

Zigzag Integrated Resource Project Information Sheet

January, 2020

Introduction

The Zigzag Ranger District of the Mt. Hood National Forest (Forest) is proposing a number of activities in the project area (described below) to achieve the goals of the Forest Plan as amended. Based on a review of field conditions and available data, there are needs and opportunities to manage vegetation to improve forest conditions, provide wood products, enhance aquatic/riparian habitat, and enhance wildlife habitats. There are also associated opportunities to manage recreation and make changes to the transportation system. An interdisciplinary team of agency resource specialists has developed a proposed action to address these needs and opportunities. More detail on the proposed action can be found below.

The District has developed a [story map¹](#) that utilizes ArcGIS Online software to help display some of the information in this letter in an interactive-map format. It explains some background and history of the area and includes access to the maps and data.

Zigzag Project Area

The Zigzag project area includes two distinct parts: one is referred to as the Mud Creek area, and the other is the Horseshoe area, both located in Clackamas County, Oregon.

Management Direction

The Mt. Hood National Forest Land and Resource Management Plan (Forest Plan), as amended, provides direction for the management of resources contained within the Mt. Hood National Forest. The Forest Plan identifies the location of and describes the goals and objectives associated with the Forest's land allocations. The tables below include the land allocations where management actions are proposed.

Land Allocations within proposed harvest units

Land Allocation	Mud Creek Acres	Horse Shoe Acres	Management Theme
Riparian Reserves	178	464	Riparian reserves are areas along all streams, wetlands, ponds, lakes, and unstable or potentially unstable areas where the conservation of aquatic and riparian-dependent terrestrial resources receives primary emphasis. The main purpose of the reserves is to protect the health of the aquatic system and its dependent species; the reserves also

¹ <https://usfs.maps.arcgis.com/apps/MapJournal/index.html?appid=4f3944a7616d4f4db83943691018ca64>

Land Allocation	Mud Creek Acres	Horse Shoe Acres	Management Theme
			provide incidental benefits to upland species. These reserves will help maintain and restore riparian structures and functions, benefit fish and riparian-dependent non-fish species, enhance habitat conservation for organisms dependent on the transition zone between upslope and riparian areas, improve travel and dispersal corridors for terrestrial animals and plants, and provide for greater connectivity of late-successional forest habitat. Acreage figures here overlap the acres listed below.
A1&B1 Wild and Scenic Rivers	79	0	Protect or enhance the outstandingly remarkable values of the Salmon and Sandy Rivers. Proposed harvest units are in the recreational segment.
A4 Special Interest Areas	0	7	Protect and, where appropriate, foster public recreational use and enjoyment. Includes the Old Maid Flats Geologic Area.
B2 Scenic Viewsheds	754	586	Provide attractive, visually appealing forest scenery with a wide variety of natural appearing landscape features. Utilize vegetation management activities to create and maintain a long-term desired landscape character.
B3 Roaded Recreation	30	0	Provide a variety of year-round recreation opportunities in natural-appearing roaded settings. A secondary goal is to maintain a healthy forest condition through a variety of timber management practices.
B6 Special Emphasis Watershed	3	0	Maintain or improve watershed, riparian, and aquatic habitat conditions and water quality for long term fish production. A secondary goal is to maintain a healthy forest condition through a variety of timber management practices.
C1 Timber Emphasis	296	507	Provide lumber, wood fiber, and other forest products on a fully regulated basis, based on the capability and suitability of the land. A secondary goal is to enhance other resource uses and values that are compatible with timber production.

Purpose and Need for Action and Proposed Actions

An interdisciplinary team of agency resource specialists has reviewed existing conditions within the project area against the desired conditions specified in the Forest Plan, as amended. Based on this review, Zigzag Ranger District is proposing a variety of actions to address the needs. The Zigzag Integrated Resource Project includes several different types of projects in the project area. These proposed actions are organized into the following headings: Improving Forest Health, Diversity, and Productivity; Transportation System Management and Aquatic/Riparian Habitat Enhancement. For each heading, the purpose and need is described in terms of desired conditions which are not currently being met, followed by the proposed actions which will move the landscape closer to desired conditions. Desired conditions and other management direction come from the Forest Plan, as amended.

Improving Forest Health, Diversity, and Productivity

The desired condition is to have stands that are healthy with growth rates commensurate with site capability. This desired condition is discussed in the Forest Plan on pages Four-3, Four-5, Four-26, Four-91 & Four-289. There are many stands in the project area that are overcrowded and relatively uniform. A primary purpose of this project is to improve the health and increase diversity of forested stands.

The desired condition for the matrix component of the landscape is to have live productive forest stands that can provide wood products now and in the future. This need is described in the Northwest Forest Plan on page 26 and Forest Plan on pages Four-3 & Four-26. A primary purpose of this project is to keep forests productive to sustainably provide forest products now and in the future.

There is an opportunity to gain greater variability of vertical and horizontal stand structure by the inclusion of skips, gaps in the thinning prescriptions. This technique to develop non-uniform conditions in a stand is an example of variable-density thinning. Thinning is proposed on various land allocations, each with a different emphasis. The features of variable-density thinning will vary between units to achieve the differing goals of each land allocation.

For example, in Riparian Reserves there is an opportunity to make some of these changes to accelerate and promote desired conditions in these land allocations. The desired condition in reserves is a multi-layer canopy with large-diameter trees, a well-developed understory, more than one age class, and sufficient quantities of snags and down woody debris. These desired conditions are described in the Forest Plan on page Four-67 and in the Northwest Forest Plan on page C-32.

In the Matrix land allocation, particularly where it overlaps the C1 Timber Emphasis land allocation, the emphasis of thinning is for timber production, health and growth. The Forest Plan also includes objectives and Forest-wide Standards and Guidelines that apply to all Matrix land allocations for the enhancement and protection of many resources. Some of these other resources can be enhanced by the incorporation of variable-density thinning and other treatments, which are designed to achieve timber production, health and growth goals while at the same time achieving other objectives such as providing scenic views, promoting huckleberry productivity, and enhancing forage for deer and elk.

An important element of this purpose and need is to treat as many mid-aged stands as possible within the parameters of the Forest Plan to move them toward desired conditions in an operationally efficient and sustainable manner.

Some of the fire-origin stands have scattered legacy trees that survived the fires; these large live fire-scarred trees would be retained. Some stands also contain large-diameter snags that have been dead for a century, most of which are crumbling down. Snags would be retained unless they pose a safety hazard.

Vegetation Proposed Actions

Purpose & Need	Proposed Action	Mud Creek Acres	Horse Shoe Acres
Improve forest health, growth and diversity while providing forest products	Variable-density thinning with skips and gaps in Matrix	792	825
Improve diversity and move stands toward Late-Successional characteristics	Variable-density thinning with skips in Riparian Reserves	290	275
Improve forest health, growth and diversity while providing forest products	Regeneration harvest in Matrix, site preparation and planting	13	0
Improve forest health, growth and long-term productivity	Sapling thinning and brushing	126	0

The Transportation System Management

The desired condition is to have a landscape accessed by an appropriate network of roads that provide for management access and visitor safety while minimizing risk to aquatic resources. These desired conditions are described in the Forest Plan on pages Four-3, Four-5 & Four-34 and the Northwest Forest Plan on page C-32. A primary purpose of road management is to provide access to the other proposed projects, and to reduce resource risks and maintenance costs while providing appropriate and safe access to the Forest.

Existing Condition of the Forest Service Transportation System within the Project Area

Forest Road Status	Mud Creek Miles	Horse Shoe Miles
Total National Forest System Roads in 1990	37.2	37.7
Decommissioned National Forest System Roads (no longer part of the Forest's Transportation system)	7.5	10.3
Current National Forest System Roads	29.7	27.4

Road Use and Management for Vegetation Management Activities

The proposed vegetation management activities will require the maintenance and repair of some roads that are part of the Mt. Hood National Forest's existing transportation system. In addition, the vegetation treatments will require the creation of new temporary roads that are not part of the current transportation system. These needs are considered connected actions associated with the project's vegetation management activities.

Temporary roads would be rehabilitated after use by the placement of one or more berms at the road's entrance, construction of water bars, and/or placement of debris such as root wads, slash, logs or boulders where available.

Transportation System Management for Reducing Resource Risks and Maintenance Costs

In 2015, the Forest completed a Travel Analysis Report, which was a synthesis of previous transportation planning efforts and set the stage for project-level decisions about whether to retain roads, close or decommission them, and what level of maintenance they should receive.

Based on a review of previous travel management analyses and recommendations, there remain opportunities to make additional adjustments to the transportation system to either reduce resource risks or maintenance costs. There is also a commensurate need to consider long-term administrative and public access needs when making proposals to change the transportation system within the project area.

Summary of Transportation System Management Actions

Purpose & Need	Proposed Action	Mud Creek Miles	Horse Shoe Miles
Manage the Road System to Allow for Safe Timber Hauling	Maintain and Repair Forest Service System Roads	24.0	19.3
Provide Access for Vegetation Management	Construct New Temporary Roads	3.0	0.9
Provide Access for Vegetation Management	Existing road alignment reconstruction on road alignments that were once temporary roads	1.3	1.4
Provide Access for Vegetation Management	Existing road alignment reconstruction on road alignments that were once system roads	3.2	1.6

Purpose & Need	Proposed Action	Miles
Reduce Resource Risks and Maintenance Costs Associated with Forest Service System Roads	Active and passive decommissioning of system roads no longer needed	0.5
Reduce Resource Risks and Maintenance Costs Associated with Forest Service System Roads	Closure and stormproofing of roads that remain on the system	5.0

Aquatic/Riparian Habitat Enhancement

The desired condition for streams, lakes and riparian areas is for them to be fully functional to meet the needs of aquatic and riparian species and to provide clean water. It is also desirable to maintain an appropriate network of roads and access points that provide for visitor enjoyment of the Forest while minimizing risks to aquatic resources. These desired conditions described in the Forest Plan on pages Four-3, Four-5 & Four-34 and in the Northwest Forest Plan on pages B-9 and C-32. A primary purpose of this project is to enhance aquatic and riparian habitat. The proposed action includes restoring and repairing the following areas.

Stream Habitat Enhancement - Large Woody Debris

Within riparian areas, the desired condition is to have mature riparian vegetation with large trees that periodically fall into streams to provide large woody debris and the in-stream diversity needed to provide for good water quality and aquatic habitats. Due to past fires and management practices, large trees are lacking adjacent to project area streams. There is opportunity to take actions to enhance stream habitat by increasing the amount of large woody debris in streams.

In the streams that lack desired levels of large wood, trees would be felled, pushed, or pulled over, or brought in with helicopters to create better quality fish habitat than currently exists. The exact stream reaches for large wood addition would be selected from areas where down wood is lacking and access is feasible.

Other Opportunities

While achieving the primary goals of this project as described above, there are additional opportunities that can be achieved that are also addressed in this project.

- The Top Spur Trail has several issues that can be corrected. For example, the trail head and parking area are too small and too close to streams and riparian areas, contributing sediment and contamination from human waste to streams. There is a proposal to create a new trail head on a proposed log landing that would resolve these issues while not creating additional construction impacts. A new alignment for the trail has been located on less sensitive ground farther away from streams.
- Many stream enhancement projects require logs that are placed into streams to create pools and provide cover for fish; these are referred to as 'fish logs.' This type of treatment is discussed above, under Aquatic/Riparian Habitat Enhancement, where this action takes place on-site using trees directly adjacent to the treated stream. However, this project also includes the acquisition of fish logs for use off-site. The process includes cutting or pushing the trees over and moving them to a stockpile location or moving them directly to streams elsewhere.
- Inside many of the vegetation management actions described above, fuel treatments will occur. This is considered a connected action, to break up the contiguity of fuels and to reduce the intensity of fire in the event of wildfire.
- Certain areas have huckleberry plants that are being shaded out by overstory conifers. There is an opportunity to enhance huckleberry productivity by removing some of the trees along the Sheerer Burn Road (Road 2613). Huckleberries are an important 'First Food' for local Tribes, they are prized by recreational users, and they are an important food source for wildlife. The proposed action is to treat approximately 50 acres.
- White pine blister rust is a non-native disease that has caused a dramatic decline in western white pine populations. This species that was once common and provided important ecological functions, has declined dramatically across the western United States. Infections that begin on branches can grow toward the trunk and when it girdles the trunk, the trees die. Pruning the lower branches is a technique that has been successful in reducing the likelihood of trees dying. The proposed action includes pruning the lower branches of sapling-size western white pine trees that were planted in the project area.