



United States  
Department of Agriculture

Forest Service

Shasta-Trinity National Forest  
South Fork Management Unit

Hayfork Ranger Station

P.O. Box 159  
Hayfork, CA 96041  
(530) 628-5227  
(530) 628-5222 – TDD  
[www.fs.fed.us/r5/shastatrinity](http://www.fs.fed.us/r5/shastatrinity)

File Code: 1950-1

Date: March 10, 2009

Route To:

Subject: Proposed Trough Fire Recovery Project

To: Project Participants

The Shasta-Trinity National Forest is requesting your comments during the public scoping period for the proposed Trough Fire Recovery Project. The Proposed Action will salvage dead trees on approximately 250 acres within the Trough Fire perimeter. Attached is a scoping package which gives further details about the project. Project information can also be found on the Shasta-Trinity National Forest webpage at: <http://www.fs.fed.us/r5/shastatrinity/projects/sfmu-projects.shtml>.

The proposed action was developed in response to four basic objectives identified after comparing project area existing conditions with desired future conditions as outlined in the Shasta-Trinity National Forest Land and Resource Management Plan.

- 1) Restock (plant trees) the higher productive severely burned areas within Commercial Wood Products Emphasis / Matrix lands;
- 2) Salvage merchantable timber while the economic value remains high;
- 3) Reduce short- and-long term fuel loadings from fire killed trees.
- 4) Minimize long-term fire caused slope and soil movement to meet Aquatic Conservation Strategy goals<sup>1</sup>; meet the objectives of the Clean Water Act Total Minimum Daily Loads (TMDL); and accelerate watershed recovery within a Key Watershed<sup>2</sup>

Comments may be submitted by fax, or U.S. Mail to: Robert Remillard, Shasta-Trinity National Forest, 3644 Avtech Parkway, Redding, CA 96002, Fax 530-226-2470. Electronic comments may be submitted to [comments-pacificsouthwest-shasta-trinity@fs.fed.us](mailto:comments-pacificsouthwest-shasta-trinity@fs.fed.us), please indicate "Trough Fire Recovery" in the subject line.

You must respond to this invitation in order to be placed on the public involvement list for this project and to receive any further project notifications. All parties responding to this initial scoping that include sufficient contact information will be notified of the 30-day comment opportunity prior to a decision.

To ensure your comments can be fully considered by the interdisciplinary team and Responsible Official, please respond by close of business on April 10, 2009.

We appreciate your interest in the management of our public lands.

/s/ Jeff Ulrich (for)  
DONNA F. HARMON  
District Ranger

<sup>1</sup> See Shasta-Trinity Land & Resource Management Plan Page 4-53 to 60

<sup>2</sup> See Shasta-Trinity Land & Resource Management Plan Page 4-58 to 60



# Trough Fire Recovery Project Proposal

Shasta-Trinity National Forest  
South Fork Management Unit

March 2009



## I. Proposal

This Proposed Action will salvage 250 or less acres within the Trough Fire perimeter and will remove only dead trees. All of these acres will have a prescription of salvage and regeneration. Approximately one-half mile of temporary roads is needed to access units 1, 7, and 16.

A determination as to whether this proposal may be categorically excluded (CE) from the requirement to prepare in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) as provided by the National Environmental Policy Act (NEPA) (40 Code of Federal Regulation (CFR) 1508.4) is underway. The category of action being considered is identified in Forest Service Environmental Policy and Procedures Handbook (FSH) 1909.15, Section 31.2 (13), “Salvage of dead and/or dying trees not to exceed 250 acres, requiring no more than ½ mile of temporary road construction... (ii) Harvest of fire damaged trees.” A proposed action may be categorically excluded from further analysis and documentation in an EIS or EA only if there are no extraordinary circumstances (FSH 1909.15, section 30.3). If the analysis confirms no extraordinary circumstances exist a supporting record will be developed and the decision to proceed will be documented in a decision memo.

## II. Background

On June 20 and 21<sup>st</sup> of 2008 a lightning storm sparked a series of fires across the far northern portion of California. Four Forests and at least four CALFIRE Ranger Units were affected. Fires threatening communities were the highest priority to put out. On the South Fork Management Unit more than 70 fires developed from this storm, two of which were wildfires in the Trough Creek watershed (Trough and Rainbow fires). Although nearly contained after about 3 weeks, these two fires burned together after weather and fuel conditions changed dramatically. They eventually burned approximately 3,630 acres of forested lands.

**Table 1: Acres burned in Trough fire by Management Prescription.**

Management Prescription	Acres
Commercial Wood Products Emphasis	2995
Wildlife Habitat Management	188
Late Successional Reserves	319
Unroaded Non-Motorized Recreation	11
Private lands	117

The conifer stands have moderate to dense canopy cover, with few openings. The predominant species are Douglas-fir and ponderosa pine. In the higher elevations there were mixed conifer stands with a substantial white fir component. Sugar pine, incense-cedar, and Jeffrey pine are also found in lesser amounts.

An environmental analysis will be conducted in accordance with the National Environmental Policy Act (NEPA) and other relevant Federal laws and regulations.

## III. Purpose and Need for Action

The preliminary proposed action was developed in response to four basic interrelated objectives identified after comparing project area existing conditions with desired Forest Plan conditions.

1. Restock (plant trees) the higher productive severely burned soils within Commercial Wood Products Emphasis / Matrix lands;
2. Salvage merchantable timber while the economic value remains high;
3. Reduce short- and-long term fuels from fire killed trees;

4. Minimize long-term fire caused slope and soil movement to meet Aquatic Conservation Strategy goals<sup>1</sup>; meet the objectives of the Clean Water Act Total Minimum Daily Loads (TMDL); and accelerate watershed recovery within a Key Watershed.<sup>2</sup>

## Stand Stocking

All proposed treatment stands are a Coastal Mixed Conifer forest type consisting primarily of Douglas-fir and ponderosa pine, with lesser stocking levels of white fir, sugar pine, incense cedar, and black oak. The Forest Plan identifies most of the planning area as Matrix Lands with Commercial Wood Products (82%) emphasis (See Table 1 above).

Severely burned stands have a regeneration harvest silvicultural prescription and likely experienced moderate to high burn severity. These stands have been killed, or are expected to die over the next few years because of the effects of the fire.



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**Figure 1. Burned areas within Trough fire**

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Without wood fiber removal (site preparation) & replanting, severely burned stands will likely be replaced by shrubland (Skinner et al 2006 – p174<sup>3</sup>) removing these areas from timber production for decades; some replanted stands may never reach maturity due to heavy fuel loadings and the historic fire regime.

While planting burned stands without site preparation could bring the areas back into production, the remaining standing dead trees would be a hazard to new plantations and forest workers as dead trees fall or create increased fuel on the ground. Forest Plan objectives call for restocking to maximize potential growth.

Fire killed trees can finance conifer Forest reestablishment. Due to insects and moisture, fire killed trees retain market value for approximately two years after the fire<sup>4</sup>. The site is well roaded making

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<sup>1</sup> See Shasta-Trinity Land & Resource Management Plan Page 4-53 to 60

<sup>2</sup> See Shasta-Trinity Land & Resource Management Plan Page 4-58 to 60

<sup>3</sup> Skinner, C.N.; Taylor, A.H.; Agee, J.K. (2006) Klamath Mountains bioregion. In: Fire in California's Ecosystems. Edited by N.G. Sugihara, J.W. van Wagtenonk, J. Fites-Kaufman, K.E Shaffer, A.E. Thode. University of California Press, Berkeley. pp. 170-194

<sup>4</sup> Lowell, Eini; Willits, Susan; Kraemer, Robert (1992). *Deterioration of Fire-Killed and Fire-Damaged Timber in the Western United States*. PNW-GTR-292. 27pp.

commercial removal financially feasible. Without using the value of the wood fiber, site recovery may be cost prohibitive. Planting without site preparation would likely result in the loss in conifer plantation investments before they mature given the median 5 - 25 year fire return interval previously discussed.

## Fuels

In severely burned stands, most of the trees are dead or dying and will eventually fall over through time, providing heavy fuel loading and high-risk (high burn severity) wildfire conditions for the next several decades (See Figure 2). Fire hazard (the difficulty of controlling or stopping a fire) ratings are high when large (1000 hour +<sup>5</sup>) fuels exceed about 25 to 30 tons per acre. Low fire hazard is attained when large fuels range from 0-15 tons per acre. The fuel loading from the Trough Fire could reach as much as 50 tons per acre. Forest wide standard and guideline 8c states, “*Activity fuels that remain after meeting wildlife, riparian, soil, and other environmental needs will be considered surplus and a potential fire hazard.* (Shasta-Trinity Land and Resource Management Plan<sup>6</sup>) and Matrix Commercial Wood Emphasis Standard and Guideline D7 states “*Maintain an average of 5 tons of unburned dead/down material per acre on slopes less than 40 percent. Preference is to have a portion of this tonnage in large material (i.e., 4 to 6 logs over 10 feet long at the largest available diameter). Where feasible, maintain the same amount on slopes greater than 40 percent.*” (Shasta-Trinity Land and Resource Management Plan<sup>7</sup>). Newly planted trees will need reduced fuel loading for optimum growing conditions and acceptable wildfire risk.

The Shasta-Trinity FMP Fuels Analysis completed before the Trough fire shows the project area as having high fire hazard, high to moderate risk, and high to moderate values at risk.<sup>8</sup>

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<sup>5</sup> The time it takes a fuel size class to significantly change moisture content.

<sup>6</sup> Shasta-Trinity Land and Resource Management Plan. Page 4-17 Chapter 4 – Standard and Guidelines #8 Fire and Fuels.

<sup>7</sup> Shasta-Trinity Land and Resource Management Plan. Page 4-67 Chapter 4 – Matrix Lands Standard and Guidelines #D Standards and Guidelines.

<sup>8</sup> The Fuels Analysis and Strategy portion of the Shasta-Trinity National Forest Fire Management Plan (FMP) identifies on a forest-wide scale: Hazards, Values at Risk, and Risk of Future Fire Occurrence for the forest. This analysis is one of the tools used to prioritize areas on the forest in need of fuel treatment. Hazard as defined by the FMP means fire behavior potential, possible resource damage, and fire suppression capability. Risk is defined as the probability of a fire occurring based on local fire history. Value refers to the monetary, ecological, or political worth of a defined area. Hazard, risk, and value are quantified by a measure of low, moderate, or high. The three areas are then combined in an overall rating.



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**Figure 2: Moderate to high severity burned areas within the Trough Planning Area**

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## **Soil and Slope Stabilization**

The fire removed much of the vegetation, woody debris, and duff protecting soils from erosion. Stands with moderate to high soil burn severity are susceptible to accelerated erosion, depending upon soil type and local on-site conditions. Additional soil

disturbance from activity operations has the potential to exacerbate (or mitigate) accelerated erosion. It is desirable to maintain any existing soil cover present, and add to it if possible by means such as falling and limbing dead trees and leaving fine woody material on site to act as protective soil cover provided fuel levels do not increase to unacceptable levels.

Until vegetation is reestablished in the planning area, the potential for mass wasting and soil movement exists due to decreased root support, decreased evapotranspiration, and modified slope hydrology. This project is needed to assist in stabilizing slopes within the burned area.

## **IV. Proposed Action**

The Proposed Action will salvage about 250 acres within the Trough Fire perimeter and will remove only dead trees. All of these acres will have a prescription of salvage and regeneration. No logging will occur within the riparian reserve areas adjacent to perennial or intermittent streams. Approximately one-half mile of temporary roads is needed to access units 1, 7, and 16.

Residual fuels will be reduced to 20 tons per acre. On cable units, the fuels less than 8-10 inches in diameter will be lopped and scattered less than 18” deep. On conventional logging units, the fuels will be piled and burned.

All units salvaged will be planted with mixed conifer species, including Douglas-fir, and ponderosa pine.

Retain a minimum of 1.5 snags per acre within the planning area.

A detailed description of the specific resource protection measures is on the Shasta-Trinity National Forest web site at <http://www.fs.fed.us/r5/shastatrinity/projects/sfmu-projects.shtml>.

## **Landings**

Landings are critical for handling and storing the substantial amount of woody material that is produced by the removal of large numbers of trees and dead fuel. Landing locations were estimated based upon intensive field reviews, topography, stand conditions and experience. An estimated maximum 11

temporary landings would be constructed in addition to six existing landings. Landings range in size from roughly 100x100 feet to 100x200 feet. Existing landings will be reused whenever feasible. The proposed action uses more small landings versus fewer large landings to avoid or minimize impacts to remaining live trees and minimize dragging logs long distances.

Figure 3 shows the project area vicinity and proposed action within the burned area.

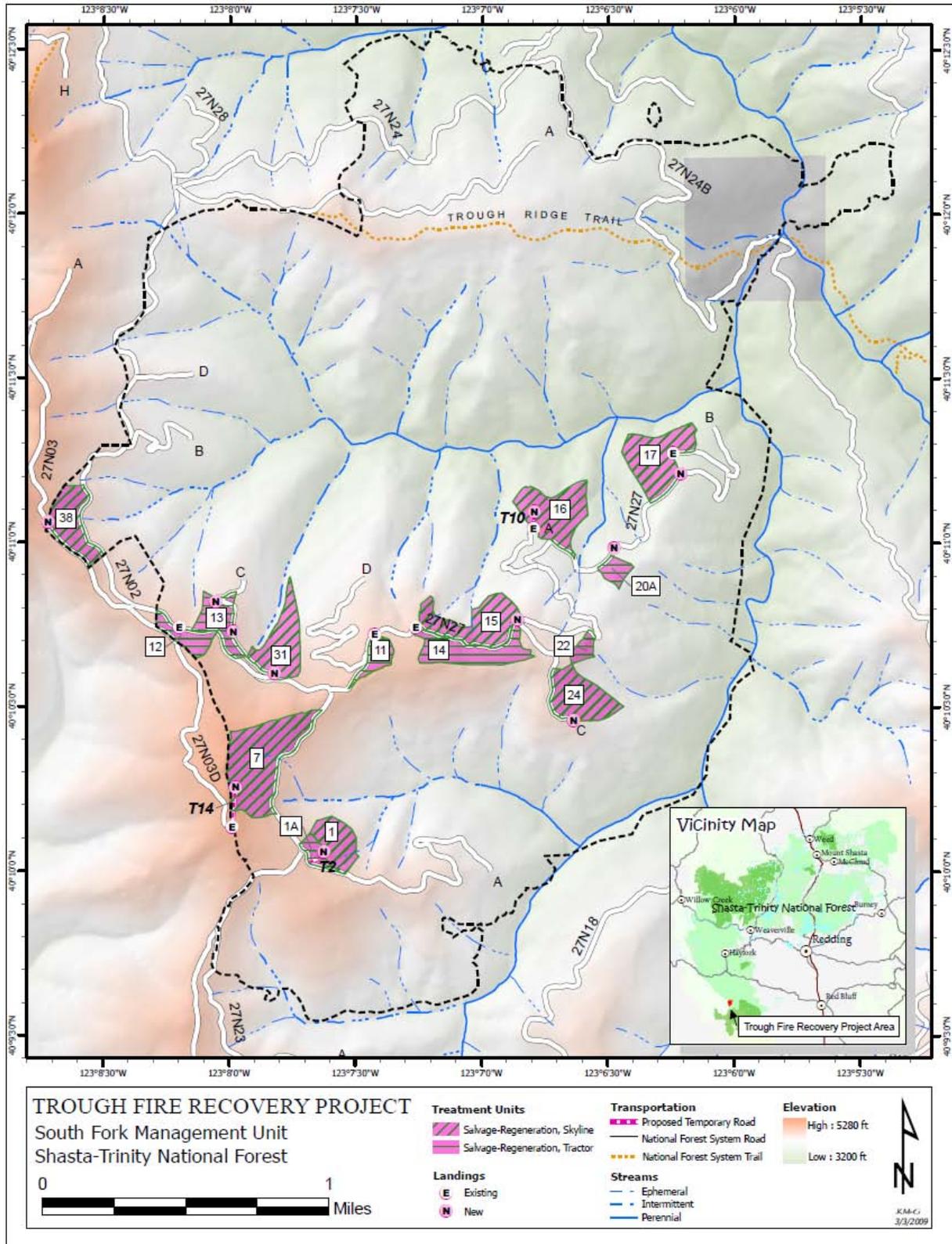


Figure 3: Trough Fire Recovery Proposed Action and fire perimeter

Table 2 details unit prescriptions for the proposed action units.

**Table 2: Proposed unit prescriptions.**

**Trough Fire Recovery Project (YBRD-FY09)  
Refined Proposed Action (CE 13)-Unit Progress (03/04/09)**

Unit	Acres (GIS)*	Silvi RX	Harvest System**	Estimated Sawtimber Volume*** (MBF)
1	13	SALV-REGEN	S	325
1A	5	SALV-REGEN	T	200
7	41	SALV-REGEN	S	1,025
11	7	SALV-REGEN	T	70
12	8	SALV-REGEN	T	280
13	13	SALV-REGEN	T	390
14	20	SALV-REGEN	T	500
15	24	SALV-REGEN	S	480
16	24	SALV-REGEN	S	720
17	25	SALV-REGEN	S	625
20A	5	SALV-REGEN	T	100
22	4	SALV-REGEN	T	60
24	20	SALV-REGEN	S	400
31	20	SALV-REGEN	S	500
38	18	SALV-REGEN	S	450
	<b>247</b>			<b>6,125</b>

\* Acres as per Karol McGuire's (GIS Specialist / Forester) March 4, 2009 GIS calculations.

\*\* T = Tractor harvest method. S = Skyline or cable harvest method.

\*\*\* Assuming recovery occurs by close of 2009 operating season.

## IV. Request for Comments

### Invitation for Issues, Concerns, and Comments

I invite you to submit your issues, concerns and comments specific to this proposal so that they may be considered early in the analysis. Comments that are site specific, or are based on your knowledge of the area will better help us develop and evaluate adjustments to the proposed action. Although comments are welcome throughout the planning process, providing comments by April 10, 2009, will allow time for your input to be considered during the analysis. Comments are a matter of public record and as such may be provided to interested parties upon request. Questions about this proposal should be directed to Jeff Paulo, project team leader, 530-352-4211.

Comments may be submitted by e-mail, fax, or U.S. Mail. Please provide any issues, concerns, suggestions or additional information you may have regarding this project to Robert Remillard, Shasta-Trinity National Forest, 3644 Avtech Parkway, Redding, CA 96002, Fax 530-226-2470. Electronic comments may be submitted to [comments-pacificsouthwest-shasta-trinity@fs.fed.us](mailto:comments-pacificsouthwest-shasta-trinity@fs.fed.us).

Please put "Trough Fire Recovery" in the subject line.

You must respond to this invitation in order to be placed on the public involvement list for this project and to receive any further project notifications. All parties responding to this initial scoping that include sufficient contact information will be notified of future developments in the decision.

## Attachment A: Resource Protection Measures

The following protective measures are designed to reduce or eliminate potential project effects.

### Wildlife

- A minimum of 1.5 snags per acre will be retained in the planning area.
- Limited Operating Periods (LOPs) will be implemented to avoid direct adverse impacts to the northern spotted owl. From February 1 through July 10, all noise- and smoke-generating activities will be prohibited within ¼ mile of suitable nesting/roosting habitat (some units potentially affected). Currently annual surveys for northern spotted owl are being conducted in the project area to determine occupancy. The owl LOPs may be lifted if year-of-action surveys, using currently accepted protocols, indicate specific areas are not occupied by breeding owls.
- Maintain an average of 5 tons of logs per acre with a preference to have 4 to 6 logs per acre at the largest available diameter.
- Protect and retain viable hardwood trees during harvest and fuels hazard reduction treatment activities.
- All activity is prohibited within 250 feet from known Townsend's, big-eared, and/or Pallid bat roost sites (caves, mines, and mine adits).
- Limited operating periods (LOP) will be used to prevent loud and continuous noise from disturbing nesting raptors: From within 1/2 mile of nest sites, the LOP will be from January 1 to August 15 for bald eagle, and from February 1 to August 15 for northern goshawk and peregrine falcon.

### Botany

- Sensitive or endemic plant populations will be flagged, and identified as a “controlled area,” and excluded from treatment.
- Serpentine and chert outcrops will be flagged and excluded from treatment to protect sensitive plant populations and habitat.
- Contract Provision C6.35 [Equipment Cleaning 7/01] or most recent version of this contract provision would be incorporated into the timber sale contract as a protection measure to prevent the spread of invasive weeds.<sup>9</sup> This provision requires the Purchaser to certify that all equipment is free of noxious weed seed prior to entering the assessment area.

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<sup>9</sup> A copy of the complete text of the contract provision can be obtained at the Hayfork Ranger District or on the web at [http://www.fs.fed.us/invasivespecies/documents/FS\\_WeedBMP\\_2001.pdf](http://www.fs.fed.us/invasivespecies/documents/FS_WeedBMP_2001.pdf).

## Riparian Reserves and Streamcourse Protection Zones

### Riparian Reserves (RR) for the Trough Fire Recovery

(Widths are equal to or greater than Northwest Forest Plan specifications)

Stream Class	Stream Type	Hillside Slope (%)	Equipment Exclusion Zone (EEZ) Hand Treatment Only Width (feet)	Riparian Reserve Treatments (feet) From Edge of Retention Zone to outer Edge of Riparian Reserve	Minimum Extent of Riparian Reserve Width (feet)
I	Perennial stream with fish	Slope > 30%	300	0	300
		Slope < 30%	300	0	300
II	Perennial stream with no fish	Slope > 30%	150	0	150
		Slope < 30%	150	0	150
III	Intermittent and ephemeral	Slope > 30%	100	0	100
		Slope < 30%	100	0	100

- Riparian Reserves are measured along the slope from the high watermark up the hillslope.
- The height of a site tree can be used to increase RR widths (see Shasta-Trinity Land Resource Management Plan, 1994).
- Protect, maintain and potentially increase:
  - existing ground cover levels
  - existing canopy cover
  - existing down woody material
  - existing surface duff
- No new landings will be constructed within the RR.
- No full bench skid trails construction. Skid trails, are generally located on ridge tops, flat benches when available, or re-use existing skid trails to minimize soil displacement and concentrated surface flow.
- No Salvage will occur within the inner gorge or within 100 feet from the defined channel if no inner gorge exists.
- Hazard trees within RRs must be dropped and retained on site if > 16” dbh. All hazard trees that are less than one-site potential tree height from the stream can be felled but must be left on-site (exception: trees can be removed for a distance of up to 200 feet upstream of culverts).
- No heavy equipment is allowed in EEZs and Watercourse and Lake Protection Zones (WLPZs).
- Handpiles of salvage slash and fuels would be placed outside of RR and burned in a manner that leaves at least 50% of the localized area unburned at any given time. In addition, hand piles would be placed in a checkerboard pattern whenever possible (not one pile directly above another).
- All streamcourse protection zones would be flagged and/or signed within proposed treatment units, and identified as "Protect Streamcourse" on Sale Area Map.

## Fuels

- Use of prescribed fire is to conform with Forest Service, California Air Resources Board, and North Coast Unified Air Quality Management District guidelines.
- Post-treatment total soil ground cover shall range from 51-70%, when available. Provide for a minimum of 50% of the ground cover as fine organic matter, of generally less than three-inch in size, if available. Ground cover is defined as any combination of duff mat, litter, fine organic materials (less than three-inch diameter), coarse organic materials (greater than three-inch diameter), live vegetation in contact with the soil, and rock fragments (greater than ¾-inch diameter). Fuel reduction activities should retain 30-50% of the existing duff mat.
- Retain existing down coarse woody debris (CWD) whenever possible providing the amount of logs does not exceed fuel management objectives

## Timber Harvest Operations

- The aquatic period of operation (APOO) is from May 15 to October 15. No ground disturbing activities<sup>10</sup> will occur from **October 16 through May 15**. No new work will begin after October 14. Work may proceed after October 15 with Forest Service Line Officer approval, informed by fishery biologist and hydrologist evaluation. This will only occur if dry weather is forecasted. Typically this situation occurs when a project is not complete and more damage may occur by leaving it unfinished. Erosion control measures will be implemented on or before October 15, or in the event of substantial precipitation events during the summer. If there is approval to work beyond October 15, erosion control measures will be in place at the end of each workday.
- Ground disturbing activities will only occur when soils are dry down to 8 inches in depth, or soil conditions are such that the operations will not result in compaction or accelerated soil erosion. Ground disturbing activities will not occur during wet weather conditions within the APOO without the consent and approval by a Forest Service earth scientist prior to the initiation of activities.
- Where soils with severe compaction hazard have been identified, ground-based mechanical equipment will only operate when the soils are dry down to 8 inches from June 1 through September 30, inclusive and without exception (see *Shasta-Trinity Wet Weather Soil Compaction Hazard Ratings* for restrictions). *Units affected: 990 through 999, and 88.*
- Mechanical skidding equipment is generally restricted to slopes less than 35%. When slopes are >35% and <45% mechanical skidding equipment is restricted to slash covered primary skid trails.
- Minimize soil erosion by water-barring all skid trails, mulching with straw or fine slash (achieve 75%+ cover) the last 50 feet of all skid trails where they enter main roads.
- Skid trails, temporary roads and landings will be located and constructed without removing any trees 24 inches or greater DBH.

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<sup>10</sup> Ground disturbing activities include yarding, fire line construction, machine piling, road reconstruction, and road maintenance activities.

- Short-Term Need Landings Post-use Mitigation: Rip with winged sub-soiler to a depth of 18 inches, mulch at a rate of 1.5 tons/acre, and seed with native grass at a rate of 50 lbs/ac all short-term need landings and primary skid-trails (the last 200 feet to the landing).
- Long-Term Need Landings Post-use Mitigation: Scarify to a depth of 6 inches, and mulch (rice straw or wood chips) at a rate of 2 tons/acre.
- Landings should be constructed to adequately drain with crowned landings and directed drainage with catchments (rock armoring and/or silt fences with straw bales may be used as necessary). All new landing fill slopes and road fill slopes (>100 square feet) would be mulched initially, and the mulch would be maintained throughout the life of the project. Landings with slopes of less than 25% and greater than 0.5 acre should have natural, non-constructed designs with slash covered operating areas.
- Limit primary skid roads, trails, and landings to occupy no more than 15% of the treatment unit. The objective is to design a skidding pattern that best fits the terrain, and limits soil impact. Pre-designated skid trails, felling to the lead, and end lining are methods to be used to achieve this. Skid trails shall be outsloped, and not located in swales, where water barring is not possible or requires deep cuts. Re-use existing skid trails and landings whenever available and practical. (Best Management Practices 1-10, 1-12, 1-13, 1-16).

## Transportation System

- If hauling is approved to occur outside the APOO (due to dry conditions), the placement of aggregate base course may be required to provide a stable running surface and prevent rutting and potential erosion. Snow berms will be removed or drains installed to avoid channelization of melt water to minimize potential for damage to the road and to protect water quality. If the road surface is damaged, lost surface material shall be replaced, and damaged structures repaired. (Best Management Practices 2-23, 2-24 and 2-25.)
- Purchaser-utilized roads rutted or otherwise damaged by Purchaser operations shall be spot-rocked or otherwise suitably repaired. Drainage structures shall be protected or repaired as necessary. The road surface shall be outsloped, if possible, during maintenance operations. Road surfaces in areas crossing serpentinitic soils should be rocked to prevent roadbed deformation (rutting) during wet conditions.
- Wing subsoil to an estimated 18 inches in depth, mulch, or use available organic material to achieve 2 tons/acre, all temporary roads used in timber-harvest activities post-use. Prevent road runoff from draining onto skid trails and landings.
- Roads used for haul will be watered for dust abatement, or dust abated through application of a Contracting Officer<sup>11</sup>-approved material.

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<sup>11</sup> Contracting Officer, or person of delegated authority.

## Water Drafting

- Water drafting will occur in project area creeks. When drafting from coho salmon critical habitat, National Marine Fisheries Service (NMFS) water drafting specifications will be adhered to. NMFS developed water drafting specifications to minimize impacts to listed fishes. In order to protect coho salmon, the Operating Guidelines presented in the water drafting specifications will be adhered to as described below.

## Operating Guidelines

- Operations are restricted to one hour after sunrise to one hour before sunset.
- Pumping rate shall not exceed 350 gallons per hour.
- The pumping rate shall not exceed ten percent of the stream flow.
- Seek streams and pools where water is deep and flowing, as opposed to streams with low flow and small isolated pools.
- Pumping shall be terminated when the tank is full. The effect of single pumping operations, or multiple pumping operations at the same location shall not result in obvious draw-down of either upstream or downstream pools.
- Each pumping operation shall use a fish screen. The screen face should be oriented parallel to flow for best screening performance. The screen shall be designed and used that it can be submerged with at least one-screen-height-clearance above and below the screen.
- Operators shall keep a log on the truck containing the following information: Operator's Name, Date, Time, Pump Rate, Filling Time, Screen Cleaned (Y or N), Screen Condition, Comments. These guidelines should be included as instructions in a logbook with serially numbered pages. This assures each truck operator easy access to this information.

When drafting water **outside** of critical habitat, standards and guidelines found in the Shasta Trinity National Forest Plan section 18 k. (1) – (3) (page 4-25) will apply:

When watering roads for dust abatement, follow the following rules:

1. Allow drafting from fishery streams only where immediate downstream discharge is maintained at 1.5 cubic feet per second (CFS) or greater.
2. Allow drafting from ephemeral streams, intermittent streams, wetlands or constructed ponds provided that sufficient water quantity and quality remains to support associated wildlife species and riparian values.
3. Never allow drafting to remove more than 50 percent of any stream discharge or 75 percent of constructed pond water.

## General Protection Measures

- To avoid direct effects on recorded archaeological sites, sites will be flagged and avoided following the protective measures outlined in the Region 5 Section 106 Programmatic

Agreement. These sites will be identified in any contract related to this project as controlled areas to be avoided.

- If additional threatened, endangered, or sensitive species, cultural resource sites, or any sensitive or watch list plant species are discovered within the assessment area, the appropriate protection actions will be taken. Contract Provision C/CT6.25#, or most recent version of this contract provision, would be incorporated into any contract relating to this project.
- Decommissioning of roads will consist of pulling culverts, out-sloping roads, relieving inboard ditches and mulching with weed-free rice straw, woodchips, or approved fine slash.
- Minimize soil erosion by water-barring all skid trails, mulching with straw or fine slash (achieve 75%+ cover) the last 50 feet of all skid trails where they enter landings or roads.

Rip (with winged subsoiler to 18 inches deep) and mulch, all landings to be rehabilitated, and primary skid-trails (last 200 feet to landing). When a landing is to be retained, scarify to 6 inches and mulch (rice straw or wood chips) to achieve 2 tons/acre of cover (4-6 inches in depth).