Types: **Chamise and manzanita chaparral, knobcone pine, mixed conifer, black oak, conifer hardwood mix, extensive stands of ponderosa and sugar pine with white fir, montane chaparral.**
- P. Dominant Soils: **Rock outcrop complexes with xerothents (60%), gravelly loams with colluvium (25.5%), aquepts (4%, wet inceptisol formed under forests with poor horizon development) and xerothents (4%, dry inceptisol formed under forests and woodland with poor horizon development)**
- Q. Geologic Types: **Yolla Bolly terrain Franciscan melange primarily diamictite (breccia or conglomerate of unknown origin), argillite, graywacke, metavolcanics, and serpentinite. Small outcrops of chert and greenstone throughout.**
- R. Miles of Stream by Order or Class: **Stream Orders: One - 277.28 miles, Two - 91.83, Three - 50.82, Four - 23.15, Five - 2.38, Six - 10.7**
- S. Transportation System – **Trail Miles: 18.36 Road Miles: 79.35**

### **PART III - WATERSHED CONDITION**

- A. Burn Severity (acres): **Low: 21,693 Mod: 8502 High: 855**
- B. Water-Repellant Soil (acres): **None detected within the burn area**
- C. Soil Erosion Hazard Rating – FS **Low: 26,836 Mod: 12,457 High: 2492**  
Lands (acres)
- D. Erosion Potential (tons/acre): 2.26 to 12.42 **Average: 9.51**  
tons
- E. Sediment Potential (cubic yards / square mile): **Average: 249**

### **PART IV - HYDROLOGIC DESIGN FACTORS**

Design Factor	Average
A. Estimated Vegetative Recovery Period, (years):	<b>7 to 20</b>
B. Design Chance of Success, (percent):	<b>90%</b>
C. Equivalent Design Recurrence Interval, (years):	<b>2</b>
D. Design Storm Duration, (hours):	<b>3</b>
E. Design Storm Magnitude, (inches):	<b>Varies with watershed and elevation</b>
F. Design Flow, (cubic feet / second/ square mile):	<b>Bar Creek: 71; Jumpoff Creek: 59 cfs per mile<sup>2</sup></b>

G. Estimated Reduction in Infiltration, (percent):

**Bar Creek: 20%; Jumpoff Creek:  
4%**

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

**73 to 90 cfs**

## **PART V - SUMMARY OF ANALYSIS**

### **A. Describe Critical Values/Resources and Threats:**

The North Pass Fire was started by lightning about 3 am on August 18<sup>th</sup> northeast of Covelo, California on private land in an area of mixed brush, grass and scattered conifers. CAL FIRE originally responded to the incident. The fire spread primarily to the north and east over the next two days burning state and tribal lands and also burning into the Mendocino National Forest. The fire moved into the Yolla Bolly- Middle Eel Wilderness and the Covelo District within the Forest and also the "Pothole" area surrounded by wilderness lands. The incident went to unified command between CAL FIRE and the Forest Service and a Type II team was brought in to manage the fire.

Extreme fire behavior kept the fire burning aggressively and caused a large spot fire to the east across the Middle Fork of the Eel on the fourth day. Overall this spot fire significantly expanded the fire perimeter. Fire behavior moderated and growth of the fire slowed in early September leading to containment on the evening of Sunday, September 16<sup>th</sup>. The fire burned nearly 42,000 acres and several thousand fire fighting personnel were engaged on the fire over approximately four weeks. Elevations within the fire range from approximately 1600 feet along the Middle Fork of the Eel where it flows from Forest land to Anthony Peak at 6954 feet near the eastern margin of the fire. Leach Lake Peak is another prominent mountain in the western portion of the fire, west of the Eel with an elevation of 6637 feet.

Vegetation and habitat types within the burn area vary greatly and include grasslands on south and west aspect slopes, blue, black and Oregon oak woodlands in lower to middle elevations, California chaparral including chamise and manzanita thickets, low elevation conifer stands of knobcone and grey pine, mixed conifer forests of ponderosa, fir and cedar and high elevation forests that are dominantly fir. Rock outcrops, cliffs, boulder fields and scree slopes are very common in the burn particularly at high elevation, on south aspect slopes and in gorges and canyons. These areas are largely devoid of vegetation. Also within the burn area are many small lakes and ponds often formed as "sag ponds" above old landslides. Four of the ponds within the black contain the listed plant species water Howellia. The Middle Eel is one of the few undammed rivers left in California and it is home to important anadromous fishery including an unusual summer run of steelhead trout. The entire burn area is an anadromous fisheries watershed.

The fire area contains 16 seventh field drainages with significant burned acreage. Murphy, Shields, Board, Burnt and Upper Willow seventh fields were barely impacted by the fire when a handful of acres burned in these watersheds along the tops of ridges near where control lines had been placed. Some of the 16 watersheds are entirely in the wilderness and most include some wilderness lands. Most of these seventh fields have few values at risk or had low burn intensity, or both, reducing the likelihood of imminent post fire impacts (Table 1).

Chosen for more detailed hydrologic analysis due to higher fire severity and more values at risk were Jumpoff and Bar creeks. The Jumpoff watershed was divided into 6 sub-drainages for analysis since six branches of this stream pass under Forest Highway 7 (FH 7) downstream of the fire.

Table 1: Seventh field watersheds of the North Pass fire with values at risk, percent wilderness and watersheds selected for analysis.

Drainage	Roads*	Roads Storm-proofed**?	Trails	Percent Wilderness*	Burn Severity	Other Values	Selected for Hydrologic Analysis
Deer Lick	1 mile of 24N21	yes	none	90%	low	water howellia	no
Line Gulch	none		Stick Lake	95%	low		no
Upper Williams	none		none	100% (Forest land)	mixed	private structures^	no
Fossil	4 miles of 24N21, 24N24, 24N30, 24N26B	most yes	none	65%	high to mixed		no
Pothole	4 miles of 24N21 and 24V17	yes	none	45%	mixed		no
Little Doe	5 miles of 24N52 and 24N21	most yes	none	40%	low		no
Traveler's Home	3 miles of 24N21	yes	Travelers' Home	90%	mixed		no
Grass Lake	0.5 miles of 24N17	yes		30%	low to moderate	water howellia; private structures^	no
Blands Cove (Howard Lake West)	5 miles of 24N21, 24N52 and 24N57	most yes	Travelers' Home	60%	low	water howellia	no
Travelers Home Trailhead	8 miles of M1, 24N2, and 23N15	mixed; not 23N15	Traveler's Home and Hellhole	50%	high to mixed	private structures^	no
Bar	1.5 miles of M1	yes	none	0	high to mixed	private structures^	yes
Buck	1.5 miles	yes	none	0	high to mixed	private structures^; campground	no
Jumpoff	4 miles	County road FH 7	none	0	high to mixed		yes
Howard Lake	2 miles	most yes	none	25%	mixed		no
Hellhole Canyon	none		Hellhole	95%	low	private structures^	no

\*Road and wilderness values are approximate and only include burned areas within a given watershed; ^structures on private land inholdings; + storm proofing includes installation of larger culverts sized for hundred year floods, culvert inlet structures, installation of rolling dips and other infrastructure to reduce road impacts to water quality especially from storm events.

There are six trails and at least seven trailheads within the fire (Table 2). Several of these trails are very short and were not included in analysis.

Table 2: Trails in the burn area.

Trails	Length in miles	Miles in high or moderate burn
Anthony Ridge	4.16	0.9
Dewell Garden	0.072	
Hell Hole Canyon	5.00	1.46
Henthorne	1.02	
The Falls	0.23	
Travelers' Home	7.87	1.84
Stick Lake Canyon Trail	1.7	0

The burned area's geomorphology is dominated by mass wasting processes including earthflows, active slides, rotational slumps and slides, block slides, debris flows and hundreds of miles of stream inner gorges. However most of these land movements are pre-historic and are not considered to be active at this time. The fire is not expected to increase the risk of landslides in such a way as to impact values at risk in the fire area. Most slides are in the wilderness or the inner gorge of the river. Treatments would not be feasible and would be inappropriate in wilderness. The geologists report on the fire states that, "The risk to ... values from fire related to slides ... is very low." And, "as the slide complexes that the Blands Cove Road traverses are very large and lay primarily within the wilderness, no recommendations for mitigation of future sliding is made." The report does recommend continued monitoring by Forest staff of road prisms in association with slides and the appropriate sizing and cleaning of culverts, which is being undertaken under the road work described below.

Significant private land within the forest boundaries also burned and 26 structures were destroyed including 8 homes. Many more were threatened largely on the south side of the fire in the Bauer Subdivision area along FH 7, which is a county maintained road. The structures in the area are on private land, which is not eligible for BEAR treatments. Possible impacts from Forest land that could move onto private lands, such as floods, are considered below. There are no Forest Service-owned structures within the fire perimeter other than the Anthony Peak lookout, which is at no increased risk post fire.

More than dozen cultural sites are known from within the fire. Nine were in areas of moderate to high burn intensity. The threat to the sites is theft, disturbance and erosion. Some sites need to be hidden and concealed to reduce pilfering and others may possibly need erosion protection and mitigation.

Values at Risk in the North Pass Fire and included in this BAER report area 1) area hiking trails, 2) area roads and associated infrastructure, 3) rare plants including water howellia and others, 4) ecosystems threatened by invasive plants, 5) anadromous fish, 6) privately owned structures adjacent to forest land, 7) heritage resources, 8) river and stream water quality issues, 9) hazard trees along roadways.

Values at risk are assessed using this table to determine risk:

Table 3: Risk assessment matrix

Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
	Risk		
Very likely	Very High	Very High	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

1. Trails in the fire area are the Travelers' Home National Recreation Trail and two associated trail heads, the Hell Hole Trail and trailhead and the Stick Lake Canyon Trail and trailhead plus three shorter trails at Dewell Garden, Henthorne and The Falls.

There are no designated OHV trails, routes or roads within the burn area.

Trail segments in high severity burn areas showed numerous issues that threaten trail stability post fire. This includes large to small debris (logs, rocks, limbs, small slides) on trail surfaces, crumbling trail outer edges, potential for stream crossing infrastructure to become clogged with fire debris, a potential for trails to capture hillslope runoff, and other issues. These issues could damage trails and reduce water quality downstream.

Value Risk Assessment Hiking Trails:

Probability or likelihood of damage or loss: Likely

Magnitude or consequence if damage does occur: Moderate

Risk: High

2. Road networks are not as extensive in this area as some others within the Forest. Nevertheless Forest Highway 7, the M1, Blands Cove (24N21) and Espee Ridge (23N39) roads as well as adjacent shorter roads (such as 24N57, 24N52, 24N24, 23N75, 23N60, 23N37) were impacted. Thanks to earlier work on these Forest roads many are in excellent condition to weather post-fire run off. Roads were "storm proofed" in earlier projects leading to a significant cost savings for this BAER. This includes installing larger culverts sized for hundred-year floods, installation of culvert inlet structures, installation of rolling dips on road surfaces, out sloping road surfaces, and other infrastructure improvements to reduce road impacts. Nevertheless, many inlets need cleaning to prevent plugging by woody debris, and many burned-out drop inlet covers must be replaced to prevent culvert clogging.

Exceptions to the roads in good condition include 23N15 which runs west from M1 along the Wilderness boundary and down into the Middle Fork Canyon, and the road above Surveyor Camp Campground as well smaller issues scattered about the fire. In these locations, undersized culverts, debris filled culverts and a lack of road surface rolling dips for improved drainage are issues.

Value Risk Assessment System Roads:

Probability or likelihood of damage or loss: Very likely

Magnitude or consequence if damage does occur: Moderate

Risk: Very High

Interim #1 Update: Forest roads infrastructure in the fire area were significantly affected by storms in late 2012 that exceeded the design event. The storms resulted in the partial or complete plugging of many culvert inlets, and the breaching or compromise of surface cross-drains (dips, waterbars). Although the majority of the problems are due to the storms exceeding the design event, there are several instances where the initial assessment underestimated the increased sediment/debris load that would need to be passed at some crossings (and so did not include installation of inlet sections in the initial treatment). The resulting conditions threaten the roads with multiple failures and repair costs if not corrected before the next significant storms.

Winter Storm Road Damage Risk Assessment

Probability or likelihood of damage or loss: Very likely as loss is on-going with more erosion with each new storm.

Magnitude or Consequence: Major, significant damage to forest roads; potential for impacts to downstream resources including threatened species in the Eel River, if sediments reach this far downstream.

Risk: Very High

3. Rare plants are a resource management concern for this part of the Forest. There are seven species of concern (Table 1) that are found in the fire area. However, the six Forest Service sensitive plants are unlikely to be affected by the fire due to their habitat requirements, range, seasonality and other parameters. The botanist's report on the fire states, "No extreme threats to any of these species are anticipated and they are not carried forward as values at risk."

Table 4: Rare plants of the North Pass Fire

Botanical Name	Common Name	Status	Habitat	Prevalence in the burn area
<i>Howellia aquatilis</i>	water howellia	Threatened	small shallow ponds	limited to a few small ponds
<i>Anisocarpus scabridus</i>	scabrid alpine tarplant	Forest Service sensitive	rock and scree slopes above 5500 feet	uncommon, known from a few locations
<i>Botrychium virginianum</i>	rattlesnake fern	Forest Service sensitive	moist soils in forests	uncommon, known from a few locations
<i>Cypripedium fasciculatum</i>	clustered lady's slipper orchid	Forest Service sensitive	late seral forests	uncommon, known from a few locations
<i>Lupinus antoninus</i>	Anthony Peak lupine	Forest Service sensitive	high elevation barren slopes	uncommon, known from a few locations
<i>Ophioglossum pusillum</i>	northern adder's tongue	Forest Service sensitive	ponds, springs, meadows	uncommon, known from a few locations
<i>Ptilidium californicum</i>	leafy liverwort	Forest Service sensitive	moist late seral forests	uncommon, known from a few locations

Of potential concern is the listed species *Howellia aquatilis*, found in four ponds within the burn area in western areas of the fire. Risks to these plants would be from increased sedimentation into ponds post fire. The ponds were visited by the Forest BAER team to assess erosion potential. Fire severity near the ponds was generally low. Two areas of riparian vegetation burned at two of the ponds, but for the most part fire stopped at the wetter pond and wetland environment. Areas upslope are small ranging from a few acres to less than an acre with nearly all trees were alive at three sites. Grass Lake showed high mortality upslope, but a dense intact stand of trees, the low slope angle and the small catchment size still make significant erosion into Grass Lake unlikely.

Value Risk Assessment System Rare Plants:

Probability or likelihood of damage or loss: Unlikely

Magnitude or consequence if damage does occur: Moderate

Risk: Low

4. Invasive Plants are a threat in any burned area including the North Pass Fire, which has been a largely weed free part of the Forest. The large bulldozer-created fire lines, safety zones and staging areas are of particular concern due to their size and the wide range of personnel and vehicles in these areas that may have been vectors for propagules. Numerous species of invasive plants could now be present in these areas.

Value Risk Assessment Invasive Plants:

Probability or likelihood of damage or loss: Likely

Magnitude or consequence if damage does occur: Moderate

Risk: High

5. Anadromous Fishery: The Middle Fork of the Eel watershed hosts three runs of anadromous fish 1) summer steelhead, 2) winter steelhead, 3) fall Chinook salmon. The fire burned on both sides of this

river in southern sections of the burn while further north the river was a line on control and containment on the fire.

In view of the predominance of low intensity burn intensity and the fact that the burn impacted 11.8% of the watershed within the Forest and 8.7% overall, it is expected that there be only a minor peak flow response in the Middle Eel. Such a change in flow is within the range of natural variability and unlikely to impact important parameters for fish such as sedimentation, prevalence of deep pools, shading, and water temperature.

The predominance of low severity burn in most areas will minimize increases in surface erosion. Therefore, the sediment response is expected to be dominated by the release of channel-stored sediment due to burning-out of large woody debris in lower order channels. This will be a substantial pulse in the tributary watersheds, as it represents the backlog of about a century's worth of missed fire-return intervals over many miles of order 1 and 2 streams. There is no cost-effective way to mitigate this pulse, nor a compelling need to do so. The sediment pulse will be attenuated within the Eel itself, owing to dilution by the substantial portion of the watershed 91.3% being unburned.

The exception could be at the HUC7 scale in the two watersheds chosen for analysis. These areas had high burn severity and adjacent values at risk. But these small ephemeral streams themselves are not habitat for anadromous fish and they constitute only a small percentage of the overall watershed area and sediment budget.

Value Risk Assessment Anadromous Fisheries:

Probability or likelihood of damage or loss: Possible

Magnitude or consequence if damage does occur: Minor

Risk: Low

6. Private Structures

In several locations and in particular along the southern margins of the fire are privately owned structures on private land inholdings within the Forest. In several locations, NFS land with a high to moderate burn severity lies uphill of private land and these structures. A structure by structure review and field visits to some sites, however, showed that structures are:

- 1) not at risk from uphill floods or earth movements due to specific site locations such as along a ridge line or prominent benches with weak or no hydrologic or geomorphic connection to upslope NFS source areas;
- 2) located below potential hazards (such as burned steep slopes) on private land but not Forest land, and BAER funds cannot be used for private land treatments, and
- 3) likely to be at low risk in some areas due to moderate to low fire severity upslope.

Value Risk Assessment Private Structures:

Probability or likelihood of damage or loss: Unlikely

Magnitude or consequence if damage does occur: Moderate

Risk: Low

7. Heritage Resources: There are nine significant cultural heritage sites on NFS land that are within high or moderate burn severity areas. This puts them at some risk of erosion damage. Several are also close enough to roads to be at elevated vulnerability to pilfering and disturbance due to a loss of groundcover. The threat of theft and disturbance such as digging has both a moderate-high probability of occurring (on the vulnerable sites), and a high magnitude of consequence.

For sites that are not vulnerable to pilfering, the probability of erosion occurring is moderate to high, but the consequences are thought to be fairly low. This is because, it is anticipated that only surface soil movement will occur, without much rilling that could disturb lower site strata and associated cultural materials. However, a backup for the no-treatment option we propose for these sites would be



effectiveness monitoring. This should be conducted early in the storm season, so that intervention needs can be detected before any substantial damage (i.e. deep rilling) occurs.

Value Risk Assessment Heritage Resources:

Probability or likelihood of damage or loss: Theft or disturbance = Likely; Erosion = Likely

Magnitude or consequence if damage does occur: Theft or disturbance = Major; Erosion = Minor

Risk: Theft or disturbance = Very high; Erosion = Low

8. Water Quality

Only minor changes to water quality from sedimentation are expected from the fire due to low fire intensity particularly in riparian areas and along the Middle Eel, the retention of woody debris across the fire, and little infrastructure in the burn area such as culverts and roadways that can compound erosion. In the short-term erosion from small order channels will increase, but this influx of material is expected to be attenuated by the larger flows in the Middle Eel and its larger tributaries in the burn area. Also any work to protect water quality in the burn area would be very expensive and not cost effective. Such work could also be counter to wilderness management and protection.

Value Risk Assessment Water Quality:

Probability or likelihood of damage or loss: Unlikely

Magnitude or consequence if damage does occur: Moderate

Risk: Low

9. Hazard Trees:

With few roads in the fire area and a need for access during suppression some hazard trees were actively removed throughout the fire. However, not all were removed and subsequent to containment more trees are failing and becoming hazards due to wind, small burnouts and soon, precipitation.

Value Risk Assessment Hazard Trees:

Probability or likelihood of damage or loss: Very Likely

Magnitude or consequence if damage does occur: Moderate

Risk: Very High

B. Emergency Treatment Objectives:

Objectives of the BAER treatments are to:

- Assess higher risk locations for sprouting invasive weeds in 2013.
- Remove hazard trees along road and trail networks when needed for safety.
- Mulch two archaeological sites to hide them and protect them from theft and disturbance and to prevent erosion.
- Protect trails and water quality through trail repair and rehabilitation treatments.
- Treat road infrastructure to improve drainage and reduce culvert blockages in locations where this has not already been completed on the fire. This includes adding rolling dips, cleaning inlets and outlets, adding rock rip rap, etc. to specific locations on more than a dozen Forest roads.

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

Land 90 % Channel N/A % Roads/Trails 90 % Protection/Safety 95 %

#### D. Probability of Treatment Success

Treatment	Years after Treatment		
	1	3	5
Noxious Weeds	80%	90%	90%
Road Culverts	95%	95%	95%
Road Dips	95%	95%	95%
Mulch Archaeological Sites	85%	90%	90%

E. Cost of No-Action (Including Loss): **\$344,456**

F. Cost of Selected Alternative (Including Loss): **\$143,226**

Interim #1 Update: For the Roads portion of the BAER work, the cost of no action is \$269,408; the overall (initial + interim 1) cost of treatment + loss is \$111,513. The additional cost for the proposed supplemental work still shows a significant net benefit to the Agency and resources.

#### G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: **Mike Van Dame**

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#### H. Treatment Narrative:

##### Land Treatments:

Mulch two archaeological sites to obscure the site and to discourage disturbance and theft. Mulch will cover cultural materials and will also prevent erosion.

Noxious weed surveys would be conducted within fire lines constructed by bulldozers in previously undisturbed locations using two-person crews working for 25 days in summer 2013. There are approximately 30 miles of this type of dozer line on the fire. Two surveys will take place in May and June to find plants emerging at different times. Small infestations will be removed at the time, while large infestations may require additional funding to remediate. Future surveys for weeds may be conducted in the fire area using other funding sources.

### Channel Treatments:

Channel treatments will only be within road prisms involving culverts and associated infrastructure and work to prevent culvert blockages and thus potential flooding. This work is included within the scope of the proposed road treatments

### Roads and Trail Treatments:

Roads: Improve debris passage at culverts (clean inlet basins, add inlet sections to culverts, up-size undersized culverts, clear blocked outlets); construct dips to improve surface drainage dispersion to prevent road damage and hillslope erosion (Table 5). Roads to be worked on are 24N21, 23N29, 24N30, 23N75, 23N15, M1, 23N19, 24N52, 24N57, 24N17, 24N42, 24N24. Conduct inter-storm patrols to detect and correct any incipient culvert plugging.

Table 5: Road Treatments

Supplies, Work or Installation	Number
18 inch culvert	2
18 inch end section	4
24 inch culvert	1
Rock rip rap, Class 1	31 tons
Rock rip rap, Class 2	37 tons
Inlet cleaning	60
Outlet cleaning	5
Wood DI lids	36
Rolling dips	144
Culvert installation	2
Reconstruct ditch	280 feet
Repair road gate	1

Interim #1 Update: Clean culvert inlets and inlet basins; install inlet sections on several culverts; repair compromised dips, install riprap to harden several dip discharge points.

Trails: Add rolling dips and drainage features to trails, remove debris from trail prism, reinforce trail outer edges, and ensure good drainage where trails cross streams. Primary trails to be treated are Hell Hole and Travelers' Home.

### Protection/Safety Treatments:

Remove hazard trees from road and trails that would threaten personnel implementing BAER treatments.

### I. Monitoring Narrative:


None

**Part VI – Emergency Stabilization Treatments and Source of Funds - Interim #**

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units	Non Fed \$	
<b>A. Land Treatments</b>										
Mulch arch. sites	sites	1500	2	\$3,000	\$0		\$0		\$0	\$3,000
Inv. weed detection	treatme	13925	1	\$13,925	\$0		\$0		\$0	\$13,925
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line				\$0	\$0		\$0		\$0	\$0
Subtotal Land Treatments				\$16,925	\$0		\$0		\$0	\$16,925
<b>B. Channel Treatments</b>										
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line				\$0	\$0		\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0		\$0		\$0	\$0
<b>C. Road and Trails</b>										
Road contract	job	\$85,645	1	\$85,645	\$0		\$0		\$0	\$85,645
Storm patrols	job	\$1,700	1	\$1,700						
Trail cross drains	mile	\$4,890	3.3	\$16,137						
Interim 1 Rd Trtmnts	job	\$23,500	1	\$23,500						
Insert new items above this line				\$0	\$0		\$0		\$0	\$0
Subtotal Road & Trails				\$126,982	\$0		\$0		\$0	\$85,645
<b>D. Protection/Safety</b>										
Hazard Trees	job	20,000	1	\$20,000	\$0		\$0		\$0	\$20,000
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line				\$0	\$0		\$0		\$0	\$0
Subtotal Structures				\$20,000	\$0		\$0		\$0	\$20,000
<b>E. BAER Evaluation</b>										
	job	8,500	---	---			\$0		\$0	\$0
Insert new items above this line					\$0		\$0		\$0	\$0
Subtotal Evaluation				---	\$0		\$0		\$0	\$0
<b>F. Monitoring</b>										
				\$0						
					\$0		\$0		\$0	\$0
Insert new items above this line				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0		\$0		\$0	\$0
<b>G. Totals</b>				\$163,907	\$0		\$0		\$0	\$122,570
Previously approved				\$140,407						
Total for this request				\$23,500						

**PART VII - APPROVALS**

  
 Forest Supervisor (signature)

  
 Date

  
 Regional Forester (signature)

  
 Date