# DECISION MEMO
# Precommercial thinning

**March, 2008**

**USDA Forest Service, Mt. Hood National Forest**
**Hood River Ranger District**
***Hood River County, Oregon***

Timber management practices over the past several decades have created numerous early seral conifer plantations that currently contain too many trees per acre and are at a high risk potential for crown fire. In addition, many of these young stands were planted with only a few conifer species and are showing monoculture characteristics. Precommercial thinning has the opportunity to improve the health and productivity of these plantations and to reduce the moisture/light competition and influence the species composition. Precommercial thinning also reduces the stand characteristics that directly influence the potential fire intensity and the ability to adapt to climate change. Fire intensity in thinned plantations is reduced further if the precommercial thinning treatment is accompanied by reducing/treating the activity fuels created by the cuttings.

In addition, plantations adjacent to streams lack mature forest characteristics, such as large diameter snags, down logs and large diameter trees. This larger material provides channel complexity, streamside shading, bank stability, and other benefits to aquatic and riparian species. These plantations, within the riparian reserves, are mainly less than 25-years old, even-aged, with trees spaced very close together. As a result, the trees are not growing as quickly as their potential and will take longer to provide the benefits described above. Also, several portions of these young stands are showing monoculture characteristics and lack adequate species diversity.

The purpose of this project is to develop timber stands which are more productive, healthier and resilient to wildfire and to accelerate the development of mature forest characteristics adjacent to streams in order to provide habitat for late-successional associated wildlife/aquatic species and to meet Aquatic Conservation Strategy Objectives (Northwest Forest Plan) in a timelier manner.

## Proposed Action

Conventional early (precommercial) thinning is widely applied near the end of the stand initiation stage to enhance the survival, growth and value of residual trees. Thinning specifications usually are aimed at leaving the most valuable larger trees. The reduced stand density accelerates tree growth and promotes development of a shrub and herbaceous understory.

The Hood River District Ranger proposes to precommercial thin approximately 5,774 acres of young, overstocked plantations (see Appendix 1 for Project Maps; see Appendix 2 for List of Thinning units). Approximately 1,028 acres are within riparian reserves. Within the riparian reserves, cut trees would be hand piled as needed, to help provide interim down woody structure.

Units adjacent to streams, lakes, ponds, wetlands, seeps and springs would have a 30-foot "no cut" buffer from the high water level. The thinning units are located in the land allocations as detailed in the following table.

| Land Allocation | Description | Acres | Percentage |
|---|---|---|---|
| A4 | Special Interest Area | 115 | 2% |
| A6 | Roaded Recreation | 69 | 1% |
| A7 | Special Old Growth | 13 | 0% |
| A9 | Key Site Riparian Area | 50 | 1% |
| A11 | Winter Recreation Area | 3 | 0% |
| A13 | Bald Eagle Habitat Area | 2 | 0% |
| B1 | Wild & Scenic River Corridor | 35 | 1% |
| B2 | Scenic Viewshed | 1272 | 22% |
| B3 | Roaded Recreation (limited harvest, old C3) | 28 | 0% |
| B6 | Special Emphasis Watershed | 751 | 13% |
| B9 | Wildlife/Visuals Emphasis | 379 | 7% |
| B10 | Deer Winter Range | 138 | 2% |
| B12 | Backcountry Lake Area | 125 | 2% |
| C1 | Wood Product Emphasis | 2766 | 48% |
| | All other land allocations | 28 | 0% |
| **Total** | | **5774** | **100%** |

Precommercial thinning reduces the number of sapling-sized trees per acre to give the remaining trees more growing space and reduces the competition for nutrients, sunlight and water. Thinning is a silvicultural practice long recognized as a way to increase growth and yield, influence the species composition of a stand, and favor those trees showing the best promise as future crop trees. Increasing tree vigor and species diversity in a stand is the best way to adapt to species migration and perpetuation of forested land in the face of climate change. It can be assumed that trees growing at an optimum for health will process more carbon dioxide than trees with small crowns due to overstocking. The most productive thinned stands are characterized by an efficient vertical distribution of foliage in the canopy.

Trees less than 6-inches in diameter at breast height (dbh) are cut to an average spacing of 18 feet apart; however, mortality from root disease, gopher activity, and sun scald have reduced the uniformity of the planted stand. For many years, spacing has been determined using density management diagrams, modeling, and best return in volume growth for the precommercial thinning investment. The contract allows for variation up to 50 percent in spacing. Trees over 6-inches dbh are not cut. The cut trees are left in place to provide nutrient cycling, and they decompose relatively quickly due to their small diameter. No saplings leave the site. Cut trees would be hand piled as needed, to help provide interim down woody structure. An average of

approximately 500 acres per year would be treated over the next eight years. Additional acres may be treated each year if funding becomes available. The project would be implemented from 2008 to 2015, as funding becomes available.

Precommercial thinning involves an individual with a chainsaw cutting down trees less than 6-inches in diameter at breast height that have poor form, small crowns, small diameter and lesser height when compared to their neighbor tree. Species composition is considered. There is no ground disturbance with this activity.

Activity fuels would be reduced to an acceptable level, as specified in the Mt. Hood Land and Resource Management Plan (Forest Plan) by a combination of hand treatment methods, including bucking/limbing and pulling the slash 25-feet away from main roads and the up hill side of cut bank and ditch on smaller roads.

After precommercial thinning activities, each unit will be reviewed and monitored for fuel loading created from the activity slash. Fuel loading determination for each unit would be done using Photo Series for quantifying forest residues in the coastal Douglas–fir–hemlock type USDA Forest Service General Technical Report PNW–51 1976. The manual provides a means for quantifying and describing existing and expected residues. Conditions normally found on these units would be typically 1.6 tons per acre prior to thinning. After proposed thinning, units historically would fall into one of two ranges: 7.7 tons per acre or 11 tons per acre. All of these ranges are within the Forest Plan Standards and Guidelines (FW-033) which states: *At least 15 tons per acre of dead and down woody material in east side vegetation and 25 tons per acre in west side communities should be maintained and evenly distributed across managed sites.* It is difficult, however, to maintain 15 tons per acre in plantations with small diameter material. If any of the proposed precommercial thinning units exceeds Standards and Guidelines (FW-033), additional NEPA would be completed to propose additional fuels reduction treatments.

## Project Design Features / Mitigation Measures

Design Features and Mitigation Measures are used to minimize the environmental impacts of the proposed actions. The following are a required component of the proposed action to address resource management concerns.

Aquatic Organisms and Habitat:

1. A 30-foot no-cut buffer is required along all stream channels and around seeps, springs, wet areas, ponds and lakes.[1]
2. No wheeled or tracked motorized equipment, such as slash busters, shall operate in

[1] The Forest Service will meet an *average* distance of 30-feet from streams, seeps, springs, wet areas, ponds and lakes. From past experience with implementation, it is virtually impossible to maintain an exact distance from a wet area due to stream sinuosity and dense riparian vegetation so allowance for a small deviation will be made as long as this deviation does not jeopardize meeting the above stated goals.

Riparian Reserves.[2]

3. Personnel conducting the thinning and pruning activities should avoid crossing flowing streams or, if safe, cross on suspended material, such as logs, bridges, etc. This is desirable to reduce aquatic organism disturbance.

4. Refuel power equipment at least 150-feet from surface water to prevent direct delivery of contaminants into a water body, or as far as possible from the water body where local site conditions do not allow a 150 foot setback.

5. Where slash is under maximum height for fire concerns in the riparian reserve leave the cut tree stems in one piece. Limbing is fine, but do not buck the stems

6. Treatments within Key Site Riparian Areas (Forest Plan A9 Land Allocation) shall receive the Riparian Reserve prescription regardless of whether they are in a Riparian Reserve or not. These include all or portions of the following treatment areas: Log 1, Airlift 5, Airlift 7, Loader 1, Shoe 4, Tree shoe 6, Tree shoe 7, Tree shoe 8, Tree shoe 9, Tunic 3, and Tunic 4.

Wildlife Species:

1. Known and predicted Northern spotted owl activity centers will be protected through the implementation of season operating restrictions (March 1 to July 15). The following units will have a seasonal restriction: Airlift 7, Dungeon 2, Guinevere 1, Moat 6, Natchez 4, Tunic 12, Tutu 7, Yucca 4, Yucca 5, and Vagabond 12.

2. In the event that a new Northern spotted owl activity center is located during the period of the contract, a seasonal operating restriction would be implemented to protect the new site.

3. Whenever feasible, implement a seasonal restriction between January 1 to August 1 for thinning activities within 0.25 miles of an active eagle nest.

Invasive Plants:

1. No off-road equipment would be allowed on the project site.

2. Request that the contractors avoid walking and parking in pullouts and roadsides that are infested with noxious weeds, if possible.

3. If the contractors are working in a unit that has a noxious weed infestation request that they brush off clothing, boots, chaps, etc. and check under the carriage of their vehicle(s) to decrease the risk of transporting seeds from one unit to another.

[2] This project design feature would apply only if NEPA is completed to authorize such equipment for fuels treatment.

## Scoping and Pubic Involvement

The Forest Service conducted public scoping to identify any concerns with the proposed activity. Hood River Pre-Commercial Thinning was listed in the Mt. Hood National Forest quarterly planning newsletter (Schedule of Proposed Actions [SOPA]) in January 2008. No comments were received through that effort. In February 2007, scoping letters were sent to 27 individuals and organizations, including federal and state agencies and the Confederated Tribes of Warm Springs. Five comment letters were received from Oregon Wild, Friends of Mt. Hood, American Forest Resource Council, Bark, and two individuals. The mailing list and all responses are located in the project record at the Hood River Ranger District in Parkdale, Oregon.

A summary of the public comments received during the scoping period are included in Appendix 3. This decision memo has been made available to individuals and organizations who had indicated interest in the proposal. It is posted on the Forest website, under "Projects & Plans": http://www.fs.fed.us/r6/mthood/.

## Decision

I have decided to implement this project as proposed. It is my decision to precommercially thin approximately 5,774 acres of overstocked plantations on the Hood River Ranger District over the next eight years. I view this thinning program as a means of accelerating the characteristics of a mature forest on this district, while providing for a more productive, healthier forest that would be more resilient to wildfire. A map and detailed list of acres to be treated are found in Appendices 1 and 2 of this document.

## Reasons for Categorical Exclusion

I find the proposed action can be categorically excluded from documentation in an Environmental Assessment or Environmental Impact State because the action fits into Category 31.2-6, described in Forest Service Handbook 1909.15-2007-1, February 15, 2007. This category states: "Timber stand and/or wildlife habitat improvement activities which do not include the use of herbicides or do not require more than one mile of low standard road construction."

I find the proposed action can be categorically excluded because there are no extraordinary circumstances identified by the interdisciplinary team of resource specialists that analyzed this proposal. Resource conditions that were considered in determining whether extraordinary circumstance related to the proposed action warrant further analysis and documentation are listed below (A-F). As stated in Section 30.3 of the handbook, "the mere presence of one or more of these resource conditions does not preclude use of a categorical exclusion. It is the degree of the potential effect of a proposed action on these resource conditions that determines whether extraordinary circumstances exist" (FSH 1909.15). The project does not involve the use of herbicides and does not require the construction of roads.

A. **Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species.** The Endangered Species Act requires that federal activities do not jeopardize the continued existence of any species federally listed or proposed as threatened or endangered, or result in adverse modification to such species designated critical habitat. Biological Evaluations were prepared for sensitive, threatened or endangered wildlife, botanical and fish species. These are available in the project record.

   The effects determination for the Northern spotted owl is **may affect, not likely to adversely affect** as a result in the disturbance of nesting spotted owls from the use of chainsaws adjacent to suitable habitat. A seasonal restriction preventing use of mechanized equipment between March 1 and July 15 would be in place on impacted units as stated in the Project Design Features/Mitigation Measures. The effects to spotted owls for this project were consulted on with the US Fish and Wildlife Service through informal consultation on FY 2008-2009 projects within the Willamette province with the potential to disturb spotted owls (FWS reference: 13420-2007-I-0223). The proposed project would have **no effect** on Canada lynx because long term landscape habitat connectivity has not been compromised.

   The proposed action will have no impacts to sensitive wildlife species that will cause a trend to federal listing or loss of viability for any proposed or sensitive species. Also, there are no known sites for botanical species that are currently listed Region 6 Sensitive.

   The proposed action will have no effect on threatened or endangered anadromous fish and no impact on sensitive aquatic species. Also, the project will not adversely affect Essential Fish Habitat established under the Magnuson-Stevens Fishery Conservation and Management Act. The will be a long-term beneficial effect for Lower Columbia River steelhead, Lower Columbia River Chinook, Columbia River Bull Trout, Middle Columbia River steelhead, Upper Willamette River Chinook, Lower Columbia River coho, Interior Redband Trout, Columbia dusky snail, Basalt Juga, and Essential Fish Habitat for Chinook and Coho Salmon. Consultation is not required.

B. **Floodplains, wetlands, or municipal watersheds**. Analysis for the effects of the project on floodplains, wetlands and municipal watersheds is included in the water quality specialist report contained in the project record and the Aquatic Conservation Strategy objective analysis (see Appendix 4). In summary, this project would maintain and in some cases improve the function of both wetlands and floodplains. The project does not include any municipal watersheds.

C. **Congressionally designated areas, such as wilderness, wilderness study areas, or national recreation areas**. No thinning units are located in congressionally designated areas.

D. **Inventoried roadless areas**. No thinning units are located in inventoried roadless areas.

E. **Research natural areas**. No thinning units are located in research natural areas.

F. **American Indians and Alaska Native religious or cultural sites / Archaeological sites, or historic properties or areas.** Archaeological sites within the proposed thinning units include: peeled cedar trees; historic blazes, dendroglyphs, telephone lines and sign markers; prehistoric isolates; prehistoric lithic scatters; historic camps, structure remains, and refuse; historic wagon roads; and a historic ditch. While all of the trees with peel scars, notches, blazes, signs, carvings, or ceramic insulators may seem vulnerable to a thinning project, all of these trees have documented diameters greater than 6.0 inches and would not be targeted for thinning.

Although a few of the units are situated within the Barlow Road National Historic District, the proposed project is non-ground disturbing and generally considered to have no effect on historic properties (Stipulation III.a.5). These types of undertakings are exempt from case-by-case review in accordance with the 2004 Programmatic Agreement. Recommendation is that the project proceeds as proposed with no effect to historic properties.

## Findings Required by Other Laws

**National Forest Management Act**: The interdisciplinary team reviewed the applicable Standards and Guidelines of this proposal. The analysis demonstrated that this decision is consistent the Mt. Hood Land and Resource Management Plan (Forest Plan), as amended by the Northwest Forest Plan, as required by the National Forest Management Act.

**Aquatic Conservation Strategy**: I find that this project is consistent with the Aquatic Conservation Strategy objectives. I have also considered the existing condition of riparian reserves, including the important physical and biological components of the fifth-field watersheds and the effects to riparian resources. I find that the proposed action is consistent with riparian reserve standards and guidelines and will contribute to maintaining or restoring the fifth-field watersheds over the long term. The Aquatic Conservation Strategy objectives analysis is contained in Appendix 4.

**Clean Water Act and State Water Quality Laws**: The District Hydrologist has determined that this project complies with the Clean Water Act and state water quality laws, which will protect beneficial uses. With design features, mitigation measures, and Best Management Practices, water quality will be maintained through implementation of this proposed action.

**Invasive Plants**: By considering the prevention of invasive plant introduction, establishment and spread of invasive plants, the planning process is consistent with the Pacific Northwest Invasive Plant Program Preventing and Managing Invasive Plants Record of Decision issued in 2005. A noxious weed risk assessment was prepared for this project (see Appendix 5).

**Other Laws or Requirements:** Finding associated with the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act and National Historic Preservation Act are discussed under the Reasons for Categorical Exclusion section of this document. The proposed action is consistent with all other Federal, State, or local laws or requirements for the protection of the environment and cultural resources.

## Implementation

Implementation of this decision may occur immediately. While this decision is not subject to appeal pursuant to Forest Service regulations at 36 CFR 215.8(a)(4), I encourage you to discuss this project with me if you have any concerns about implementation.

## Contact Person

Detailed records of this environmental analysis are available for public review at the Hood River Ranger District. For further information about this decision or the Forest Service appeal process, please contact Jennie O'Connor at the Hood River Ranger Station, 6780 Highway 35 Parkdale, Oregon 97041; Phone: 541-352-6002 x634; Fax: 541-352-7365; or Email: jmoconnor@fs.fed.us.

## SIGNATURE OF DECIDING OFFICER

*/s/ Daina L. Bambe* *3/27/2008*

Daina L. Bambe Date
District Ranger, Hood River Ranger District

Enclosures: Appendix 1 – Project Maps
Appendix 2 – Precommercial Thinning Units
Appendix 3 – Response to Scoping Comments
Appendix 4 – Northwest Forest Plan Aquatic Conservation Strategy
Appendix 5 – Noxious Weed Risk Assessment