

Toolbox Fire Recovery Project

Proposed Action

I. Introduction

On July 12, 2002 a lightning storm ignited 67 fires on the Fremont National Forest. On the Silver Lake Ranger District, two of these fires, the Toolbox Fire, which started near Toolbox Springs, and the Silver Fire, which started near Silver Creek Marsh campground, became the primary fires within the Toolbox Complex. Suppression activities on a portion of the adjacent Winter Fire also became a component of the Toolbox Complex. In total, the Toolbox Complex included approximately 85,000 acres, including approximately 49,500 acres of National Forest lands, 8,000 acres of Bureau of Land Management administered lands and 27,500 acres of private land.

The Silver Lake Ranger District is proposing to accelerate recovery of the area through salvage, fuel reduction, reforestation, and riparian improvement and protection projects. The project area includes those portions of the Toolbox Complex Fires that occurred within the Silver Creek, Silver Lake and Summer Lake Watersheds on National Forest lands (see Vicinity Map).

The analysis of effects will consider the cumulative effects of other activities (past, present, and reasonably foreseeable future). These include past timber harvesting and other management activities, past disturbance related to fire, insects and disease, the fires of 2002, fire suppression activities, post-fire rehabilitation, and livestock grazing strategies developed in response to the fires. Relevant past, present and reasonably foreseeable activities on private lands and other Federal and State lands will also be considered in the analysis.

The project area totals approximately 48,000 acres of Fremont National Forest lands within: T 29 S, R 13-16 E, T 30 S, R 13-16 E, and T 31 S, R 13-15 E, Willamette Meridian. The project area is bounded on the east by the north-south trending fault block feature known as Winter Rim. An unburned strip varying between 3 and 7 miles wide runs between the Silver Fire portion of the project area and the Toolbox Fire portion of the project area. Within this unburned area are locally familiar landmarks such as Thompson Reservoir and Hager Mountain. The project area is characterized by very gentle topography. The sideslopes are between 0 and 10 percent on approximately 70 percent of the project area. Silver Creek and West Fork Silver Creek flow through canyons that are up to 450 feet deep with localized side slopes of up to 70 percent. Elevations in the area range from approximately 4,450 feet to 6,778 feet (top of Foster Butte).

Perennial fish bearing streams within the project area include Silver Creek, North Fork Silver Creek, West Fork Silver Creek, and Guyer Creek. Riparian Habitat Conservation Areas (RHCAs) for these streams, as well as for intermittent channels within the project area, will be incorporated into project proposals in accordance with Fremont National Forest Land and Resource Management Plan (LRMP) Standards and Guidelines, as amended by the Inland Native Fish Strategy (INFISH).

II. Purpose and Need

This area is currently characterized by a mosaic of burned forest conditions, ranging from unburned to fire-killed ponderosa pine, lodgepole pine, and mixed conifer stands, interspersed with young fire-damaged plantations. The area is predominantly in Forest Plan management allocations that allow for the production of sawtimber and other wood fiber products, within the context of developing sustainable forest conditions. The Forest Service proposes to cut some of these standing dead trees, to reforest some areas, and to implement riparian improvement and protection projects. These actions are needed to facilitate the recovery of the burned area. Ponderosa pine and white fir quickly lose commercial value and their suitability as raw material for sawtimber rapidly deteriorates following fire mortality. It is expected that, by the time this environmental analysis is completed, trees of less than 12 to 14 inches in diameter will have lost their merchantability. The accumulation of fuel loadings that would occur if high-density standing-dead stands were allowed to progress to a heavy down-dead condition would greatly increase the intensity of subsequent fires in the area. These conditions would:

- Reduce the potential for reforestation to successfully result in establishment of sustainable late and old forest conditions. Areas with high intensity burns do not currently have a ponderosa pine seed source adequate for natural regeneration. Areas that were partially burned typically have patches, which burned at a high intensity, that are too large to successfully regenerate naturally.
- Promote insect infestations that could affect adjacent live stands
- Hinder, for the foreseeable future, the eventual use of management tools such as prescribed fire that are needed to promote the recovery of healthy ponderosa pine forest conditions.

This proposed action responds to the goals and objectives for the Fremont National Forest as established by the Fremont National Forest Land and Resource Management Plan (1989), as amended. Amendments to the LRMP include, but are not limited to, Regional Foresters Eastside Forest Plan Amendments No. 1 and No. 2 and the Inland Native Fish Strategy (INFISH).

The purpose and need for action in the project area is to create conditions that would facilitate our efforts to:

- Recover habitat lost as a result of intense fire and reduce the likelihood of future habitat loss or soil damage from subsequent high intensity wildfire
- Restore riparian areas damaged by the Toolbox Fire Complex
- Protect remaining live stands from insect infestations associated with fire-killed trees
- Develop a long term sustainable forest through re-forestation and fuels reduction
- Salvage burned timber, while it retains some merchantable value

The LRMP directs that much of the project area, MA 5 (**Management Area 5**), be managed for the commercial production of sawtimber and forage for domestic livestock, within Forest-Wide Standards and Guidelines for all resources including wildlife habitat, soil, and water. Approximately 71 percent of the project area is MA 5. The LRMP establishes an objective in MA 5 of creating a healthy forest condition through control of stocking levels, species mix, and protection from insects, disease, and other damage while moving forest stands toward structural conditions that are within the historic range of variability (HRV). Historic Range of Variability refers to structural forest conditions that are based on pre-settlement conditions. The project area contains portions of three watersheds, with the largest component of the project area (about 60 percent) being within the Silver Creek Watershed. The Silver

Creek Watershed analysis (1997) used 1947 Timber Type maps to determine that 78 percent of the forested areas within the watershed were historically in single story late and old (LOS) structural condition. That had been reduced to 9 percent by 1994, primarily as a result of timber harvest that removed portions of the overstory component and fire suppression that allowed for the development of a multi-layer understory of ponderosa pine and white fir beneath residual large ponderosa pine. Due to the fire activity of July 2002, which created widespread mortality in all stand structures, including late and old ponderosa pine stands, there has been a further departure from HRV in regard to single story late and old condition

Moving forest stands, particularly those within fire dependent ponderosa pine ecosystems, such as those that characterize most of the project area, toward the historic range of variability is desirable because such conditions provide the most sustainability in long term. Sustainability refers to the ability of forested systems to withstand or resist rapid and widespread structural change due to fire, insects, and disease.

The recently burned areas present a short-term opportunity to begin the actions necessary to achieve desired conditions and to capture the current commercial value of the timber. The proposed salvage harvest, fuels reduction, and reforestation activities are designed to enable a recovery of commercial value while promoting a long-term movement toward HRV.

Approximately 9 percent of the project area is within **Management Area 2** (Endangered and Threatened Species Habitat – Bald Eagle and Peregrine Falcon). Over 80 percent of the MA 2 is allocated for peregrine falcon habitat. In both bald eagle and peregrine falcon habitat the LRMP directs that timber management be used as a tool to enhance and perpetuate habitat requirements. Most of these areas experienced moderate fire intensity. Areas will be assessed for their continued suitability as endangered and threatened species habitat. The alternative development process may be used as a tool to assess a variety of habitat recovery strategies.

Approximately 7 percent of the project area is within **Management Area 15** (Fish and Wildlife Habitat/Water Quality). The LRMP directs that the aquatic and riparian zones of all drainages and water bodies and their immediately adjacent uplands be managed to meet the following objectives: maintenance or improvement of water quality and fish habitat; providing recreation opportunities; and maintenance and improvement of riparian habitat for dependent wildlife species. MA 15 includes all perennial, intermittent, and ephemeral drainages. In 1995 the Inland Native Fish Strategy (INFISH) amended the LRMP. The INFISH amendment to the LRMP established additional forest-wide fisheries standards and the creation of riparian habitat conservation areas or RHCAs. Riparian habitat conservation areas, as defined in INFISH, are portions of watersheds where riparian dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. The salvage, fuels reduction, and conifer planting components of the proposed action that would occur within MA 15 have been designed in accordance with those guidelines (such as TM – 1, as noted on page 6 of this document). Proposed salvage, fuels reduction, and conifer planting are in response to the need to reduce the intensity of subsequent fire in the riparian zones, while promoting the recovery of healthy forest conditions that would contribute to long term attainment of Riparian Management Objectives. Other project activities such as placement of large woody debris and riparian area deciduous plantings are in direct response to the immediate need to attain Riparian Management Objectives.

Approximately 4 percent of the project area is within **Management Area 6** (Scenic Viewsheds). The overall objective in MA 6 is to provide an attractive, natural appearing forest visual character. Within the project area there are approximately 6 miles of visual corridor along Forest Roads 27 and 28 that are allocated to MA 6. The LRMP contains guidelines for land management prescriptions for MA 6 that are designed to promote the visual integrity of landscapes in the foreground-viewing zone. In addition to those areas allocated to MA 6, the LRMP specifically provides direction to ensure visual integrity in the foreground viewing zone of Road 2901 and the Fremont National Recreation Trail (both of which pass through the project area).

The LRMP does not provide direction for management activity within MA 6 immediately following events like the Toolbox Complex Fires. Therefore, the proposed salvage harvest, fuels reduction, and reforestation proposed within MA 6 are in response to the need to reduce the intensity of subsequent fire, while promoting the long-term recovery of healthy forest conditions.

Approximately 4 percent of the project area is within **Management Area 1** (Mule Deer Winter Range). The LRMP states:

Food, cover, and human disturbance will be managed on mule deer winter range to provide the habitat needed to meet the Oregon Department of Fish and Wildlife and Klamath Tribes herd management objectives.

Emphasis in MA 1 is on improving forage and thermal cover, and, where site capabilities allow, maintaining 40 to 50 percent thermal cover and at least 80 percent of potential habitat effectiveness for mule deer. The conifer planting contained in the proposed action includes the objective of promoting rapid development of cover areas. The fuels reduction strategy in MA 1 is designed to promote the long-term maintenance of cover. Fuels reduction in MA 1 would forego the use of pretreatment and/or prescribed burning, both of which would likely retard the rapid recovery of big game cover.

Other management areas that each comprise between 1 and 2 percent of the project area include: MA 12 (Utility Corridor), and MA3 / MA 14 which are allocated to providing old growth dependent species habitat. These latter areas, in accordance with LRMP direction, will be assessed for their continued suitability as old growth habitat. If they are no longer suitable, a new old growth stand will be delineated as a replacement.

III. Proposed Projects

A. Salvage of Fire Damaged Trees

This includes salvage harvest of approximately 21,500 acres in the Silver Creek, Silver Lake and Summer Lake Watersheds (see Maps 1 and 2). As a general rule of thumb, in ponderosa pine stands trees with less than 20 percent bright green crown would be considered for salvage harvest. In mixed conifer stands, white fir trees less than 21” dbh that show evidence of receiving heat to the bole, such as scorching, blackening or immediately adjacent high intensity fire activity (i.e. a consumed down log next to the tree) would be removed as fire-damaged trees. White fir trees have a much thinner bark than ponderosa pine and are more susceptible to mortality from the effects of fire.

Most of the proposed timber salvage units would be harvested using ground-based logging systems. Access for salvage would include the use of classified, temporary, and unclassified roads. Classified roads are those that have been determined to be needed for long-term motor vehicle access to National Forest lands. Temporary roads are those that are authorized by contract, permit, or other written authorization not intended to be part of the forest road transportation system and not necessary for long-term resource management. Unclassified roads are unplanned roads, abandoned travelways, and off-road vehicle tracks that are not managed as a part of the forest transportation system, including roads once authorized under a permit or contract that were not decommissioned upon the termination of authorization. Decommissioning refers to activity that results in the stabilization and restoration of unneeded roads to a more natural state.

The salvage harvest activities in the proposed action would require the require reconstruction of about 9 miles of existing classified roads, primarily by adding surfacing; the re-opening of approximately 20 miles of classified roads, primarily as pre-haul maintenance; the temporary use of approximately 14 miles of unclassified road; and the construction of approximately 12 miles of new temporary road (see Maps 9 and 10). All of the above road development would occur in order to provide connection to the existing classified road system (see Maps 7 and 8). Temporary roads would be closed and decommissioned after completion of project activities. Approximately 10 to 15 percent of the area to be salvaged would be harvested using helicopter based logging systems, including areas salvaged within Riparian Habitat Conservation Areas (RHCAs).

Other connected actions in association with salvage include treatment of slash, water barring, and erosion control measures such as scattering of slash on skid trails. Salvaged trees would supply raw materials to local or regional industry and wood products to the public.

As displayed in the table below, proposed salvage prescriptions correspond to the varying degree of mortality that occurred within the fire area.

| Category of Mortality (Burned Forested Stands with commercial-sized component only) | | Approx. % of total area of Burned Forested Stands represented by each Category of Mortality | Salvage Prescription % of the area in each Mortality Category in which Salvage Harvest is Proposed for Ponderosa Pine Stands** | Proposed Salvage Acres (reflects both ponderosa pine and mixed conifer stands – acres are approximate) | Proposed Snag and Coarse Woody Debris Attainment Strategy* | Factors that would be used to Determine Location of Salvage |
|--|-------------|---|---|---|--|--|
| CATEGORY | % Mortality | | | | | |
| A | 0 to 25% | 18% | 25% | 2,300 | Retain at Levels corresponding to current science – Distributed across each subwatershed | Salvage in pockets of mortality plus localized hazard tree removal |
| B | 25-50% | 20% | 50% | 3,200 | Retain at Levels corresponding to current science – Distributed across each subwatershed | Salvage in concentrations of dead |
| C | 50-85% | 26% | 80% | 6,600 | Approximately 20%* of area in snag leave areas | Salvage in concentrations of dead |
| D | 85-100% | 36% | 80% | 9,400 | Approximately 20%* of area in snag leave areas | Salvage in concentrations of dead |
| TOTAL | | 100% | | 21,500 | | |

* Portions of this would be contributed by no-harvest areas within RHCAs.

** In mixed conifer stands, white fir trees less than 21” dbh, throughout each category, that show evidence of receiving heat to the bole, such as scorching or blackening, would be removed as fire-damaged trees.

All activities within RHCAs would be in accordance with Fremont National Forest Land and Resource Management Plan (LRMP) Standards and Guidelines, as amended by the Inland Native Fish Strategy (INFISH). INFISH Standards and Guidelines for Timber Management (TM-1) prohibits timber harvest within RHCAs, except as follows:

Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian conditions, allow salvage and fuelwood cutting in RHCAs only where present and future large woody debris needs are met and where cutting would not retard or prevent attainment of other Riparian

Management Objectives and where adverse effects can be avoided to inland native fish.

Using the riparian management objectives as well as the standards and guidelines of INFISH the following would be applied to the salvage within RHCAs:

Category 1 – Fish Bearing Streams: No harvest within the first 200 feet (slope distance) of RHCAs along Silver Creek, West Fork Silver Creek, North Fork Silver Creek, and Guyer Creek. In the remainder of the RHCA salvage harvest of selected trees or clumps using helicopter yarding would occur. A feathered forest edge would be retained. No mechanized ground-based equipment would be allowed within the entire width of the RHCAs, as a part of the commercial salvage operation, except at existing classified road crossings.

Category 2 – Permanently flowing non-fish bearing: These streams do not occur within the project area.

Category 3 – Ponds, lakes, reservoirs, and wetlands greater than 1 acre: No harvest within the first 75 feet of the RHCA. In the remainder of the RHCA salvage harvest of selected trees or clumps using helicopter yarding would occur. A feathered forest edge would be retained. No mechanized ground-based equipment would be allowed within the established RHCA width.

Category 4 – Seasonally flowing or intermittent streams: Site selective harvest can occur within this RHCA category that applies to the following creeks: Duncan, East Duncan, Willow, McCall, Hawk, Walker, Benny, Graham, Auger, Indian, Strawberry, and unnamed Category 4 drainages. The amount of salvage harvest in these RHCAs will be responsive to present and future large woody debris needs. Between 20 and 80 trees per mile of stream, including all green and sufficient dead trees to provide long-term attainment of Riparian Management Objectives, would be retained. Retained trees would have a minimum dbh of 12 inches and a minimum height of 35 feet. No mechanized ground-based equipment would be allowed within the RHCA.

Many wildlife species rely on snags and down logs for nesting, roosting, denning and feeding. Fremont National Forest LRMP standards and guidelines for snags and downed wood are designed to provide the amount of snags and downed wood required for 100 percent of potential population levels of primary cavity excavators. That has typically been achieved by project design that retains a total of 4 dispersed snags per acre (or 20 clumped snags per 5 acres); as well as 100 to 140 lineal feet of downed logs per acre in mixed conifer stands and 80 lineal feet per acre in ponderosa pine stands. The analysis for this proposed project will use the most recent credible science for developing retention guidelines for snag and coarse woody debris dependent species habitat under wildfire conditions. This may include the retention of all snags in selected areas of 100 acres (or greater) as a means of providing effective cavity dependent species habitat.

B. Reforestation

Planting of tree seedlings (following site preparation) would occur on approximately 28,500 acres, including areas that are salvage harvested and other areas, predominately existing plantations, that experienced loss of stocking due to fire. Maps 3 and 4 show the locations of areas outside of salvage units where reforestation would occur (Note: in some plantations, loss of stocking due to fire occurred in only a portion of the plantation, while other portions of the plantation were not affected. In such cases, the unburned area would be thinned as a part of the Toolbox Fire Recovery Project). As in the

case of the salvage proposals shown in the above table, the amount (percent) of area where reforestation would occur reflects the varying degree to which mortality occurred. As a result, a higher percentage of an area that burned at high intensity would be reforested than would an area that only burned lightly. Reforestation would occur in areas that are salvage harvested, in existing plantations or young stands where fire damage has occurred, in mixed conifer stands where there has been a substantial reduction of the ponderosa pine component due to the fires (even if they are adequately stocked with a white fir component), and in portions of RHCAs. Most or all seedlings would be ponderosa pine. In most areas, seedlings would be planted at between 150 and 400 trees per acre, with consideration given to reestablishment of wildlife cover needs. Throughout areas that would be reforested, site preparation consisting of falling dead non-merchantable material and follow-up fuels treatment, will be analyzed as a part of the proposal. Within RHCAs, in order to provide future shade and long term large woody debris recruitment, conifer planting would occur in those forested stands that experienced moderate and high burn intensity. In order to promote the development of deciduous riparian vegetation, no conifer planting would occur within 50 feet of any stream channel. Planting in RHCAs would be at a density that would achieve sustainable LOS stand conditions at 20 to 40 trees/acre.

C. Fuels Reduction

Reduction of fuels, including those created by the fire, by salvage activity, and by site preparation would occur throughout the project area. A variety of fuel treatment methods would be used throughout the project area, including removing marketable timber through salvage harvest, burning in place (including use of prescribed fire), piling and burning, yarding tops to landings to be burned, or lopping and scattering to speed decay. Additionally, in order to meet desired fuels conditions, approximately 3,200 acres would be "pretreated" (by thinning very small diameter trees) and then prescribed burned. In some instances this may require a Forest Plan amendment for mule deer habitat outside of winter range. Pre-treatment and prescribed fire is not proposed as a component of the fuels reduction strategy for areas allocated to mule deer winter range (MA 1).

As per INFISH Standard and Guideline FM-1, fuel treatment strategies will be designed "so as not to prevent attainment of Riparian Management Objectives." When recovery of riparian conditions has occurred, fuels treatment would occur using equipment that minimizes the impacts on the environment.

D. Watershed Protection and Improvement Projects

Where risks to aquatic and watershed resources, as a result of the Toolbox Complex Fire, have been identified, projects are proposed to eliminate or reduce these risks (see Maps 5 and 6). The following activities are designed to eliminate or reduce adverse effects to aquatic and riparian areas:

1. Approximately 35 miles of road decommissioning to promote watershed recovery. Road Management Objectives for most of the project area have been analyzed and substantially implemented over the past several years. These will be re-examined and updated through ongoing road condition surveys within the fire. Subsequent recommendations for road management will be made following an area Roads Analysis. Such recommendations will be considered for inclusion in alternatives during the alternative development.
2. Approximately 750 acres of aspen stand protection, through either falling dead trees or fencing.
3. Placement of large woody debris or other in-stream structures to meet Riparian Management Objectives in approximately 6 miles of Silver Creek and 8 miles of West

Fork Silver Creek.

4. Approximately 10 acres of riparian area deciduous plantings
5. Approximately 1,150 acres of contour falling (using dead trees) on steep slopes to protect water quality
6. Culvert replacement where Forest Road 27 crosses West Fork Silver Creek to improve fish passage

E. Other Projects

Additional proposed project activity in response to the stated purpose and need for this project includes:

- Approximately 2,500 acres of plantation thinning in order to promote the long-term development of a sustainable LOS forest conditions (see Maps 3 and 4).
- Re-routing sections of the Fremont National Recreation Trail, if necessitated by salvage activities.

F. Forest Plan Amendments

Currently available science on snag and coarse woody debris dependent species habitat will be a factor considered in alternative development and could result in the proposal of a site-specific Forest Plan amendment to update standards and guidelines for these species. Pretreatment and prescribed burning in some areas outside of mule deer winter range could result in the Responsible Official deciding on a site-specific Forest Plan amendment in regard to standards and guidelines for mule deer habitat outside of winter range.

IV. Issues/Concerns

Preliminary issues include:

1. Snag and downed wood habitat
2. Maintenance of big game habitat
3. Disturbance of cultural resources
4. Potential noxious weed expansion
5. Effects of proposed activities on soil recovery following the fire
6. Effects of proposed activities on water quality and resident fisheries resource
7. Ability of proposed activities to restore historic vegetation composition, structures, and patterns
8. Potential loss of commercial timber value/economic viability of timber salvage
9. Bald Eagle Management Area recovery
10. Effects of grazing on meeting overall recovery objectives
11. Ability to reduce fuel loads to levels that will promote sustainable forests
12. Effects of large quantities of down wood on grazing

V. Range of Alternatives

A full range of alternatives will be considered, including a "no-action" alternative in which none of the activities proposed above would be implemented. Based on the issues gathered through scoping, it is

expected that the action alternatives will vary in (1) the silvicultural and post-harvest treatments prescribed and (2) the amount and location of salvage harvest, fuels treatment and reforestation. Tentative alternatives to the proposed action include:

1. An alternative that does not require the construction of additional temporary or permanent roads, other than temporary re-opening of existing roads, and that does not consider salvage removal from Riparian Habitat Conservation Areas.
2. An alternative that emphasizes removal (or other fuels treatment options) of dead timber in the size classes that would contribute to high intensity behavior in the event of subsequent fires. In general, this would be the smaller, non-commercial sized trees.

Consideration of various regeneration strategies including planting at relatively low stocking levels, within current LRMP standards and guidelines, could also be a factor that differentiates alternatives. Recommendations for road management activity, as informed by a roads analysis process, may be an element that differentiates alternatives.

VI. Maps (Attached)

Maps represent the best estimation of project activity location that is currently available. On-going reconnaissance is expected to result in further refinements.

Vicinity Map

Map 1 – Salvage Harvest Areas (Silver Fire Portion)

Map 2 – Salvage Harvest Areas (Toolbox and Winter Fire Portion)

Map 3 – Reforestation and Thinning Areas (Silver Fire Portion)

Map 4 – Reforestation and Thinning Areas (Toolbox and Winter Fire Portion)

Map 5 – Watershed Protection and Improvement Projects (Silver Fire Portion)

Map 6 – Watershed Protection and Improvement Projects (Toolbox and Winter Fire Portion)

Map 7 – Existing Classified Roads (Silver Fire Portion)

Map 8 - Existing Classified Roads (Toolbox and Winter Fire Portion)

Map 9 – Transportation Plan (Silver Fire Portion)

Map 10 – Transportation Plan (Toolbox and Winter Fire Portion)

On the Web

The following website will be updated as additional information about this project is developed:

<http://www.fs.fed.us/r6/winema/management/analyses/toolbox/>