

Date of Report:  
September 18, 2001

**BURNED-AREA REPORT**

(Reference FSH 2509.13)

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

- ☒ 1. Funding request for estimated WFSU-SULT funds  
☐ 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  
☐ 3. Final Report (Following completion of work)

**PART II - BURNED-AREA DESCRIPTION****A. Fire Name:**Oregon**B. Fire Number:**CASHF6364**C. State:**CA**D. County:**Trinity**E. Region:**5**F. Forest:**Shasta Trinity National Forest**G. District:**Trinity River Management Unit**H. Date Fire Started:**August 28, 2001**I. Date Fire Contained:**August 31, 2001Date Fire Controlled: September 6, 2001**J. Suppression Cost:**\$2,900,000**K. Fire Suppression Damages Repaired with Suppression Funds**

1. Fireline water barred (miles):4 miles  
2. Fireline seeded (acres):0 acres  
3. Other (identify):Brush & down trees in firelines as needed

**L. Watershed Number:**1801021106**M. Total Acres Burned:**          NFS Acres(**939**)    Other Federal (**141**)    State (**0**)    Private (640)**N. Vegetation Types:**Douglas-fir-Pine Mixed Conifer Forest, Open Ponderosa-Gray Pine-Deciduous Oak Forest**O. Dominant Soils:**Forbes Family (75%), Deadwood/Nuens Complex, Ultramafic Rock Outcrop**P. Geologic Types:**sedimentary alluvial, ultramafics, metavolcanic

Q. Miles of Stream Channels by Order or Class: Perennial:1.8 miles, Intermittent:2.0 miles  
Ephemerals: 9.2 miles ,Abandoned ditch: ~ 10 miles

R. Transportation System

Trails:0.2 miles      Forest Roads:2.0 miles      State Highway:2.7 miles  
.....unclassified (4X4):3.5 miles

**PART III - WATERSHED CONDITION**

A. Burn Severity (acres): 537 (low) 335 (moderate) 848 (high)

B. Water-Repellent Soil (acres): 405

C. Soil Erosion Hazard Rating (acres):  
840 (low) 470 (moderate) 410 (high)

D. Erosion Potential: 46\* tons/acre/year

E. Sediment Potential: 947\* tons/year

\* erosion and sediment potential numbers are the average surface erosion and sediment delivery rates for the 1-3 order streams draining the burned area. The numbers are estimates of actual erosion and sediment delivery and were calculated using the USLE. Numbers do not account for gully erosion and mass wasting.

**PART IV - HYDROLOGIC DESIGN FACTORS**

A. Estimated Vegetative Recovery Period, (years): 20

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

C. Equivalent Design Recurrence Interval, (years): 50

D. Design Storm Duration, (minutes): 15

E. Design Storm Magnitude, (inches): 0.5

F. Design Flow, (cfs per square mile): 32<sup>@</sup>

G. Estimated Reduction in Infiltration, (percent): 71<sup>#</sup>

H. Adjusted Design Flow, (cfs per square mile): 102<sup>@</sup>

# high reduction in infiltration likely due to the loss of vegetation and naturally impermeable soils (Hydrologic Soil Group D). No hydrophobic layer due to fire measured in the field.

@ design flow numbers are the average design flows for the 1-3 order streams draining the burned area.

**PART V - SUMMARY OF ANALYSIS**

A. Describe Watershed Emergency:

Based on the observations and fire area conditions described below, an emergency exists for: the sediment and erosion potential calculated and that observed in the past, associated with Forbes Family soils for the following: 1). West Weaver Creek (perennial), Sydney Gulch and McKinzey Gulch (presently intermittent drainage in the fire area) are an anadromous rearing habitat on the Upper Trinity River system. West Weaver Creek is also a domestic water source and irrigation source for the community water system and adjacent properties in the town of Weaverville. The fire burned intense in multiple land ownerships on approximately 50% of the associated watershed burning more than 50% of the canopy of the mature conifer stand and incinerating much of the ground cover including the vegetative and duff layer. The intensely burned area

resulted in conditions of moderate and in few cases high hydrophobicity. Land treatments for reestablishing ground cover and creating in-channel sediment control structures are necessary to keep expected sediment transport from reaching anadromous habitat and an important source to the town's water delivery system. 2). The Moon Lee Ditch is a historic feature dating prior to 1860 and a primary domestic and irrigation source for the town of Weaverville. Moon Lee Ditch is a diversion off West Weaver Creek servicing Weaverville water demands. The ditch was directly damaged by intense fire as was the adjacent area and associated watershed draining into it. Treatments to repair the ditch, establish ground cover, removing adjacent burnt dead standing vegetation and creating in-channel sediment control structures above the ditch are necessary for protecting the ditch, a portion of Highway 299 West, the municipal water supply and irrigation delivery system. 3) Damage to drainage structures occurred on Forest Roads 33N42 and 33N01. These roads drain directly into the anadromous fishery mentioned above and will need immediate repair in addition to the suppression rehabilitation treatments completed previously. 4). The potential for spread of noxious weeds by the use of heavy equipment for fire line construction exists.

### **Fire Area Conditions**

The Oregon Fire burned approximately 1720 acres, most of which occurred in one burn period of six hours. The fire started west of Oregon Summit and was driven by a strong west wind. The fire was boundaried by Oregon Mountain and Highway 299 West(W) on the west; the town of Weaverville to the east ; and Forest Road 33N42 and Oregon Street (in the town of Weaverville) to the north and south, respectively.

The central portion of the fire exhibited extreme fire behavior. This wind driven event resulted in intense crown and ground fire. The north and south flanks exhibited, primarily, low to moderate fire intensity with localized intense burning in areas of heavy fuels and in and around several private residences in the town of Weaverville. The fire burned over the north to south draining West Weaver Creek and the Sydney Gulch/McKinze Gulch drainages in its west to east burn pattern.

The western portion of the burned area lies in very steep terrain where slopes range between 40 and 80 percent. The steeper portions are characterized by Nuens soils transitioning to Forbes soils. The eastern portion of the burned area lies in terrain where slopes range between 0 and 40 percent. The Forbes soils transition to a Nuens/Deadwood soil complex with small inclusions of Forbes soil. Precipitation averages about 50 inches annually and is a rain/snow mix at the higher elevations to the west and predominately rain in the the lower elevations to the east. Geology consists primarily of sedimentary alluvial with small areas of ultramafics and metavolcanics. Small landslides are common on the Forbes soils particularly when soils are at field capacity and a significant rain event occurs. Rain on snow events occur in most years introducing mostly moderate and occasionally large amounts of water into the drainage pattern. The entire burned area has experienced the effects of heavy hydraulic mining activity that took place in the late 1800's and early 1900's. There is particularly heavy activity on steep ground in the east ½ of section 3 and the west ½ of section 2. A vast network of ditches and holding ponds were created on the slopes for water delivery to the mining areas. Many sediment release clean outs were created to flush the ditches and holding ponds . These cleanouts created severely incised drainages. Substantial dry ravel has occurred naturally over many years and has been aggravated by consumption of ground cover during the fire. The ditches, although no longer in use, have breached in several locations adding to the potential movement of sediment through the system.



There are two areas of particular concern. The first area is in the west half of section 2. This area is on Forbes soils above and below Highway 299W. A portion of this area below the highway had heavy hydraulic mine activity and is perched above West Weaver Creek. Accelerated runoff and sediment transport from the steeper ground above the highway is expected. The California Department of Transportation (CDT) is actively installing additional drainage improvement, sediment and trash catches, and armoring outlet side in the right of way easement area. Salvador Torres, Resident Engineer for the CDT has been working closely with the BAER team.

These treatments while improving the condition in and around the highway will increase flow potential into the area of question. Ground cover and in-channel treatments are necessary both above and below highway to augment the highway protection measures by CDT and also for protection of West Weaver Creek. This area is referred to by treatment areas 1, 2, 3 and 4 (refer to Treatment Area Map). The second area of concern is located northeast ¼ of section 2 into section 1. This area is a Forbes soils inclusion in the headwaters of McKinzey Gulch a tributary of Sydney Gulch. The area was hydraulically mined. Several small area slides existed in the drainage system prior to the fire. All vegetation including an existing conifer stand was 100 percent killed and a salvage harvest is expected. In-channel structures and a point source ditch repair project is proposed for this area until such time a watershed restoration project funded by the timber salvage (KV) proceeds can implement a longer term fix of the area. This is Treatment area 6.

The 32,600 acre Weaver Creek watershed has four major sub-watersheds; West Weaver Creek, East Weaver Creek, Sidney Gulch and Little Brown's Creek. Weaver Creek is the seventh largest tributary in the Trinity Rivers watershed below Trinity Dam. West Weaver Creek and Sidney Gulch sub-watersheds have been impacted by the fire. Both are important parts of the Trinity Rivers anadromous fishery. Coho salmon and winter run steelhead are federally listed as Threatened fish species. Both species are known to occur in West Weaver creek within the perimeter of the fire and in McKinzey/Sydney Gulch just down stream from the fire perimeter. There are no known locations of federally Threatened or Endangered plant or wildlife species within the fire area. There are no other Forest Service Sensitive or Survey and Manage species locations but there is suitable habitat within the fire perimeter for Goshawk and Spotted Owl wildlife species and *Cypripedium montanum*, *Cypripedium fasciculatum*, *Smilax jamesii*, and *Sedum paradisum* plant species. It is estimated that about 80 acres of suitable spotted owl habitat was lost. Approximately 2.5 million board feet of mature and small saw timber was killed. Three 3 year old conifer plantations totaling 12 acres were burned. Plantations will be replanted next spring using appropriated reforestation funding.

The fire burned with high intensity the area in and adjacent to the Moon Lee Ditch. This ditch is a diversion off of West Weaver Creek initiating on USFS land in the NW ¼ of section 2 and moves onto private ownership land in the NE ¼ of section 11. Just north of the section line common to sections 2 and 11 an underground piped diversion off the ditch belonging the Weaverville Community Services District feeds a holding tank and water treatment system. During the six month warm season period, demands for water increase and this system provides ten to fifteen percent of the towns domestic water supply. The remaining water (in the open ditch) services 17 private ownerships with water rights. Water rights for all users exist prior to 1866. The primary water user off the open ditch is the Weaverville Cemetery. The ditch is a registered historical site. After consultation with Ann Shirley (Special Uses), only portions of the ditch system are under permit and most either predates the need or is currently not under permit. The portions in section 11 have been historically maintained by the private ownerships. It is unclear exactly who has responsibility for maintenance on USFS ownership although the Weaverville Community Services District has performed emergency repairs as needed in the past. The Proposed BAER treatments are listed below in the Treatment Narrative for USFS lands only. A 1200 foot section of the ditch is proposed for treatment with sprayed in polyvinyl liner. The material is environmentally friendly and can be colored to match the surrounding area. California Department of Transportation has been using this product for similar application with great success. This is the best and most sensible treatment proposed of the several alternatives offered. The core and community team are in agreement. This section of ditch crosses 50 to 75 percent slope and is perched above West Weaver Creek and Highway 299. There is severe damage to the fill side of the ditch as a result of the fire and one breach was caught and repaired quickly before causing major damage. More of these breaches can be expected without the proposed treatment. There is threat from above the ditch as well. Sealing this section of ditch in this manner will reduce threats from breach to negligible in the short and longer term. Altering the route or major excavation is not an option without affecting the historical values.

### **Fire Reconnaissance**

Extensive aerial and ground reconnaissance occurred between September 1 and September 10, 2001. Burn intensity, dozer line condition, and road condition was assessed. Burn intensity is based on extent of consumption of vegetation, the amount and color of ash, the consumption of the duff layer and a series of hydrophobicity tests. 1720 acres lie within the burn perimeter and of these 537 acres (31%) burned with low intensity, 335 acres (19%) burned with moderate intensity, and 848 acres (50%) burned with high intensity.

Informal field measurements for hydrophobicity were conducted. Soils in the fire area are naturally hydrophobic between the O and A horizons. Areas burned with high burn intensity resulted in hydrophobicity of approximately 40 percent moderate to high. All of the O horizon was consumed. Areas burned with moderate burn intensity resulted in hydrophobic soils of 17 percent moderate to high. Approximately 70 percent of the O horizon was consumed. The vegetation consists of two basic types: mature Douglas-fir and ponderosa pine mixed conifer forest on the productive Forbes family and Nuens family soils; and scattered ponderosa pine/grey pine/deciduous oak woodland and brush field on the less productive nuens/deadwood complex soils. The mixed conifer type experienced approximately 75 plus percent mortality and is proposed for salvage harvest. Reforestation of these areas is proposed. This is a key issue with the local public as this area is a major watershed for the town of Weaverville. The other vegetation type is key winter deer range and includes a variety of fire adapted species. Many of the oaks and brush species are expected to recover naturally. Conifers are proposed for salvage harvest largely as a fuels reduction treatment.

### **Fire Suppression Rehabilitation**

The Oregon Fire burned in a California Department of Forestry (CDF) fire management zone and suppression activities were under their jurisdiction. All suppression related rehabilitation is under CDF control with input from other ownerships. A total of 6.3 miles of dozer line has been water barred. Of this total 4.1 miles was rehabbed on NFS lands. All handline was constructed on private ownerships and rehabbed. Grass seeding and mulching remain to be completed in the short term future. Rehab standards for NFS (USFS) are more stringent than CDF. Additional suppression rehabilitation will need to be implemented on NFS ownership. These areas are treatment areas 8, 9, 12 and 13. Refer to Treatment Area Map and the following.

Area 8 (0.55 miles)– Rehab dozer line adjacent to and crossing McKinzeys Gulch. Area was cleaned of debris in the channel during suppression rehab activities. Berms created need to be pulled and spread. Down vegetation will be pulled back over the line. Additional water barring will be necessary.

Area 9 – Seed 2 acre safety area at 20 pounds per acre of native mix. Mulch 0.5 acres of cat line.

Area 10 – No further treatment.

Area 12 – Re-establish protective berms and dips destroyed during suppression.

Area 13 - Rice straw 2 acres of dozer line.

#### **A. Describe Watershed Emergency:**

The potential exists for the loss of life in the Highway 299 west corridor from falling material and risk of debris flowing over the highway. The burned drainages transport water and sediment directly into the mainstem Trinity River increasing the likelihood of increasing fine and coarse sediment inputs. This may pose a threat to the anadromous fisheries adjacent to and downstream of this river reach and degradation of domestic water sources particularly along West Weaver Creek. The Moon Lee Ditch is a registered historical site, runs above an anadromous fishery, and a domestic water source for the town of Weaverville. Heavy damage was sustained to the ditch and surrounding area. Repair of the ditch to protect these values is imperative.

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

There are two alternatives that the team considered for the Oregon Fire. Alternative 1 is the No Action Alternative. Alternative 2 represents a BAER program designed to address the threat to the major values at risk in the burned area. The areas of focus is; the drainage with an anadromous fishery and domestic water supply located in watershed, the high intensity burned slopes, the road drainage work, and the potential spread of noxious weeds. The objectives are: 1) prevent the loss of hillslope sediments by mulching on intensely burned high risk areas; 2) control the spatial and temporal distribution of instream sediments by installing straw bale check dams and log grade control structures above high risk areas; and 3) reduce the risk of road failure by lack of proper drainage structures on Highway 299W and Forest Roads 33N42 and 33N01. 4) reduce the

threat to spread of noxious weeds. 5) reduce impacts to water quality, minimize sedimentation and retain ecological diversity. Alternative 2 is the chosen alternative.

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

Land 90 % Channel 90 % Roads 100 % Other 75 %  
Other includes work on Moon Lee Ditch. A portion of the work may not be completed until next spring. The ditch will not be shut down until water demand from Weaverville decreases. Most work cannot start until water is shut down.

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	75	85	95
Channel	75	85	95
Roads	95	100	100
Other			

E. Cost of No-Action (Including Loss): **\$1,216,599**

F. Cost of Selected Alternative (Including Loss): **\$182,870**

G. Skills Represented on Burned-Area Survey Team:

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

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Core Team

Loren Everest - Fisheries/Hydrology  
Scott Miles – Earth Science  
Ann Shirley – Special Uses  
Sherry Chilcott - Archaeology  
Susan Erwin - Botany  
Bob Olson – Wildlife  
Lindsay Large – GPS

Non USFS Team Members

James Spear – NRCS  
John Condon - Trinity County Resource Conservation District  
Chris Erikson - Trinity County Supervisor - District 1  
David Van Denover – Weaverville Community Services District  
Mark Lancaster – Trinity County Planning Department  
Salvador Torres - California Department of Transportation, Resident Engineer  
John Knight – CDF

## H. Treatment Narrative:

The following are the proposed emergency treatments for the Oregon Fire. All of these treatments will serve to meet BAER objectives and have been determined to be effective for their purpose when used under similar conditions in other wildfire areas. The final set of treatments was determined with the input of the BAER survey team. Fourteen treatment areas have been identified on NFS lands and are described below. Refer to Treatment Area Map for locations. Additional treatments will be done on BLM and private land ownership by NRCS and Weaverville Resource Conservation District. Plans are not available at this time. California Department of Transportation is actively treating burned standing vegetation and installing drainage structures in the Highway 299W right of way corridor. The activity plans will be included in the final BAER report. Treatment options for Moon Lee Ditch have been negotiated with David Van Denover representing Weaverville Community Services District, Trinity County Supervisor Chris Erikson and several private owners serviced by the ditch.

Area 1 (36 acres)– Install 25 straw bale check dams, 3 log grade control structures, and strip mulch 4 acres.

Area 2 (55 acres)– Bale bomb 55 acres, contour fell dead standing brush and conifers less than eight inches dbh.

Area 3 (41 acres)– Install 18 straw bale check dams, 1 log grade control structures, and strip mulch 1 acre.

Area 4 (22 acres)– Install 15 straw bale check dams, 2 log grade control structures, and strip mulch 2 acres.

Area 5 (48 acres)– Moon Lee Ditch – Strip mulch 7 acres, seed 2 acres at 20 pounds per acre with native mix, contour fell 7 acres, Spray polyvinyl liner on 1200 feet of ditch and install 7 straw bale check dams in adjacent area.

Area 6 – (66 acres)Install 45 straw bale check dams, 6 log grade control structures, and repair breached ditch with excavator and install five yards large rock in head cut for armoring and as a dissipator.

Area 7 – (3 acres)Install 4 straw bale check dams and mulch 1 acre.

Area 11 – Remove and replace 2 burned plastic culverts.

Area 14 – (1 acre) Install 2 straw bale check dams and armor channel wall with rock and straw bales.

### Land Treatments:

#### **Strip Mulching/Mulching**

Strip mulching with rice straw is proposed. The purpose of the treatment is to provide a suitable ground cover where there presently is none. The extent of this treatment is confined to sensitive areas along stream channels in high intensity burned areas. Mulching in strips, across slopes has proven to be a more cost effective method of applying this treatment. Strip widths of 10 to 15 feet alternate between mulched and unmulched areas. Strip mulching will be applied at a rate of 1 ton per acre. Areas requiring full mulching will be applied at a rate of 2 tons per acre. Contour felling will be used in conjunction with strip mulching to anchor straw and help disappate over land flow.

## **Bale Bombing**

Bale bombing is proposed in treatment area 2. This area is described in more detail in Fire Area Condition above. The treatment area is 55 acres and will be treated at 2 tons rice straw per acre. This treatment is deemed to be more cost effective than conventional straw mulching by hand. This treatment broadcasts rice straw from a helicopter traveling at approximately 30 knots. Following this treatment a work crew will spread out a few remaining clumpy areas and contour fell dead standing brush and conifers less than eight inches DBH to anchor straw.

### Channel Treatments:

#### **Straw Bale Check Dams**

The purpose of a small straw bale check dam is to temporarily capture sediment in the upper reaches of stream channels. Wood or rock is used to dissipate the overflow of water on the downstream side of each dam and to provide a longer term storage capacity once the straw has decomposed. Straw dams have been proven effective in similar burned areas. The dams are effective at catching sediment in the first two years after the fire and allow the sediment to be metered out at a lower rate in subsequent years.

#### **Rock or Log Grade Control Structures**

Another channel treatment deemed necessary for the BAER effort in this fire area is the use of native materials to reestablish stream bed stability in the small channels that were burned intensely in the fire. Depending on availability of local materials either rocks or small diameter logs are used to establish a nick point, or grade control in the small channels. These structures are designed to provide for channel bed stability, not collection and storage of sediment.

#### **Channel Armoring**

This treatment is to keep an ephemeral stream contained within in its current stream course. This will be accomplished will straw bales and tailing rocks.

### Roads and Trail Treatments:

#### **Culvert Treatments**

Remove and replace fire damaged plastic culverts. The fire destroyed plastic culverts well up and underneath the existing road. The culverts will need to be dug out and are proposed to be replaced with metal pipes.

#### **Re-establish Berms and Dips**

This treatment is designed to reestablish road drainage pattern as it was prior to the fire. Additional treatment will be required where road was utilized as a secondary control line.

### Other Treatments

These treatments are described within the text of this document. They will be described in greater detail in the interim report.

## **I. Monitoring Narrative:**

### Noxious Weeds



The Oregon Fire area is characterized by Douglas-fir and ponderosa pine with manzanita and other dry site shrubs in the under story. Several invasive weed species of concern were present within the fire perimeter. Yellow star thistle and bull thistle were present throughout the area prior to the fire and are expected to return quickly in higher densities because of the abundance of disturbed habitat and improved seedbed conditions. Himalayan blackberry was present in riparian areas and can be expected to return but remain restricted to riparian areas. Ailanthus and scotch broom were present along roads in developed areas, but individual plants were not burned to any great degree. The fire created suitable habitat for all of these species, but yellow star thistle and bull thistle are the most likely to respond significantly within the next two years in the National Forest.

The monitoring cost associated with noxious weed on 19.4 acres of potentially contaminated dozer line is as follows: The resource value assigned to this 19.4 acres is assumed to be the cost of three replications of removing noxious weeds by hand with a 10 person crew if surveys are not done in Spring 2002 and weeds are allowed to spread. This 19.4 acres is mostly on ridge tops surrounded by steep side slopes with limited access, but is adjacent to several private land parcels. The cost of not monitoring for noxious weeds could be exponentially more should weeds become established beyond the dozer line. The figure of \$52,200 as the value of the resource is the amount it would cost to treat potential infestations if we don't monitor during 2002. This is based on a 10 person crew conducting eradication for 3 consecutive years. The difference between doing treatment with monitoring and without monitoring is the rate of daily progress per crew (5 acres/day vs. 1.7 acres per day) and the necessity for an additional year of treatment.

Activity	Cost Year 1	Cost Year 2	Cost Year 3
Monitoring	\$1100	\$1100	\$0
Treatment w/ Monitoring	\$5800	\$5800	\$0
Treatment w/o Monitoring	\$17,400	\$17,400	\$17,400

The funding requested to monitor and treat for two years is \$13, 800 vs. the cost to treat for 3 years without monitoring of \$52,000. **Monitoring will be implemented to set a baseline and if a fire related problem from the spread of star thistle and/or bull thistle is found then funding for treatment will be secured by other means.**

### **Hydrologic Monitoring**

Hydrologic monitoring will be conducted for 3 years after the fire. Area of monitoring needs include West Weaver Creek, McKinzey Gulch, and two drainages in treatment areas 1 and 4. The following surveys have been completed. Habitat typed, surveyed cross sections, pebble counts, stream shade, large woody debries, pool tail fines, V\*, and water chemistry. Water chemistry was conducted to sample for retardent in the stream system. Results were negative. Cross sections and channel dynamics will be continuing monitoring. Sediment loads will be monitored in relation to the anadromous fishery and the water quality of the domestic water source. Costs include 8 days at \$250 per day; totaling \$2000.

### **Treatment Monitoring**

Effectiveness of treatment will be monitored for 3 years. Visual inspections and set photo points will be monitored. Costs include 15 days at 257.33 per day; totaling \$3,860. This will be addressed in more detail in the interim report.

Total Monitoring Costs = \$8,060.

## 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 \$
<b>A. Land Treatments</b>										
Strip Mulching	acres	600	11	\$6,600			\$0		\$0	\$6,600
Mulching	acres	600	5	\$3,000			\$0		\$0	\$3,000
Bale bombing	acres	600	55	\$33,000			\$0		\$0	\$33,000
Contour felling	acres	225	62	\$13,950			\$0		\$0	\$13,950
<i>Subtotal Land Treatments</i>				<i>\$56,550</i>			<i>\$0</i>		<i>\$0</i>	<i>\$56,550</i>
<b>B. Channel Treatments</b>										
Straw dams	each	350	101	\$35,350			\$0		\$0	\$35,350
Channel Armoring	each	550	1	\$550			\$0		\$0	\$550
Grade Control struct.	each	330	12	\$3,960			\$0		\$0	\$3,960
				\$0			\$0		\$0	\$0
<i>Subtotal Channel Treat.</i>				<i>\$39,860</i>			<i>\$0</i>		<i>\$0</i>	<i>\$39,860</i>
<b>C. Road and Trails</b>										
R & R culverts	each	7500	2	\$15,000			\$0		\$0	\$15,000
				\$0			\$0		\$0	\$0
				\$0			\$0		\$0	\$0
				\$0			\$0		\$0	\$0
<i>Subtotal Road &amp; Trails</i>				<i>\$15,000</i>			<i>\$0</i>		<i>\$0</i>	<i>\$15,000</i>
<b>D. Other</b>										
Seeding	acres	200	2	\$400			\$0		\$0	\$400
				\$0			\$0		\$0	\$0
Moon Lee ditch liner	sq. ft.	4.5	7200	\$32,400			\$0		\$0	\$32,400
Ditch repair	each	3000	1	\$3,000			\$0		\$0	\$3,000
<i>Subtotal Structures</i>				<i>\$35,800</i>			<i>\$0</i>		<i>\$0</i>	<i>\$35,800</i>
<b>E. BAER Evaluation</b>										
Salary, Travel, etc	days	2300	12	\$27,600			\$0		\$0	\$27,600
				\$0			\$0		\$0	\$0
<b>F. Monitoring</b>				\$0			\$0		\$0	\$0
3 year program	days	260	31	\$8,060						\$8,060
<b>G. Totals</b>				<b>\$182,870</b>			<b>\$0</b>		<b>\$0</b>	<b>\$182,870</b>

## PART VII - APPROVALS

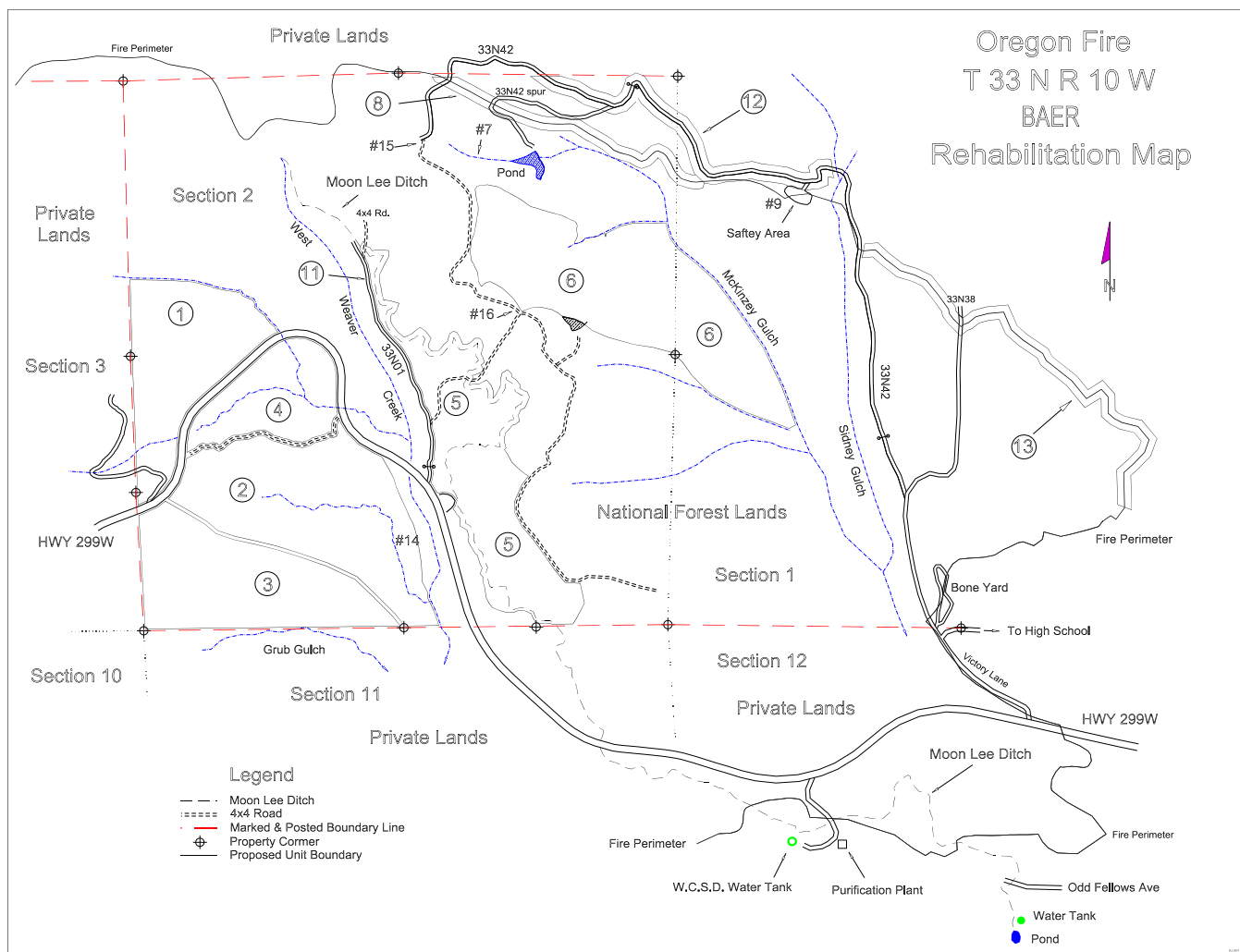
1. /s/ J. Sharon Heywood  
Forest Supervisor (signature)

28 September 01  
Date

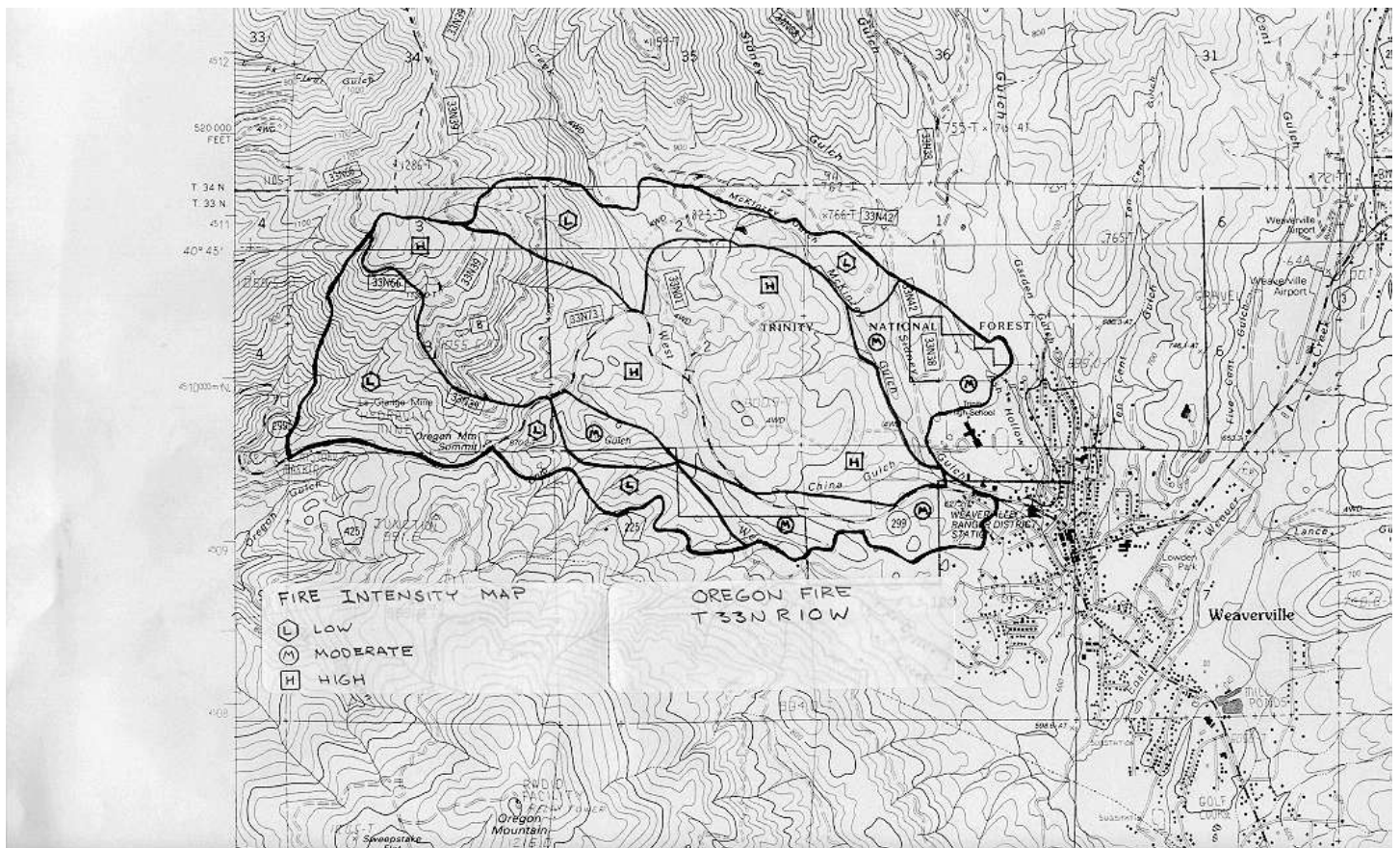
2. /s/Bernie Weingardt (for)  
Regional Forester (signature)

10/1/01  
Date



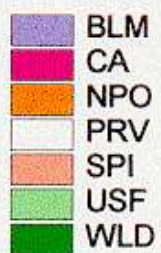
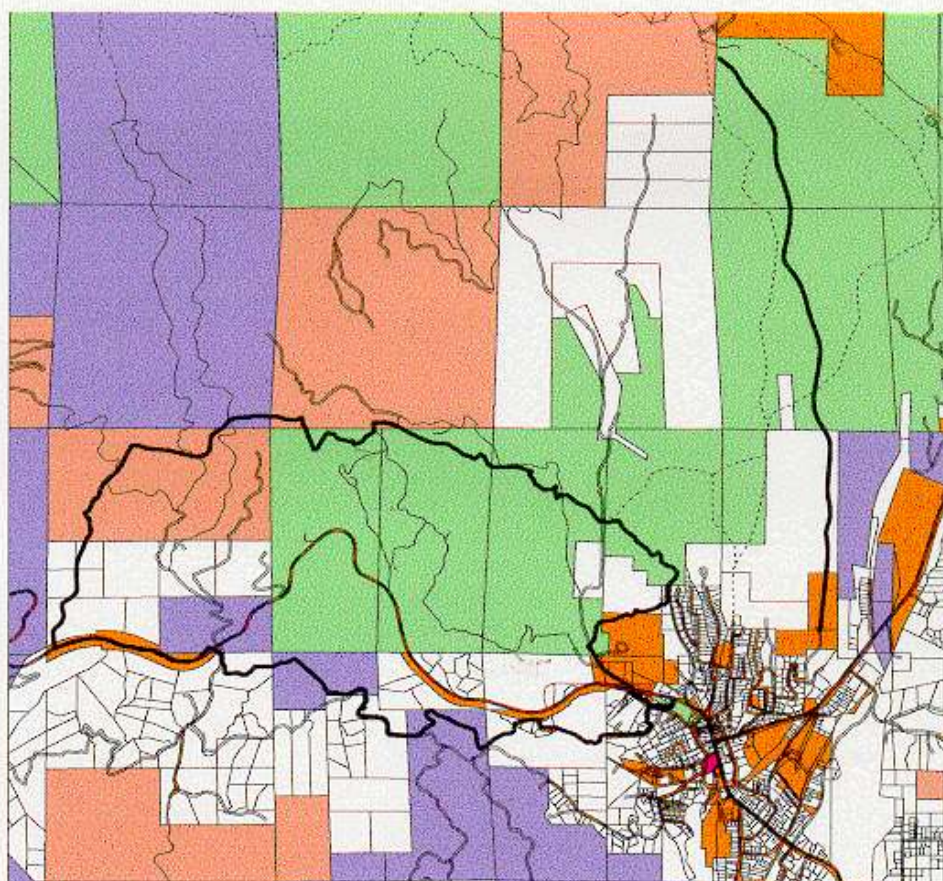


## TREATMENT AREA MAP



**FIRE INTENSITY MAP**





Ownership  
and fire  
Perimeter