DECISION NOTICE
And
FINDING OF NO SIGNIFICANT IMPACT

LAKE BRANCH THINNING

USDA FOREST SERVICE
MT. HOOD NATIONAL FOREST
HOOD RIVER RANGER DISTRICT
HOOD RIVER COUNTY, OREGON

An Environmental Assessment (EA) has been prepared for Lake Branch Thinning: a restoration thinning for plantations ranging in age from 30 to 60 years old and the decommissioning, closing and repairing of roads. This area is located in T.1 N., R.8 E.; and T.1 S., R.8 E.; Willamette Meridian.

All section (s.) number references are to sections of the EA unless specified otherwise. Acres and miles are approximate.

The following five purposes of this project are derived from the Mt. Hood Forest Plan as amended:

- Enhance riparian reserves (s. 2.2.1)
  This action is needed because these plantations occur in riparian reserves and because the current vegetation does not meet the needs of associated aquatic and riparian resources.

- Enhance diversity (s. 2.2.2)
  This action is needed because these plantations lack certain elements of diversity. They do not have the mix of tree species that were present in the original stand and they are relatively uniform in terms of tree size and spacing.

- Increase health and growth that results in larger wind-firm trees (s. 2.2.3)
  This action is needed because these second-growth plantations are experiencing a slowing of growth due to overcrowding and some are experiencing suppression caused mortality.

- Provide forest products consistent with the Northwest Forest Plan goal of maintaining the stability of local and regional economies. (s. 2.2.4)
  This action is needed to supply forest products in a cost effective manner. There is a need to keep forests healthy and productive to sustainably provide forest products in the matrix in the future. Not only are forest products needed by society, but also the employment created is important to local and regional economies.

- Manage the road system to restore hydrologic function and reduce road maintenance costs. (s. 2.2.5)

This action is needed because there is insufficient funding to maintain all of the Forest's road system to keep them safe and properly functioning. If no action is taken, roads that are not properly maintained would pose a risk of failure and may contribute sediment to streams.

DECISION and RATIONALE

I have decided to implement the Proposed Action - Alternative B. (s. 2.3). The proposed action includes:

Thin and harvest wood fiber on 2,163 acres of plantations to achieve the purposes listed above.

Decommission 7.37 miles of National Forest System (system) roads.

Repair 40.98 miles of system roads.

Close with berms or gates 19.57 miles of system roads that are open or have ineffective closures. Bermed roads would be left in a condition that reduces their vulnerability to storm events.

Some temporary roads will be used for this project and then obliterated:

Reopen 5.9 miles of old existing temporary roads.

Construct 0.5 mile of new temporary roads.

Reopen 3.66 miles of old system roads that were decommissioned. These will be treated like temporary roads and obliterated after use.

Forest Service databases will be updated (as needed) to reflect the road system as presented and discussed in the EA. This includes correcting some road segments that are already decommissioned, but the database does not reflect the conditions on-the-ground.

Best Management Practices (BMPs) and Design Criteria in section 2.3.9 of the EA are included with this alternative. No significant impacts were found that would require further mitigation.

The selected alternative meets the purpose and need discussed in the EA (s. 2.2); and previously listed above:

Riparian Reserves – The thinning of plantations in riparian reserves will accelerate the development of mature and late-successional stand conditions. There will be no-harvest buffers on each side of streams (s. 2.2.1, s. 2.3.2, s. 2.3.3, s. 2.3.4, s. 2.3.9, s. 4.1.3, s. 4.3 & Appendix B).

Diversity – Thinning will improve diversity in all units through variable spaced thinning. Diversity and variability will be introduced in several ways including varying the spacing of

leave trees within units and between units, and creating small skips and gaps (s. 2.2.2, s. 2.3, s. 2.3.1, s. 2.3.6, & s. 4.2).

Health and Growth – The plantations are dense and experiencing a slowing of growth due to overcrowding. Thinning will increase health and vigor and enhance growth that results in larger wind firm trees (s. 2.2.3, & s. 4.1).

Forest Products – The project will provide forest products consistent with the Northwest Forest Plan goal of maintaining the stability of local and regional economies now and in the future. It will provide approximately 11 million board feet of timber. It will also result in vigorously growing stands that would be capable of providing future forest products (s. 2.2.4, s. 2.2.6, s. 3.3, s. 4.1 & s. 4.12).

Road Management – The project will make changes to the Forest road system to restore hydrologic function and reduce road maintenance costs while providing for safe travel. It will repair, close and decommission roads, (s. 2.2.5, s. 2.3.7, s. 4.13 & Appendix B).

Public Involvement

A scoping process to request public input for this project was conducted. A letter describing the proposed project and requesting comments was sent out on October 27, 2008. The Forest publishes a schedule of proposed actions (SOPA) quarterly. The project first appeared in July 2008, and in subsequent issues. A legal notice in *The Oregonian* was published announcing the 30-day comment period (the comment period ended on August 3, 2009). Responses to substantive comments are included in Appendix C.

It is my decision to select the Proposed Action over the other alternatives considered for the following reasons:

- It fully accomplishes the purpose and need.

- The concern raised by the public about roads has been resolved to my satisfaction (s. 2.4.1). Some expressed concern about the reopening of previously decommissioned roads and the construction of new temporary roads. The proposed action uses roads to achieve project objectives including the reopening of roads that have been decommissioned and the construction of new temporary roads. There is a concern about the direct, indirect and cumulative effects of roads.

  I have decided that the roads used for this project are appropriate because they provide efficient access to the units, facilitate low impact logging systems and result in minimal resource impact (s. 2.3.7, s. 4.3.2.2 & s. 4.13).

  The old decommissioned roads were the primary access to the plantations that are now considered for thinning. Each road was examined to evaluate how intensively it was decommissioned, whether a stream crossing was involved, the cost of reopening the road and the acreage of plantations accessed to determine whether it would be appropriate to reuse it for the current restoration thinning proposal. Even though all of the proposed units were clear cut logged before using the now decommissioned roads, there are cases where it is not

cost effective or desirable to use the same roads, landings or logging methods used before. Of the 22 miles of system roads that have been decommissioned already, only 3.66 miles would be reopened with the proposed action (s. 2.3.7.8).

I have decided to reuse these old decommissioned roads because they were lightly decommissioned, no stream crossing culverts would need to be installed, the cost is reasonable to gain access to conduct restoration thinning and there would be little effect to fish, water quality and other resources, (s. 4.3.2.2). I have decided to not add these roads back to the Forest transportation system, but to treat them like old temporary roads. When operations are complete, they will be obliterated the same way temporary roads are obliterated. After use, temporary roads are bermed at the entrance, water barred, decompacted and roughened with the jaws of a loader or excavator, and debris such as rootwads, slash, logs or boulders are placed near the entrance and along the first portion of the road (s. 2.3.7.7).

Old temporary roads are not considered part of the Forest's system of permanent roads. Many of the units proposed for restoration thinning were accessed by temporary roads during the original clear cut logging. Existing temporary roads were assessed to determine whether they are needed for the current thinning proposal. These existing temporary roads are closed and in some cases have vegetation, brush and trees growing on them. I have decided to reuse approximately 6 miles of existing temporary roads and obliterate them upon project completion because the road alignments are in appropriate locations, no stream crossing culverts would need to be installed, the cost is reasonable to gain access to conduct restoration thinning, and there would be little effect to fish, water quality and other resources, (s. 4.3.2.2).

To protect residual trees, soil, and water some new temporary roads are proposed to access landings where the existing system roads and old temporary roads do not adequately access the ground. I have decided to construct approximately ½ mile of new temporary roads and obliterate them upon project completion because they are located on gently sloping land, no stream crossing culverts would need to be installed, the cost is reasonable to gain access to conduct restoration thinning and there would be little effect to fish, water quality and other resources, (s. 4.3.2.2).

- The concerns raised by the public about lack of decadence (dead trees, down logs and trees with disease) have been resolved to my satisfaction (s. 2.4.2). Some feel there is an excessive emphasis on the health of trees and would like greater attention paid to the value of dead and down trees; healthy ecosystems should have an abundance of large decaying live trees, large snags and coarse woody debris all of which are lacking in plantations.

  Some suggest that because large snags and large coarse woody debris are not present in sufficient quantities in the stands proposed for thinning that we should:
  - Do nothing and allow the inevitable natural mortality to create dead and down wood.
  - or, instead of logging and removing trees, kill them or cut them and leave them in the stand.
  - or, substantially increase the component of skips in the stands.

  I have considered these options and decided to select the proposed action. Decadence is

discussed in s. 4.1, s. 4.1.6.1, s. 4.2 and s. 4.5.3. The proposed action includes variable density thinning with skips and gaps and the retention and creation of down wood, snags and trees with the elements of wood decay, (s. 2.3.1). Long-term recruitment of snags and down logs will be emphasized in skips, riparian protection buffers and across a broad landscape outside of units. Skips and riparian protection buffers would have processes similar to those described for the No-action Alternative where tree mortality would create an abundance of snags and down wood, (s. 4.5.3.4). Thinning does remove the smaller trees in a stand: the ones that would otherwise die from suppression mortality if no action were taken. The proposed action provides a mix of some small snags and down wood now with thinning to create variability and larger trees (s. 4.1). I have decided that the proposed action provides a better mix of benefits and outputs while providing sufficient quantities of dead and down wood.

Description of Other Alternatives and Reasons for Non Selection:

- **Alternative A** is the no-action alternative (s. 3.1). It was not selected because it would not provide any of the benefits described in the purpose and need. If no action is taken in riparian reserves, plantations would be very slow in their acquisition of late-successional characteristics (s. 2.2.1, s. 4.1.3 & 4.3.2). If no action is taken, plantations would become overcrowded resulting in trees with reduced vigor, increased mortality and increased wind damage susceptibility (s. 2.2.3, & 4.1.2.2). Trees would stagnate and stay relatively small resulting in a period of low structural diversity (s. 2.2.3, & s. 4.2.3). If no action is taken, we would forgo the opportunity to provide any forest products consistent with the Northwest Forest Plan goal of maintaining the stability of local and regional economies (s. 2.2.4, & s. 4.12). If no action is taken, roads would deteriorate, become unsafe and impact fish and water quality (s. 2.2.5, s. 4.3.2.1 & s. 4.13).

- **Alternative C** (s. 3.2) is responsive to the key issue (s. 2.4.1). It is similar to the proposed action but would not construct any new roads or reconstruct any previously decommissioned roads. Alternative C would thin the same acres although many units would be changed to helicopter. It was not selected because increasing the number of acres of helicopter logging could result in a higher probability of a delay in stand treatment or no treatment at all if helicopter logging costs remain high. In order to best meet the purpose and need it is highly desirable to thin as many acres as economically possible (s. 4.12).

- **Alternatives Considered but Eliminated from Detailed Study** (s. 3.2)

  The EA discusses comments that were received suggesting the consideration of other alternatives or ways to modify this project. Details of the suggestions and responses are in the EA at s. 3.4 as well as Appendix C. I will briefly respond to some of them here.

  - An alternative was considered that would delete all of the helicopter units. At the present time, the economic viability of helicopter logging is cost prohibitive given the value of the timber and the high cost of jet fuel. There is a high probability that helicopter units would receive no bids in today's market, however, timber markets and fuel prices are not static. I decided to retain the helicopter units so that the agency could take advantage of market swings quickly.

- Public comment suggested that units be deleted if they were adjacent to suitable spotted owl habitat. This option would delete 333 acres of restoration thinning. I considered this option but it would only marginally benefit owls and would not meet the purpose and need for those acres. The project as designed would not likely adversely affect northern spotted owls (s. 4.4.6).

- Public comment suggested that instead of building temporary roads, the areas should be treated non-commercially by thinning lightly, creating lots of snags, and leaving the material on site. Approximately 42 acres are accessed by new temporary roads with Alternative B. There is limited funding for this type of work and it would not achieve one of the purposes of this project which is to provide forest products consistent with the Northwest Forest Plan goal of maintaining the stability of local and regional economies. I considered this option but the snags and down wood created would be relatively small and thinning lightly would not achieve the desired release. The development of the proposed action considered the balance between providing some snags, down wood and accomplishing variable density thinning.

FINDING OF NO SIGNIFICANT IMPACT (40 CFR 1508.27)

Based on the site-specific environmental analysis documented in the EA and the comments received from the public, I have determined that this is not a major Federal action that would significantly affect the quality of the human environment; therefore, an Environmental Impact Statement is not needed. This determination is based on the design of the selected alternative and the following factors:

- THREATENED, ENDANGERED, AND SENSITIVE SPECIES - Informal consultation with U.S. Fish & Wildlife Service concerning the **northern spotted owl** has been completed for this project. The October 1, 2008 Letter of Concurrence from the U.S. Fish & Wildlife Service concurs with the determination that the proposed projects *may affect, but are not likely to adversely affect* spotted owls. While there would be a short-term removal of dispersal habitat, in the long term, plantations would develop mature forest characteristics sooner (s. 4.4). In May 2008, the U.S. Fish & Wildlife Service released a final recovery plan for the northern spotted owl that identifies criteria and actions needed to stop the owl's decline, reduce threats and return the species to a stable, well-distributed population. This project does not occur in Critical Habitat as identified in the May 2008 plan nor does it occur in Critical Habitat Units that were in place prior to that plan.

  This project is covered by the **Fisheries** Timber Sale Thinning Programmatic Letter of Concurrence and the Fish Habitat Restoration Biological Opinions. A Project Certification indicates the project is consistent with these documents and that it *may affect, but is not likely to adversely affect* threatened fish or listed critical habitat. It also indicates that Essential Fish Habitat established under the Magnuson-Stevens Fishery Conservation and Management Act Recently would not exceed the "May Affect" threshold. (s. 4.3.6).

  There will be no significant adverse effects to sensitive species or special status species (s. 4.3.5, 4.5.2 & 4.7). The project will not jeopardize the continued existence of any listed species nor will it cause a trend to federal listing or loss of viability for any proposed or sensitive species.

- CONSISTENCY WITH MT. HOOD FOREST PLAN – I find that the selected alternative is consistent with direction found in the Mt. Hood National Forest Land and Resource Management Plan as amended (Forest Plan). It is consistent with standards and guidelines specific to the relevant land allocation and it is consistent with the applicable Forest-wide standards and guidelines (s. 4.0) except as noted below under the heading of Exceptions.

    - **Aquatic Conservation Strategy** - I find that the selected alternative is consistent with riparian reserve standards and guidelines. It will contribute to maintaining or restoring aquatic conditions and is consistent with the Aquatic Conservation Strategy objectives (s. 4.3.4.2 & Biological Evaluation).

        - I have considered the relevant information from the West Fork Hood River Watershed Analysis. This project has adopted the concepts for riparian reserve delineation described in the watershed analyses (s. 2.2.10). The site-potential tree height for this project is 165 feet. Also included in riparian reserves are certain sensitive areas described in the watershed analysis on pages 6-12 to 14. While streams, rivers, ponds, wetlands and certain unstable geological features were shown on maps in the watershed analysis, they were conceptual based on data available at the time with limited field verification. For this project, maps were refined based on field inspections. For example, some streams shown on the watershed analysis maps were found to not be there while other unmapped streams were discovered. The project areas have been examined by a geologist to determine the presence or absence of unstable landforms. All of this field-verified information was used to create a more accurate riparian reserve map. This new map is not considered a change to the recommendations put forward in the watershed analysis or the Northwest Forest Plan but simply a more accurate refinement of the intent of those documents. I have decided that the refinement of riparian reserves is appropriate and meets the objectives of the Aquatic Conservation Strategy.

        - I find that the Best Management Practices and project design criteria (s. 2.3.2 & s. 2.3.9), such as stream protection buffers and operating restrictions on ground based machinery, will minimize impacts and maintain the function of key watershed indicators that make up elements of the Aquatic Conservation Strategy. These key indicators for water quality, habitat, flow, channel condition, and watershed condition, will be maintained or enhanced (s. 4.3.4.2).

        - I find that the thinning, as designed, will enhance riparian reserves (s. 2.2.1). If no action is taken in these riparian reserves, plantations would be very slow in their acquisition of late-successional characteristics. Thinning has been designed to enhance diversity and to accelerate the development of mature and late-successional stand conditions (s 4.3).

    - **Management Indicator Species** - I have considered the impacts to Forest Management Indicator Species (s. 4.5.1). Management Indicator Species for this portion of the Mt. Hood National Forest include northern spotted owl, pileated woodpecker, pine marten, deer, elk, salmonid smolts and legal trout. The proposed action is not in Pileated

Woodpecker/Pine Marten (B5) habitat management areas. I find that the selected alternative is consistent with the standards and guidelines pertaining to Management Indicator Species.

- **Invasive Plants** - I find that the selected alternative is consistent with Pacific Northwest Invasive Plant Program Preventing and Managing Invasive Plants Record of Decision issued in 2005 (s. 4.8). Design criteria are included to prevent the spread and establishment of invasive plants (s. 2.3.9 #7 &8).

- **Exceptions -** The Forest Plan describes the process for documenting an exception to "should" standards and guidelines (p. Four-45). "Action is required; however, case-by-case exceptions are acceptable if identified during interdisciplinary project planning environmental analyses."

  I approve the following three exceptions:

  The project is consistent with Forest Plan objectives for long-term **soil productivity**. However, additional soil impact will occur on areas where there is existing soil disturbance. Most units that were logged with ground-based equipment in the original clear cut harvest would remain above 15% detrimental soil condition. I am approving an exception for Forest Plan standards and guidelines FW-22, FW-28 and FW-30. I considered using helicopters to log these units but found the benefits to be insignificant and the additional cost to be unwarranted. Units that are above 15% will have obliteration of temporary roads and landings that are used by the contractor. Rehabilitation has been considered for old skid trails but the soil scientist and silviculturist do not recommend restoration of old skid trails at this time because of the risk of damaging tree roots and because productivity has not been impaired. The No-action Alternative would have areas that remain above 15% with no opportunity for restoration.

  The objective of maintaining long-term site productivity will still be met. Even though there was no standard for long-term soil productivity when the original clearcuts were logged, the stands continue to grow well and are projected to continue to grow well after the proposed thinning (s. 4.6.7.2 & s. 4.6.8.1).

- WATER QUALITY AND FISHERIES - The analysis shows that thinning and roads used for this project pose minimal risk. The proposed action meets Riparian Reserve standards and guidelines and state water quality standards and the Clean Water Act. All of these objectives, standards and laws were established to ensure there would be no significant reduction to water quality or fish habitats. Thinning in Riparian Reserves is designed to benefit riparian resources by accelerating the development of mature and late-successional stand conditions (s. 4.1.3.3, & s. 4.3.4.3).

- CUMULATIVE EFFECTS - The analysis considered not only the direct and indirect effects of the projects, but also their contribution to cumulative effects. Past, present and foreseeable future projects have been included in the analysis (s. 4.0.1 to 4.0.4). The analysis considered the proposed actions with BMPs and design criteria. The EA

elaborates on cumulative impacts related to resources such as water quality, soils and wildlife. No significant cumulative or secondary effects were identified.

- CULTURAL and HISTORIC RESOURCES - Field surveys have been conducted. The heritage resource report concludes that there will be no effect to any properties on or eligible to the National Register of Historic Places 2009-060606-001. Documentation has been forwarded to the State Historic Preservation Office (s. 4.11).

- VEGETATION MANAGEMENT - The selected alternative is consistent with the National Forest Management Act regulations for vegetative management (s. 4.1). There will be no regulated timber harvest on lands classified as unsuitable for timber production (36 CFR 219.14) and vegetation manipulation is in compliance with 36 CFR 219.27(b).

OTHER

There are no conflicts with this project and Congressionally Designated wilderness areas or proposed wilderness (s. 4.10 & s. 4.14). There are no inventoried roadless areas near the project area. There are no designated or eligible wild and scenic rivers within or near or the project area.

The effects are not likely to be highly controversial and do not involve highly uncertain, unique, or unknown risks because these actions are routine and are similar to those actions have occurred in the past. None are unique or involve unknown risks.

This action will not set a precedent because other similar actions have occurred in the past.

The project was not found to threaten a violation of any Federal, State, or local law.

The project complies with Executive Order 12898 regarding environmental justice (s. 4.16). No disproportionately high adverse human or environmental effects on minorities and/or low-income populations were identified during the analysis and public information process.

No significant irreversible or irretrievable commitments of resources were found (s. 4.17).

The project will not affect public health or safety (s. 4.14).

The project will have neither a significant beneficial or adverse impact because the project size affects a relatively small part of a large landscape.

No significant effects to consumers, civil rights, minority groups, women, prime farmland, rangeland, forestland, wetlands, or floodplains were identified.

Comments:
The legal notice for the 30-day comment period for this project was published in the Oregonian on July 2, 2009. I have considered the substantive comments that were received. The responses to the comments are contained in Appendix C of the EA.

Appeal Rights:
This decision is subject to appeal pursuant to Forest Service regulations at 36 CFR 215. Any individual or organization that submitted comments or expressed interest during the comment period may appeal. Any appeal of this decision must be in writing and fully consistent with the content requirements described in 36 CFR 215.14. The Appeal Deciding Officer is the Regional Forester. An appeal should be addressed to the Regional Forester at any of the following addresses. Postal: Regional Forester, Appeal Deciding Officer, USDA Forest Service, 333 SW 1st Avenue, Portland, OR 97204; For hand delivery, office hours are 8-4:30 M-F; fax: 503-808-2255. Email: appeals-pacificnorthwest-regional-office@fs.fed.us. Electronic appeals must be submitted as part of the actual e-mail message, or as an attachment in Microsoft Word (.doc), rich text format (.rtf), or portable document format (.pdf) only. E-mails submitted to email addresses other than the one listed above, or in formats other than those listed, or containing viruses, will be rejected. It is the responsibility of the appellant to confirm receipt of appeals submitted by electronic mail.

The Appeal, including attachments, must be postmarked or received by the Appeal Deciding Officer within 45 days of the date legal notice of this decision was published in the Oregonian. For further information regarding these appeal procedures, contact the Forest Environmental Coordinator Mike Redmond at 503-668-1776.

Project Implementation:

Implementation of this decision may occur on, but not before, 5 business days from the close of the 45-day appeal filing period described above. If an appeal is filed, implementation may not occur for 15 business days following the date of appeal disposition (36 CFR 215.10).

The EA can be downloaded from the Forest web site at http://www.fs.fed.us/r6/mthood in the Projects & Plans section.

For further information contact Jim Roden, Estacada Ranger Station, 595 NW Industrial Way, Estacada, OR 97023. Phone: (503) 630-6861 Email: jroden@fs.fed.us

Recommended By:

/S/ Daina L. Bambe

DAINA L. BAMBE
District Ranger

9/21/2009
Date Published

Responsible Official:

/S/ Gary L. Larsen

Forest Supervisor

Decision Notice Appendix

Best Management Practices (BMPs) and Design Criteria

These are practices that were specifically crafted for the Lake Branch project as disclosed in the EA in section 2.3.9. There are additional design criteria that are found in Appendix B of the EA (68 pages). These come from three documents: 1/ The Programmatic Letter of Concurrence for Thinning from NOAA Fisheries, 2/ The Programmatic Biological Opinion for Fish Habitat Restoration Projects (Road Decommissioning) from NOAA Fisheries, and 3/ The Programmatic Biological Opinion and Letter of Concurrence for Aquatic Habitat Restoration Projects (Road Decommissioning) from U. S. Fish and Wildlife Service. These documents contain direction for the protection of habitats such as stream protection buffer widths and logging practices.

1. **Seasonal restrictions**

1a **Soils:** No operation of off-road ground-based equipment would be permitted between November 1 and May 31. This restriction applies to the ground-based portions of harvest units. It also applies to ground-based equipment such as harvesters or equipment used for fuels treatment. This restriction may be waived if soils are dry, frozen or snow covered or if operators switch to skyline or other non-ground based systems. *This is a BMP and implements Forest Plan standards and guidelines FW-022 and FW-024.*

1b **Northern Spotted Owl:** Except for hauling and the removal of hazard trees to protect public safety, no activity would take place within the disruption distance of a known activity center during the March 1 to July 15th critical nesting period, unless the habitat is known to be unoccupied or there is no nesting activity, as determined by survey to protocol. The distance and timing may be modified by the unit wildlife biologist according to site-specific information. The disruption distances vary from 35 to 440 yards based on the type of equipment. See Biological Opinion for details. The use of large helicopters (other than KMAX) and burning would be restricted for units within 440 yards (units 28, 30, 106, 294, 307, 310, 312 and 314). Restrictions on chainsaws or heavy equipment use would not apply to any units. Restrictions on the use of smaller helicopters typically used for this type of thinning would not apply to any units.

1c **Fish**: In-stream projects would only occur within work timing guidelines for in-stream projects set up by Oregon Department of Fish and Wildlife (ODFW) to protect incubating fish eggs and spawning fish. In-stream work would occur between July 15 through August 31. This restriction may be waived if ODFW biologists concur. This restriction applies only to the portion of a project where in-stream work is conducted.

1d **Deer and Elk Winter Range:** No harvest operations, road construction, use of motorized equipment or blasting would be permitted in the B10 winter range land allocation between December 1st and April 1st.

2. **Snags & wildlife trees:** To enhance diversity, variable-density thinning would include the retention of snags and wildlife trees. The snags within plantations are small planted trees that have died. Few if any legacy snags are present.

2a Snags would be retained in all units where safety permits. If snags must be cut for safety reasons they would be left on site.

2b To increase the likelihood that key snags would be retained, they may be included in skips.

2c Certain live trees would also be selected as leave trees that have the "elements of wood decay" as described in the DecAID advisor. This may include trees with features such as dead tops, broken tops and heart rot. They may be retained in skips.

2d If funding becomes available, some live trees would be treated to provide future snags and future cavities. Techniques would vary and may include but would not be limited to topping and inoculation with fungus. **One to two trees per acre would be treated.**

3. **Down Woody Debris:**

3a Old down logs currently on the forest floor would be retained. Prior to harvest, contract administrators would approve skid trail and skyline locations in areas that would avoid disturbing key concentrations of down logs or large individual down logs where possible.

3b Additional down woody debris would be generated by thinning. This would include the retention of cull logs, tree tops, broken logs and any snags that would be felled for safety reasons.

3c If funding becomes available, some trees would be felled or girdled to provide future habitat. **Two to three trees per acre would be treated.** *This implements Forest Plan standards and guidelines as amended.*

4. **Riparian Reserves –** Specific Riparian practices are described in the Alternative section (s. 3.2.1 to 3.2.4). *These are BMPs and implement NFP standards and guidelines, pages C-30-32. They also implement the guidance of the Northwest Forest Plan Temperature TMDL Implementation Strategies (9/9/05). This project is designed to be consistent with the NOAA Fisheries Programmatic Letter of Concurrence for Thinning - the design criteria are summarized in Appendix B.*

5. **Logging Systems and Roads –** The Programmatic Letter of Concurrence for Thinning from NOAA Fisheries contains design criteria and other requirements for thinning designed to protect listed fish. It is incorporated by reference and would be used in the development of contracts. The design criteria contain detailed practices for logging systems, roads, minimizing erosion, protecting fish and preventing fuel spills. The full Biological Assessment and Letter of Concurrence are in the analysis file and the design criteria are summarized in Appendix B.

Some specific details are not addressed in Appendix B:

5a In some units, ground-based logging is proposed for areas that have been previously harvested with ground-based systems. Existing temporary roads, landings and skid trails would generally be reused where feasible. There may be instances where it is not desirable to use an existing skid trail and in such cases, if a skid trail is needed in

the area, a new skid trail would be located that minimizes the alteration of surface hydrology.

5b In some units, ground-based logging at the time of the original harvest has resulted in detrimental soil conditions that exceed Forest Plan standards. In these areas there is a greater urgency to reuse existing temporary roads, landings and skid trails. Some new skid trails might be needed as described above, but where detrimental soil conditions exceed 20%, only existing skid trails would be used and only those existing skid trails that do not alter surface hydrology.

5c Where existing detrimental soil conditions exceed Forest Plan standards, existing temporary roads and landings that are reused, would be obliterated and revegetated.

5d Helicopter logging has unique issues of feasibility and safety. Where harvesters cannot be used, a special thinning technique would be used to provide for safety and feasibility. Dominant trees would be designated as leave trees and the other trees within 25 feet would be cut. This would create sufficient opening in the canopy to allow logs to be safely lifted out and would meet the variability goals described in s. 2.3.1 to 2.3.6.

5e Some units have unique hydrology including areas where water may flow overland during snow melt, or where water travels downslope across a series of coalescing debris flow fans. Water is repeatedly forming and using new and previously used channels while other channels appear to have had no flow for many years. At the time of layout, a fish biologist or hydrologist would assist in devising appropriate logging systems and protection measures as needed. The units of concern are: 116, 224, 225, 226, 228 and 242.

6. **Road Decommissioning:** Two programmatic biological opinions for fish and aquatic habitat restoration projects have been issued by NOAA Fisheries and the US Fish and Wildlife Service. These biological opinions contain design criteria and other requirements for various activity types such as road decommissioning and culvert removal. The design criteria are almost identical in each biological opinion but there are some differences. These are incorporated by reference and would be used in the development of contracts. The design criteria contain detailed practices for minimizing erosion, protecting fish and wildlife, preventing the spread of invasive plants, preventing fuel spills and restoring riparian vegetation. The full biological opinions are in the analysis file and the design criteria from the biological opinions are in Appendix B.

   The two programmatic aquatic restoration biological opinions contain specific design criteria for erosion control. Local experience indicates that better results would be achieved by making the following changes:

   6a The design criteria indicate that if local native seed mixes are unavailable that non-native sterile seed would be appropriate. Local experience has shown that local native seed works well but seed availability is limited. When a substitute is needed, annual ryegrass is preferred over sterile seed because it is more effective at controlling erosion and does not spread or become invasive.

   6b The design criteria indicate that seed would be applied within three days of project completion. Local experience has shown that seed put down in the dry season would not germinate properly. Applying seed before the fall rains come has proven to have better success at seed establishment. Adjacent to streams, mulch would be applied

within three days and seed would be applied before the fall rains. Elsewhere, mulch would be applied after seeding before the fall rains.

6c The design criteria require weed-free straw. Local experience was used in the development of the following contract language to implement this design criteria: Straw shall be certified by the State of Oregon, or shall originate from fields which grow State of Oregon certified annual ryegrass seed, or shall originate from Willamette Valley Oregon fields which grow only annual ryegrass seed for seed production.

7. **Erosion:** To reduce erosion from project activities, bare soils would be revegetated or covered with slash or other debris. Grass seed and fertilizer would be evenly distributed at appropriate rates to ensure successful establishment. Mulch may be used on slopes greater than 20%. Effective ground cover would be installed prior to October 1 of each year. *This is a BMP and implements Forest Plan standard and guideline FW-025.*

7a **Native plant** materials are the first choice in revegetation of bare soils, [e.g., *Elymus glaucus* (blue wildrye), lupine (*Lupinus latifolius*)]. Non-native, non-invasive plant species may be used if native plant materials are not available or as an interim measure designed to aid in the re-establishment of native plants.[e.g., *Lolium multiflorum* (annual ryegrass), Madsen sterile wheat.] Non-native invasive plant species would not be used. *This implements Forest Plan standard and guideline FW-148 and standard 13 of the Regional Invasive Plants Record of Decision.*

7b **Grass seed** would preferably be certified by the states of Oregon or Washington or grown under government-supervised contracts to assure noxious weed free status. In certain cases, non-certified seed may be used if it is deemed to be free of Oregon State Class A & B noxious weeds. *This implements Forest Plan standard and guideline FW-148.*

7c When **straw and mulch** are utilized, it would be certified by the State of Oregon, or would originate from fields which grow State of Oregon certified annual ryegrass seed, or originate from Willamette Valley Oregon fields which grow only annual ryegrass seed for seed production. In place of straw, wood fiber mulch may be used. *This implements Forest Plan standard and guideline FW-148, and standard 3 of the Regional Invasive Plants Record of Decision.*

8. **Invasive species:** *This implements Executive Order 13112 dated February 3, 1999, and standards and guidelines of the Regional Invasive Plants Record of Decision.*

8a The Record of Decision for Site-Specific Invasive Plant Treatments authorizes treatment of invasive plants and includes a strategy for early detection and rapid response for treating newly discovered infestations quickly. The Forest would prioritize treatments based on available funding. Areas infested with invasive species along haul routes, adjacent to harvest units, and along roads proposed for closure or decommissioning should be pre-treated prior to ground disturbing activity.

8b All contracts would include a provision such as BT6.35 to minimize the introduction and spread of invasive plants by cleaning off-road equipment.

8c Schedule implementation of work beginning in areas free of infestations and then moving to infested areas. If this is not possible equipment would be cleaned before moving from infested areas to uninfested areas.

8d Gravel, rock or soil brought in from offsite would come from a certified weed-free source; certification may be requested from the county weed and pest control division or from a Forest Service botanist upon inspection of the source. Gravel, rock or soil that is recovered, removed, or excavated from roads, ditches or culverts in the project area should remain onsite if possible or may be moved to an approved storage area offsite if necessary. Consult with the district noxious weed coordinator to identify storage sites.

8e Road blading, brushing and ditch cleaning in areas with high concentrations of invasive plants would be conducted in consultation with invasive plant specialists.

9. Contracts would contain provisions for the protection of **heritage resource** sites found during project activities. In the event that sites are located during implementation, project activities would be halted until consultation with the Forest Archeologist can determine appropriate site-specific mitigation. Protection measures would be developed in consultation with the Oregon State Historic Preservation Officer (SHPO), appropriate Tribes, and, if necessary, the Advisory Council on Historic Preservation.

   Prehistoric site 666NA0255 is located just outside of unit 422: a culturally modified tree. A 25-foot buffer would be placed around the perimeter of the site and directional felling away from the site is recommended to protect the site during harvesting activities.

   Historic site 666IS244 is located near the northeast corner of unit 226: a bench marker. A 25-foot buffer would be placed around the perimeter of the site and directional felling away from the site is recommended to protect the site during harvesting activities.

10. **Firewood** would be made available to the public at landings where feasible. *This is an opportunity to contribute to Forest Plan - Forest Management Goal #19, and provide forest products consistent with the NFP goal of maintaining the stability of local and regional economies.*

11. **Monitoring**: *This Implements Forest Plan and NFP monitoring requirements.*

    Prior to advertisement of a contract, the provisions of the contract and other implementation plans would be reviewed to insure that required elements are properly accounted for.

    During implementation, Contract Administrators monitor compliance with the contract which contains provisions for resource protection including but not limited to: seasonal restrictions, snag and coarse woody debris retention, stream protection, erosion prevention, soil protection, road closure and protection of historical sites.

    Post harvest reviews would be conducted where needed prior to post harvest activities such as slash treatment and firewood removal. Based on these reviews, post harvest activities would be adjusted where needed to achieve project and resource objectives.

Monitoring of noxious weeds and invasive plants would be conducted where appropriate to track changes in populations over time and corrective action would be prescribed where needed.

Monitoring is also conducted at the Forest level. For example, water quality is monitored for both temperature and turbidity at several locations across the Forest. Monitoring reports can be found on the Forest's web site at http://www.fs.fed.us/r6/mthood under Forest Publications.