

# Appendix L

## Final Environmental Impact Statement

### Tripod Fire Salvage Project

#### Fire Suppression Actions, Suppression Rehabilitation and BAER Activities

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##### CHANGES BETWEEN DRAFT EIS AND FINAL EIS

Update of BAER actions that have been completed since November 2006.

##### SUPPRESSION ACTIONS

In the nearly 4 months that the Tripod Complex burned, a full array of fire suppression actions was employed. Several Type 1, Type 2 and Type 3 Incident Management Teams were involved in managing the complex. A summary of suppression actions in or near the fire area follows:

Incident Command Posts and Fire Camps established at Eightmile Ranch and Loup Loup Campground.

Safety Zones- 41 established.

Water Sources and Dip Sites- 34 mapped water sources, 9 mapped dip sites.

Drop Points- 105 established

Batch Plants- 4 established at Campbell Lake (state ownership), Middle Fork Toats Coulee, Swamp Creek and North Fork Salmon Meadows

Helispots- 21 established

Staging Areas- Loup Loup, Bear Creek, Beaver Creek, Butte Creek, Gator Staging (Bromas Creek), Cedar Creek .

Repeater/Remote Automated Weather Site (RAWS) Installation- 9 repeater sites, 6 RAWS

Lookout Protection for First Butte and North Twentymile Lookouts.

Closed roads opened for fire use- 75.6 miles.

Road "improved" as fire line (by thinning, limbing, slashing, chipping and hauling slash)- 31 miles.

Blasted line – 1 mile

Dozer Line- 122 miles

Hand Line- 118 miles

Black Line and Burn out Operations

Spike Camps-1

Retardant and Water drops- 44,259 gallons of retardant applied

Hazard tree falling

Deck Salvage Sale- Sale of the trees cut along the roads in Tonasket for fireline improvement.

Suppression Rehabilitation Operations completed fall 2006:

- Road closures

- Road improvements, including road stabilization with spot rock with aggregate installation
- Dip site restoration
- Ditch, culvert and drainages restoration
- Seeding for weed control
- Stream restoration
- Pile burning

## **BAER ACTIONS**

Burned Area Emergency Response (BAER) activities occurred in September, October and November 2006, April, May June 2007. Culvert installation is being completed during July, August, September and October 2007.

### **Completed BAER Treatments as of Mid-August 2007**

#### **Land Treatments**

Seeding: 6,777 ac of aerial seeding with certified seed (Eltan Soft White Winter Wheat) @ 60 Pure Live Seed (PLS) pounds/acre was completed in October 2006.

Helimulching: 13,600 acres with noxious weed free wheat-straw was applied at a rate of 1 ton/acre. This began about in October, continued into November, was restarted in June 2007 and completed the first week of July 2007. The majority of this straw came from certified seed-grain fields in Washington that had inspection reports, or from Montana, Idaho and California which have state weed free certification programs..

Noxious Weeds: Weed pulling occurred along Boulder, Beaver and East Chewuch roads. Noxious weed surveys are being conducted during the summer 2007. Bio-control agents from relatively nearby sites are present. Herbicides approved in the Okanogan NF Integrated Weed Management Environmental Assessments are being used in areas covered by their Decision Notices (USDA Forest Service 1997e and 2000b). Seeding of erosion control seed mixes follows the treatment of noxious weed populations to provide competition for weed populations and to help reduce soil erosion.

Area Closures: The fire and adjacent areas were closed to the public during the fire and during aerial fall and spring BAER work for safety reasons. Groomed snowmobile routes were reopened in December 2006. Travel plan area closures remain in place.

#### **Road Treatments**

Purpose: Implement actions to: (1) minimize the potential for elevated or concentration of surface runoff, mass erosion, and sediment delivery from Forest Service roads within the Tripod Complex Fire, (2) ensure public awareness of road-related and other hazards in the burned area and that road user safety features are in place. Upgrade road drainage structures to accommodate anticipated increased runoff conditions and construction of new drainage structures to improve existing facility drainage systems.

Approximately \$4,200,000 was spent during the fall 2006 and spring-summer 2007 to replace relief culverts, construct drain dips, armor outlets, etc. as summarized below:

Manage road surface water on Maintenance Level 3-4 roads:

Blade road surface, pull specific ditchline sections, remove outside berms and outslope where appropriate to improve road surface drainage. Remove rock and woody debris blocking ditchline. Approximately 80 miles of this activity was done. .

Manage road surface water on Maintenance Level 2 roads (Surface Repair):

Blade road surfaces on open road segments, pull specific ditchline sections, remove outside berms and outslope where appropriate to improve road surface drainage, protect the road surface, road fill or road ditch. Remove rock and woody debris blocking ditchlines. Treatments are consistent with the Forest Road Mgt Plan. Approximately 160 miles of this work was done.

Drain Dips (Maintenance Level 1-2 roads):

Construct or clean existing drain dips to reduce potential for runoff concentration and accelerated surface erosion from anticipated fire effects. This was completed on 160 miles of road.

Drain Dips, Armored:

Construct drain dips to reduce potential for runoff concentration and accelerated surface erosion from anticipated fire effects. Dips will be outsloped and armored with Class 3 riprap. Approximately 80 miles of road were completed with armored drain dips.

Ditch (Maintenance Level 3-4 roads):

Clean or reconstruct ditch. Approximately 160 miles were completed.

Replace/Install Culvert (upgrade):

Remove and replace damaged ditch relief or drainage corrugated metal pipe (CMP). Approximately 160 miles of road with these relief culverts have been upgraded.

Armor Inlet/Outlet (new/existing CMP):

Armor with Class 3 riprap to protect catch basin on inlet, and to dissipate energy from the outlet. Approximately 160 miles of road have been covered and treated where necessary to dissipate expected surface runoff.

Clean Catch Basin:

Remove excess material from catch basin to improve culvert capacity. Approximately 160 miles of roads which have these catch basins have been reviewed, rebuilt and cleaned where necessary

Upgrade Major Drainage Structures:

(The cost of this work is about \$1.9 million and is not included in the \$4.2 million listed above for road coasts.) Remove and replace all eight major drainage structures that will fail to meet expected post fire flows. Two culverts are completed at Bromas Creek and the Middle Fork of Beaver Creek. The remainder of the upgrades will be completed by October 2007.

Stabilize Fill Slope:

Spot placement of large rock to reduce the potential for fill slope erosion and accelerated sediment delivery to stream channel at selected sites. Approximately 120 miles of road fill slopes were reviewed and treated where necessary.

### Hydro-Seeding:

Certified seeding mixes (from Vegetation Resources, TES Plants and Vegetation, Tripod Fire Complex, BAER Plan, September 6, 2006, Appendix D, Seeding Prescription), were identified for all areas disturbed by construction activities to minimize erosion and protect from noxious weeds. About 85 road miles have been treated to provide competition for invasive plants and to minimize erosion on roads within RHCA's. Hydro-seeding will be completed in August and September 2007.

### BAER Implementation signage:

Replace/Install new carsonite vertical route markers (Maintenance Level 1-2), horizontal route markers (Maintenance Level 3-5), or destination sign (Maintenance Level 3-5). This provides adequate signage to reference BAER Implementation treatments. Approximately 50 signs and road number signs were installed.

### **Trail Treatments**

This work includes hazard tree removal, logout and installation of drainage structures. This work began in September 2006. During the initial stage of trail treatments, 62.5 miles of trail were treated in the fall 2006, including the installation of 843 drainage structures. An additional 50 miles will be treated during the summer and early fall, 2007. Most of the remaining trail miles are in the Pasayten Wilderness near Horseshoe Basin.

### **Protection/Safety**

Danger trees (with imminent and likely potential of falling) were removed from 170 miles of Maintenance Level 2 through 4 roads and around work sites. Approximately 10,000 snags were felled along approximately 170 miles of road associated with BAER activities. Most of these snags were lodgepole pine, nearly all were killed by mountain pine beetles prior to the fire. Douglas-fir, Engelmann spruce and subalpine fir were also felled and a few ponderosa pine. Most were less than 12" in diameter and had little merchantable value. An average of less than 1 tree per mile greater than 20" in diameter was felled. The average clearing limit for hazard tree felling was 2 tree lengths (roughly 200') to either side of the road, approximately 49 acres per mile of road. Very few openings in the forest canopy were created. Additional danger trees were occasionally felled in specific work areas to ensure that contractors met state law requirements to fell hazard trees that could not be otherwise mitigated.

Early Alert system installation is occurring during August 2007. Impacts are limited to digging 3 holes about one foot deep and filling with concrete to support the equipment, with danger tree felling, as necessary, to protect workers. Data transmission will be to satellites.

### **Cultural Evaluation and Assessment**

Numerous cultural sites were visited and evaluated to ascertain the need for protection. Many of these were inaccessible by roads and required significant hiking.

### **Monitoring**

Road, helimulching, fertilizer and hydro-seeding treatments are being monitored.