

Date of Report: September 26, 2014

**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 DESCRIPTION**

- A. Fire Name: Deception Fire                      B. Fire Number: OR-WIF-140274  
C. State: Oregon                                      D. County: Lane  
E. Region: Pacific Northwest (R6)                      F. Forest: Willamette NF (0618)/Umpqua NF  
G. District: Middle Fork RD/Cottage Grove RD                      H. Fire Incident Job Code: P6JB14  
I. Date Fire Started: 08/11/2014                      J. Date Fire Contained: est.10/15/2014; 95% as of 9/26/2014  
K. Suppression Cost: \$27,100,000 on 09/26/2014  
L. Fire Suppression Damages Repaired with Suppression Funds  
    1. Fireline waterbarred (miles): X miles of dozer and X miles of hand line  
    2. Fireline seeded (miles): none as of 2014.09.24  
    3. Other (identify): X miles of road brushed, X miles of road graded and X miles of road reclosed  
M. Watershed Numbers: Deception Creek Subwatershed within Lookout Point Reservoir Watershed;  
N. Total Acres Burned: 7,378 total acres within the containment perimeter; (6033 acres burned )  
    NFS Acres (7,378)    Other Federal (0)    State (0)    Private (0)  
O. VegetationTypes:

The fire occurred in a mixed conifer forest primarily composed of Douglas-fir with western hemlock, incense cedar, western red cedar and some sugar pine. Special habitats burned inside the fire area were dry, wet and mesic meadows, rock gardens and outcroppings, seeps and swamp/bogs. Hardwood species in the riparian areas include a mixture of red alder (*Alnus rubra*) and big leaf maple (*Acer macrophyllum*). Upland hardwoods consist of Pacific madrone (*Arbutus*

*menziesii*), golden chinquapin (*Chrysolepis chrysophylla*), and big leaf maple. The shrub layer of this fire area is vine maple (*Acer circinatum*), Pacific rhododendron (*Rhododendron macrophyllum*), Oceanspray (*Holodiscus discolor*), California hazelnut (*Corylus cornuta*), Salal (*Gaultheria shallon*) and Oregon grape (*Mahonia nervosa*).

#### P. Dominant Soils:

The primary landtypes (Legard and Meyer, Soil Resource Inventory, 1973) within the burn area cover three general geomorphic terrains:

- 1) Flats and stream terraces along Deception Creek. This landtype is primarily 16. These soils are very permeable and depths range from 4 to 20 feet or more.
- 2) The steep to very steep and rocky side slopes (60 to 100% plus) that rise up sharply from the valley bottoms. Relief in most areas ranges from 1000 to 2000 feet. Typical landtypes are primarily 8 and 201. Soil depths in this area range from only a foot or so to about 10 feet. Included in this terrain category are numerous areas of rock outcrops and cliffs. These areas are considered unsuited for timber management and include the landtypes of 1, 3, and 210. Permeability in these soils is high, but they drain quickly as soil water rapidly encounters low or impermeable bed rock.
- 3) The higher elevation uplands and broad ridges that separate many of the major drainages. Landtypes here include 23, 25, 231, 233, 235, 253, 33, and 335. Side slopes can range from nearly flat to about 60%. Soil depths are commonly about 5 to 10 feet, but can easily be much deeper. These soils have moderate infiltration rates, but often much greater water holding capacity than the soils of the other two groups.

#### Q. Geologic Types:

The fire lies within the Western Cascades physiographic region, and most of the volcanic strata in this area are assigned to the "Totl" of Woller and Priest (1983). These rocks are some of the oldest in this part of the Cascades and include tuffs and lavas, previously mapped as the Little Butte Volcanic Series. Potassium-argon ages in the map area range from about 24 to 22 million years old and are considered middle to early Miocene in age.

#### R. Miles of Stream Channels by Order or Class:

Stream Class	Length (miles)
1	0.2
2	7.1
3	6.6
4	54.9
<b>Total</b>	<b>68.9</b>

#### S. Transportation System      Trails: 3.7 miles      Roads: 40.5 miles

Maintenance Level	Description	Miles	Miles by Soil Burn Severity		
			High	Moderate	Low
1	Basic custodial care	11.5	0.02	0.4	4.4
2	High Clearance vehicles	29	0	0.7	9.9
Trail	Hiking	3.7	0.5	0.9	1.7

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

- A. Burn Severity (acres): 3,330 (45%) (unburned); 3,236 (44%) (low); 624 (8%) (moderate); 187 (3%) (high)
- B. Water-Repellent Soil (acres): approximately 811 acres (11%) show an increase of moderate to strong water repellency over unburned conditions
- C. Soil Erosion Hazard Rating (acres):  
126 (2%) (low) 2587 (38%) (moderate) 4161 (60%) (high)
- D. Erosion Potential: 240 tons/acre (estimate in high soil burn severity on steep slopes)  
120 tons/acre (estimate in moderate soil burn severity on steep slopes)  
16 tons/acre (area weighted by soil burn severity ratings)
- E. Sediment Potential: 1500 cubic yards / square mile (estimate in high and moderate soil burn severity on steep slopes)

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

- A. Estimated Vegetative Recovery Period, (years): 3
- B. Design Chance of Success, (percent): 80
- C. Equivalent Design Recurrence Interval, (years): 10
- D. Design Storm Duration, (hours): 6
- E. Design Storm Magnitude, (inches): 1.67
- F. Design Flow, (cubic feet / second/ square mile): 74 cfs / mi<sup>2</sup>
- G. Estimated Reduction in Infiltration, (percent): 11 %
- H. Adjusted Design Flow, (cfs per square mile): 124 cfs / mi<sup>2</sup>

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

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

Soil Response - Since 1) fire is a natural part of this ecosystem, 2) fire severity, both vegetative and soil, was generally very low and does not appear to be substantially different from previous natural fires and 3) fire induced slope stability is not a general concern.

Hydrologic Response: - Post-fire flows will increase moderately from pre-fire flows resulting in slightly increased risk. Some catchments contained localized areas burned at higher severities and these catchments may experience greater post-fire increases in runoff but overall post-fire increase in flows are relatively moderate compared to past local fires. Delivery of ash and post-fire nutrients into the Middle Fork Willamette and Lookout Point Reservoir is not likely to have a significant effect on algae blooms in the waterbody. Similarly, downstream water users will not likely see impacts to their drinking water quality from fine sediment or nutrients. The impacts to other watersheds (e.g. Layng Creek) are very limited due to small acreage burned at lower soil burn severity.

**Geologic Response:** Given the extensive area of low soil burn severity impact and the fact that the high and most of the moderate soil burn severity sites are located on relatively stable, steep rocky side slopes, the fire is not likely to increase slope instability. Having said that, it should be pointed out (again) that most of the interior area of the fire was not investigated. The outcome of the additional field investigation would be to determine if potential problems are present and what options are available for possible mitigation.

**Wildlife Response:** - Where the Deception Fire burned on the Willamette National Forest occurred in Late Successional Forest that had a relatively high amount (68%) of suitable spotted owl habitat at the time of the fire. About 87% of the area within the fire perimeter burned at low intensity or was unburned. Consequently the effect of the fire on individual spotted owl nesting territories was reduced. Only one nest site (#4083) had its nest patch largely burned and its Core Area reduced below threshold limits. It is likely that the functionality of this nest site was lost to the fire.

**Heritage:** - The main risk is the loss or degradation of cultural resource sites due to exposure from post fire run off and erosion, resulting in potential archaeological data loss and vandalism from illegal surface collection by recreational and other forest users. Following field assessments and severity mapping of the Deception Fire, we have determined there may be a few sites adversely impacted by soil erosion, debris flows and fire heat related impacts (melting artifacts, burning them out, and or spalling rock faces/mineral surfaces).

**Fisheries Response:** - The Middle Fork Willamette River currently supports runs of Columbia River bull trout (Threatened), Upper Willamette River spring Chinook salmon (Threatened), Oregon chub (Threatened) and their designated Critical Habitat. The lower 1.5 miles of Deception Creek is designated Critical Habitat for spring Chinook salmon, but due to degraded habitat conditions, use of that stream is very minimal.

The hydrologic model outputs for various storm events within the first year show roughly a 2-fold increase in peak flows from pre-fire conditions to post-fire conditions. This increase in flows for 5 and 10-year storm events will not likely exceed channel capacity and result in stream bank erosion and/or channel instability. Substantial wood recruitment occurred immediately following the fire and trees will continue to fall for years to come and benefit in-stream habitat. Some wood will be mobilized during intense precipitation events but will likely accumulate at various pinch points throughout the channel before reaching lower Deception Creek upstream of the Forest boundary.

## Values at Risk:

*The risk matrix below, Exhibit 2 of Interim Directive No.: 2520-2010-1, was used to evaluate the Risk Level for each value identified during Assessment. Only Values at risk that had a risk of Intermediate or above are discussed below, but all values at risk are included in the Tables in the Appendix. Additionally more information on the values at risk by watershed that are driving treatments can be found in the appendix.*

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

## **Life and Safety:**

### **Risk to public to post-fire hazards within the burn area**

There are multiple hazards present in the post-fire burn area including stump holes, hazard trees, steep slopes with falling trees. To limit exposure to members of the public it is recommended to do a CFR area closure and provide for and inform the public of an area closure through the winter at a minimum and up to one year.

## Risk Assessment – Threats to life and safety of the general public

Probability of Damage or Loss: Very Likely. Different activities have differing levels and types of hazards but the longer someone is exposed the greater the risk to their safety.

Magnitude of Consequence: Major. The post-fire environment exposes people to life threatening hazards.

Risk Level: **Very High**. Ensure that an area closure is in place for the burn areas at least through the winter. Inform the public through press releases and signage. To further protect members of the public provide for hazard warning signs along main travel routes around the edge of the burn area and close roads that access into the interior of the burn with gates

### **Risk to public within the burn area along the Deception Creek Trail**

There are multiple hazards present in the post-fire burn area including steep slopes, falling rocks, stump holes and hazard trees. To limit exposure to members of the public it is recommended to provide for a CFR closure specific to the trail and inform the public of the trail closure prior to reaching the closure area.

## Risk Assessment – Threats to life and safety of the trail users

Probability of Damage or Loss: Likely. Different activities have differing levels and types of hazards but the longer someone is exposed the greater the risk to their safety. Segments of the trail tread have been severely damaged through post-fire effects of dry ravel and dead trees falling and sliding down hill over and past the trail tread

Magnitude of Consequence: Major. The post-fire environment exposes people to life threatening hazards.

Risk Level: **Very High**. Ensure that a trail closure is in place for the segment upstream from the 5850-810 road intersection. Inform the public through attending trail user meetings, press releases and signage.

### **Property:**

#### **Trail tread and soil productivity, limiting gully formation down a NFS trail**

There is approximately 1.0 mile of trail on a steep hillslope burned at moderate and high soil burn severity. This trail does not have the drainage structures to handle the increased flow without being damaged. The damage to the trail could result in a gully down a steep hillslope so this treatment is mostly about protecting soil productivity rather than the trail itself.

## Risk Assessment – Threats to trail tread on Forest Trails

Probability of Damage or Loss: Very Likely. Winter rains will result in increased runoff in the post-fire environment. This increased runoff has the potential to damage system trails by gullying through the trail or running down the trail itself. Also dry ravel and hazard trees falling and sliding over the trail tread will further damage the trail.

Magnitude of Consequence: Moderate. The trail will be closed to protect users but it is important to limit the negative effects of the post-fire environment on the trail. More importantly it is key to limit the potential for gully formation on a steep, incised section of the trail.

Risk Level: **Very High**. Without trail stabilization (waterbarring and small check dams to allow for increased drainage needs) the trail could be significantly damaged and a gully could form resulting in loss of long-term soil productivity.

## **NFS Roads infrastructure**

The roads within the burned area were found to have a substantial amount of material raveling off of cut-slopes and into ditches and culvert catch basins as a result from fire burning off vegetation. Because of the very steep terrain even cut-slopes located within “low” severity burn areas as identified on soil burn severity maps are raveling and eroding enough to severely compromise the function of ditches and culverts. Loss of water control is now likely especially with increased runoff. Ravel and cut slope erosion was very limited and localized before the fire.

Our surveys identified two culverts that were no longer functioning due to fire related impacts.

The 5850 road had several sites identified that are at risk of losing fill material and subsequent road width. These sites are located on steep terrain with steep fill slopes that had vegetation and woody debris serving as mulch burned off of them. Substantial dry raveling of the fill slopes has already occurred causing loss of the outside road shoulder.

Hillslopes below ditch relief culverts typically had vegetation serving as the erosion control method to avoid gullying. Some of the splash areas at the end of the culverts burned at high and moderate soil burn severity. Many times these areas burned hotter than nearby areas due to high fuel loading at these sites (more water resulted in lush vegetation).

Risk Assessment – Threats to the road infrastructure from loss of functioning and downstream water quality and fisheries habitat from sediment

Probability of Damage or Loss: Likely. These ditch relief culverts typically flow in the winter during frontal rainfall systems and lack of adequate drainage capacity would result in flow over roads resulting in damage. Flows through damaged culverts can destabilize the roadbed and fill. Raveling fill slopes could result in loss of use of the road and require expensive treatments to fix.

Magnitude of Consequence: Moderate. The potential damage to the road infrastructure could impair use and result in expensive fixes to allow for long-term future use.

Risk Level: **High.** Clean ditches and culverts to provide for drainage necessary to meet post-fire runoff. Add splash aprons and headwalls of riprap to these sites to mitigate the loss of erosion protecting vegetation and get immediate soil stabilization. Replace damaged culverts that are not functioning. Add erosion protection to hillslopes at risk of continued ravel and loss of drivable width. Provide for Storm inspection and response to address needs throughout the winter to ensure long-term road stability.

### **Natural Resources:**

#### **Early Detection and Rapid Response treatment of non-native invasive species**

Early detection and rapid response (EDRR) is a critical component of any effective invasive species management program. When new invasive species infestations are detected, prompt response can reduce environmental and economic impacts. This action results in lower cost and less resource damage than implementing a long-term control program after the species is established. Some species, such as Scotchbroom, which can last in the seedbank for decades, can be extremely difficult to reduce or eradicate once established.

Risk Assessment – Several species of invasive plants are located in and adjacent to the burned area, providing a source for future infestations. Burned areas have lost competing native plant cover and provide a fertile substrate for future infestations. Additionally, suppression activities (dozer use, road brushing, chipping and general vehicle and firefighter traffic) have potentially transported off-site weed seeds and migrated on-site or near site weed seeds throughout the burn area.

Probability of Damage or Loss: Very Likely. A primary feature of invasive plants is their ability to quickly colonize disturbed sites, displacing native vegetation and slowing natural succession.

Magnitude of Consequence: Moderate. If caught early, invasive plants, such as Scotchbroom or tansy ragwort, may not spread far into the burned areas. Untreated, over time invasive plants will continue to spread, making future treatments more difficult and costly, while delaying native habitat development and succession.

Risk Level: **Very High**. Early detection and rapid response is the most effective mitigation against spread of invasive weeds into the burned areas. Competitive seeding can help reduce infestations and is recommended for one site where risk of infestation is particularly high. Efforts focus on Willamette NF invasive weed lists and Oregon Class A species. Of particular interest are new species populations coming in from off-Forest and secondarily expansion of known population sites within the area.

### **Cultural Resources:**

#### **Newly found heritage site, stream donkey sled, was exposed by the fire and is an risk of vandalism**

There is a historic cultural resource site that was exposed by low to moderate soil burn severity. It is near a highly used ML 2 road.

Risk Assessment – Threats to historic cultural resources from vandals/looters

Probability of Damage or Loss: Likely. There is a history of vandalism of cultural resource sites on the Tiller RD and there is a risk of erosion of the artifacts as well.

Magnitude of Consequence: Moderate. The loss of artifacts or displacement of them limits or destroys the information offered by the site and forever destroys the resource.

Risk Level: **High**. Disguise the donkey sled in a manner such as scattering slash and debris over the site. Effectiveness monitoring will help to ensure the site is not vandalized and if it is there may be a chance to catch the vandal.

**Risks: The full list of values at risk is included in the appendix and the VARs are listed by area.**

## **B. Emergency Treatment Objectives:**

As noted above, threats to life, property, and natural and cultural resources from increased hazards on the landscape, loss of water control, increased sediment delivery, increased erosion potential, increased visibility of cultural resources and enhanced establishment potential for noxious weeds exist. For these reasons the primary treatment objectives are:

- Mitigate effects of changed post-fire hillslope hazards on human life and safety, particularly where Forest roads are at risk of increased rates of falling rocks and trees present a hazard to users (visitors and employees).
- Mitigate effects of post-fire landscape (e.g. increased erosion) on the NFS road system.
- Mitigate effects of changed post-fire watershed response on the Forest Service system trails.
- Mitigate the effects of post-fire watershed response and erosion potential on hillslopes below Forest Service system roads and on Forest Service system roads themselves.
- Minimize the damage to native plant communities from the increased potential for the spread of invasive and noxious weeds.

- Mitigate effects of changed post-fire watershed response on long-term soil productivity where trail location has been exacerbated by high and moderate soil burn severity and the potential for increased gully erosion from high post-fire runoff.
- Mitigate effects of changed post-fire visibility and access to cultural resources.

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

Land 80 % Channel NA % Roads/Trails 75 % Protection/Safety 85 %

### D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	70	70
Channel	NA	NA	NA
Roads/Trails	80	85	90
Protection/Safety	90	90	90

### E. Cost of No-Action (Including Loss):

reference the VAR Tool Spreadsheet in a separate document

### F. Cost of Selected Alternative (Including Loss):

reference the VAR Tool Spreadsheet in a separate document

### 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"/> Forestry	<input checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input 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"/> Landscape Arch	<input checked="" type="checkbox"/> GIS

Team Leader: Edward (Tedd) Huffman

Email: eluffman@fs.fed.us Phone: 541.957.3356 office; 541.670.7749 cell

### H. Treatment Narrative:

#### Land Treatments:

Cultural Resource Site Protection



The Steam Donkey Sled is a new site and would require a disguise and a wildlife camera to ensure its visibility does not threaten public looting. Effectiveness monitoring is needed to ensure site protection; Since it is rare left over of logging practices of the twentieth century, it is further recommended it should become a Priority Heritage Asset.

### **Early Detection and Rapid Response for invasive weed species and seeding to out-compete Scotchbroom**

Areas of bare soil that were exposed due to fire near vectors and source of invasive weed populations, will be surveyed for early detection of invasive weeds that may have been introduced due to exposed and disturbed soils from the burn, or during fire suppression and/ or rehabilitation. Depending on the severity of the fire, burned areas can create the space and opportunity for establishment of invasive weeds into new areas. Dozer lines, handlines parking areas, heli-points, safety zones, helicopter drop points, road sides and large push out areas (such as log decks) are high priority sites for monitoring. Special habitat areas that burned adjacent disturbed areas should also be surveyed. These surveys will allow early detection, mapping and rapid response for the control of weeds in areas with a high potential for their establishment and spread. Target weed species would be the high priority species from the Willamette NF weed list, the Umpqua weed list and Oregon Class A species (e.g. Diffuse knapweed, yellow starthistle). The treatment of noxious weeds will prevent permanent impairment of ecosystem structure and function in compliance with FSM 2523.02.

Designated Special habitat areas within the fire perimeter should be surveyed and monitored to assess the impact of the fire on the hydrological functions, soil and plant communities. Rehabilitation of these areas should be considered to maintain or restore the features that provide for plant and animal diversity, and prevent invasive plants from entering.

### **Road and Trail Treatments:**

#### **Trail stabilization/soil stability**

There are several hundred feet of trail that cross contour lines perpendicularly. These segments of “fall line” trail have been subject to significant erosion even before the fire. After the fire, these segments may have become chutes for sediment, but are so far above any live water that the concern is more for the trail, and fire effects adding to the existing erosion problem, than for sediment delivery to streams.

Install waterbars and small check dams in this section of trail to slow flow and minimize the potential for post-fire gully formation and long-term loss of soil productivity. To provide for safety of crews conducting the work hazard tree felling in work area will be done ahead of ground work

#### **Road Drainage Structure Maintenance to Accommodate Increased Runoff Flows and Mitigate Cut-slope Raveling/Erosion**

The roads within the burned area were found to have a substantial amount of material raveling off of cut-slopes and into ditches and culvert catch basins as a result from fire burning off vegetation. Because of the very steep terrain even cut-slopes located within “low” severity burn areas as identified on soil burn severity maps are raveling and eroding enough to severely compromise the function of ditches and culverts. Loss of water control is now likely especially with increased runoff. Ravel and cut slope erosion was very limited and localized before the fire.

Recommendation: Clean culvert catch basins and drain ditches for the roads that were surveyed. This will minimize the risk of road failures associated with the loss of water control. After further interim assessments of roads not yet surveyed within the fire perimeter we anticipate the need for more catch basin and ditch cleaning as well as water bar and armored rolling dip installations, especially on OML 1 roads that tend to not have ditches and ditch relief culverts. Waterbars and armored rolling dips will remove water from the road surface where it will be less likely to cause road failure and erosion as well as minimize road surface damage. Hazard trees will be removed as needed to provide for safe treatment implementation.

See Burned Area Emergency Response Treatments Catalog Chapter 4, Armored Dips pages 113-120, Low-Water

Stream Crossings pages 121-126, Catchment-Basin Cleanout pages 145-148 for more information.

### **Culvert Replacement**

Our surveys identified two culverts that were no longer functioning due to fire related impacts. The first is a ditch relief plastic culvert that was consumed by the fire several feet into the fill and under the traveled way. The second is a CMP that flows an intermittent stream that is no longer flowing water because of a snag that burned out and fell on the outlet. The CMP is collapsed shut, bent up at the outlet and partially pulled out of the fill

Remove and replace the culverts identified as being damaged by the fire and at risk of failure. Replacements included surface rock placement and straw mulch/native seed application to exposed soil. Hazard trees will be removed as needed to provide for safe treatment implementation.

### **Straw Mulching Steep Fill Slopes**

The 5850 road had several sites identified that are at risk of losing fill material and subsequent road width. These sites are located on steep terrain with steep fill slopes that had vegetation and woody debris serving as mulch burned off of them. Substantial dry raveling of the fill slopes has already occurred causing loss of the outside road shoulder. We anticipate identifying additional similar sites during future interim assessments.

At this time enough width still remains to provide for public safety and road structure support. We recommend the placement of certified weed free straw mulch/native seed to be placed on the fill slopes to minimize erosion and preserve the road template. Also, it is recommended that "Carsonite" style delineators be installed along the edge of the steep fill slopes to encourage drivers to avoid the edge.

### **Energy Dissipators and Headwalls**

The roads surveyed were found to have vegetation and woody debris located at the outlet of culverts that burned away. The vegetation and woody debris consumed had provided erosion control by acting as an energy dissipator. With this vegetation no longer available, and the expected increase runoff flow, damage to road fills is likely to occur, especially in steep terrain. Also identified were culvert inlet locations that have received road fill erosion due to vegetation and woody debris being consumed by fire. At some culvert inlet locations organics were within the road fill and when they burned out it caused raveling down into the catch basin. This exposed loose and perched fill material adjacent to the culvert inlet will now be susceptible to further erosion from water flow at the culvert inlet and may promote piping of water around the culvert and through the fill.

Add the placement of riprap at the outlet of the culverts identified to act as an erosion control energy dissipators and stabilize the fill slopes. Place riprap at around culvert inlets identified to serve as a fill armoring. Hazard trees will be removed as needed to provide for safe treatment implementation.

### **Storm inspection and response**

Monitor road drainage structures and fill slopes after significant storm events to ensure the drainage structure function and safe public access is maintained until the natural re-vegetation of the burned area has occurred. Maintain and/or repair any damage to road utilizing heavy equipment as necessary.

It is possible that storm patrolling will reveal some additional emergency drainage maintenance work that would be needed in spring during the critical Northern Spotted Owl breeding season (March 1 to July 15). One spotted owl activity center (#1040) is located about 100 feet from Road 549 where drainage maintenance and storm patrolling is proposed. Noise from mechanical equipment and chain saws could disrupt nesting owls if they nest within about 65 yards of the noise. If emergency road work is done near the activity center during the breeding season, owl calling is recommended near the work area to determine if an active nest is present. The survey action is needed to determine if the effects of the BAER actions would harm or injure nesting owls which could cause take under ESA.

See Burned Area Emergency Response Treatments Catalog Chapter 4, Storm Inspection and Response pages 149 - 152 for more information.

## **Protection/Safety Treatments:**

### **Closure Signs for Trails**

Install closure signs with Code of Federal Regulations citation at two locations: upper Deception Butte Trailhead and at the 5850-810/Deception Butte Trailhead intersection. Two sets of signs should be ordered to replace signs that will likely (based on past experience) be vandalized or stolen. Install informational signing, Forest Order and small kiosk at the Deception Butte Trailhead located at the bottom of the 5850 near the Middle Fork office trailhead.

### **Hazard Warning Signs for Roads**

Install warning signs including “Entering Burn Area” and “Road Narrows” where necessary to properly alert the travelers of the dangers ahead. “Road Closed” signs and retro-reflective object markers will also be used in conjunction with gated closures as noted below in 2(b). It is also recommended to install signs warning the public of the area closure along the 1714, 1790, 5847 and 5850 roads. As new narrow sections of road are identified in future interim assessments it is likely that more “Carsonite” style delineators will be needed.

### **Area and Trail closure CFR preparation and implementation**

Area and Trail closure orders will be prepared separately as the Area closure would likely be resented prior to the trail closure order. The closure order would be prepared consistent with CFR procedures.

### **Gated closures**

Install gated closures at three road junctions identified by the District Ranger; 5850/5850523, 5847/5847549 and 5847549/1714 junctions. Interim assessments may identify more locations where gated closures will be necessary.

## **I. Monitoring Narrative:**

### **Implementation:**

Simple implementation monitoring and documentation will be conducted for each treatment to ensure that it is implemented correctly following specifications.

### **Effectiveness:**

Effectiveness monitoring of the trail closure, closure sign retention and replacement sign installation as needed will help to maintain trail closure information for the public.

Provide for effectiveness monitoring of the heritage site protection treatment to ensure that the site is not being vandalized or looted.

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

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands			
			# of Units	BAER \$		# of units	Fed \$	# of Units	Non Fed \$
<b>A. Land Treatments</b>									
Heritage site cover/hide	each	1000	1	\$1,000	\$0				
Early Detection - Weeds	acre	100	238.5	\$23,850					
Rapid Response - Weeds	acre	300	33.1	\$9,930					
				\$0					
<i>Subtotal Land Treatments</i>				<b>\$34,780</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>
<b>B. Channel Treatments</b>									
				\$0					
<i>Subtotal Channel Treat.</i>				<b>\$0</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>
<b>C. Road and Trails</b>									
Trail stabilization/soil stability	mile	3,000	1	\$3,000					
Road drainage preparation	mile	3,600	12.5	\$45,000					
Culvert replacement	each	6,000	2	\$12,000					
Narrow fillslope stabilization	each	200	5	\$1,000					
Energy dissipator and headwall	each	200	25	\$5,000					
Storm Inspection/Response	each	1,500	5	\$7,500					
				\$0					
<i>Subtotal Road &amp; Trails</i>				<b>\$73,500</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>
<b>D. Protection/Safety</b>									
Trail closure signs	each	250	8	\$2,000					
Hazard warning/closure signs	each	100	30	\$3,000					
Area and trail closure CFR	day	325	4	\$1,300					
Gates	each	8,000	3	\$24,000					
<i>Subtotal Structures</i>				<b>\$30,300</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>
<b>E. BAER Evaluation</b>									
Assessment				\$0	\$32,000				\$0
<i>Subtotal Evaluation</i>				<b>\$0</b>	<b>\$32,000</b>		<b>\$0</b>		<b>\$0</b>
<b>F. Monitoring</b>									
Trail closure effectiveness	day	250	5	\$1,250	\$0		\$0		\$0
Heritage protection effectiveness	day	250	4	\$1,000			\$0		\$0
<i>Subtotal Monitoring</i>				<b>\$2,250</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>
<b>G. Totals</b>				\$140,830	\$32,000		<b>\$0</b>		<b>\$0</b>
Previously approved				\$0					
Total for this request				<b>\$140,830</b>					

## PART VII - APPROVALS

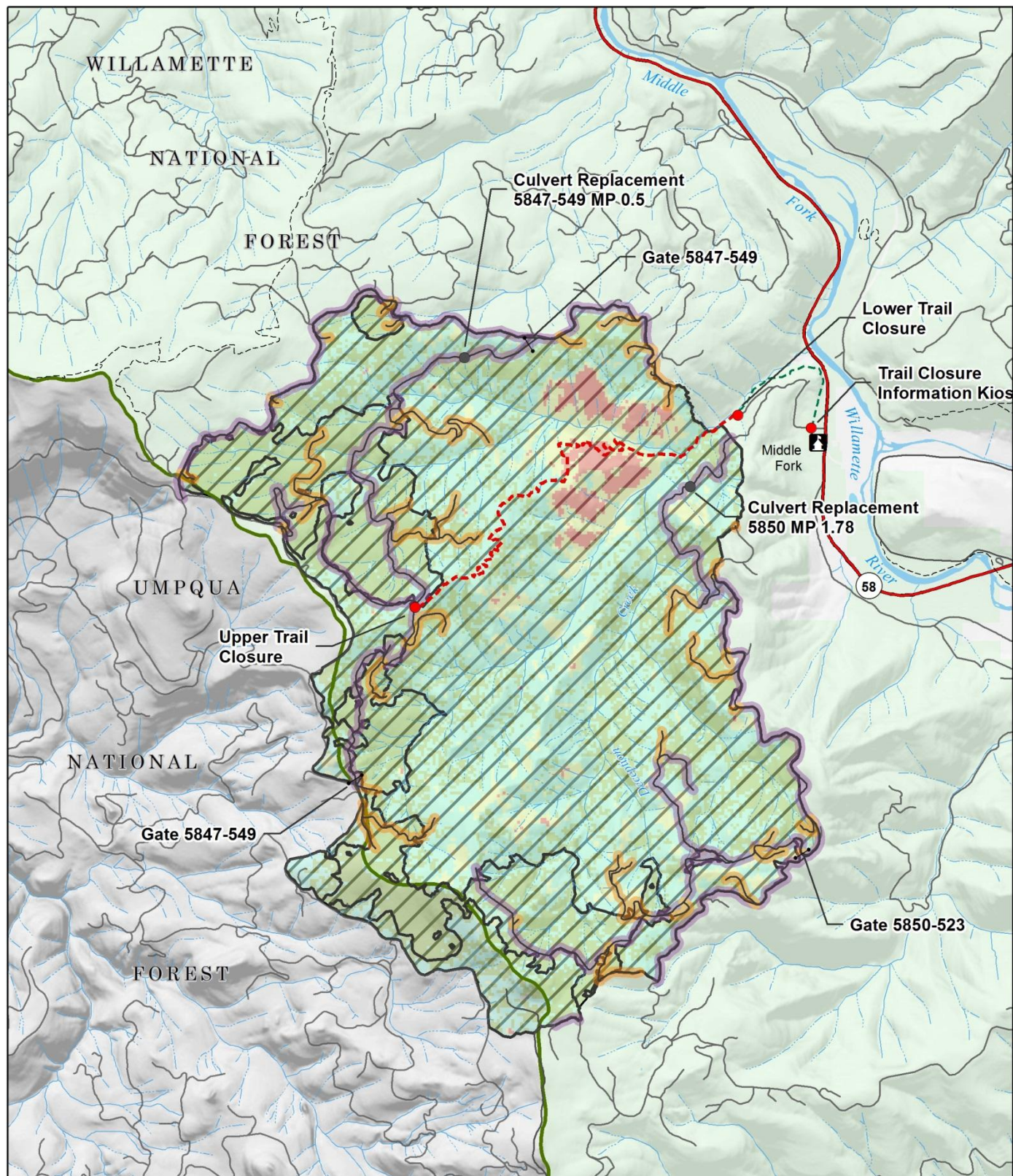
1. /s/Meg Mitchell  
Forest Supervisor

9/26/2014  
Date

2.   
Regional Forester

10-8-14  
Date





### Deception BAER - Treatments

National Forest Boundary

Deception Creek Fire Perimeter - 20140916

Recreation Treatment

Recommended Closure Area

### Soil Burn Severity

Unburned/Low

Low

Moderate

High

### Recommended Road Treatments

ML 1 - Waterbar

ML 2 - Ditch/Culvert Cleaning

Culvert Replacement

Gate

### Deception Trail Treatment

Trail Segment Recommended for Closure

Trail Segment to Remain Open