

Appendix F

# Procedures

---

# **New or Revised Procedures**

**Adaptive Management**

**Northern Spotted Owl Habitat Management**

**Riparian Management**

**Wetlands Management**



# DRAFT Adaptive Management in the Olympic Experimental State Forest (OESF) Habitat Conservation Plan (HCP) Planning Unit

**Date:** ###

**Application:** All HCP-covered lands within the OESF HCP planning unit

## **DISCUSSION**

This procedure describes the adaptive management process in the OESF and identifies parties responsible for implementing it.

The *State Trust Lands Habitat Conservation Plan* (HCP) requires DNR to “demonstrate a process by which land management activities in the Experimental Forest can respond to new information” (DNR 1997, p. I.15). The *OESF HCP Planning Unit Forest Land Plan* (OESF Plan) identifies this process as adaptive management and defines it as a continuous improvement of land management practices by learning from the outcomes of operational and experimental approaches.

Natural disturbances (such as catastrophic winds or fire) or economic or social factors can change how natural resources are managed. Changes driven by those factors are not considered part of this adaptive management process and are not subject to this procedure.

## **Overview of the Adaptive Management Process**

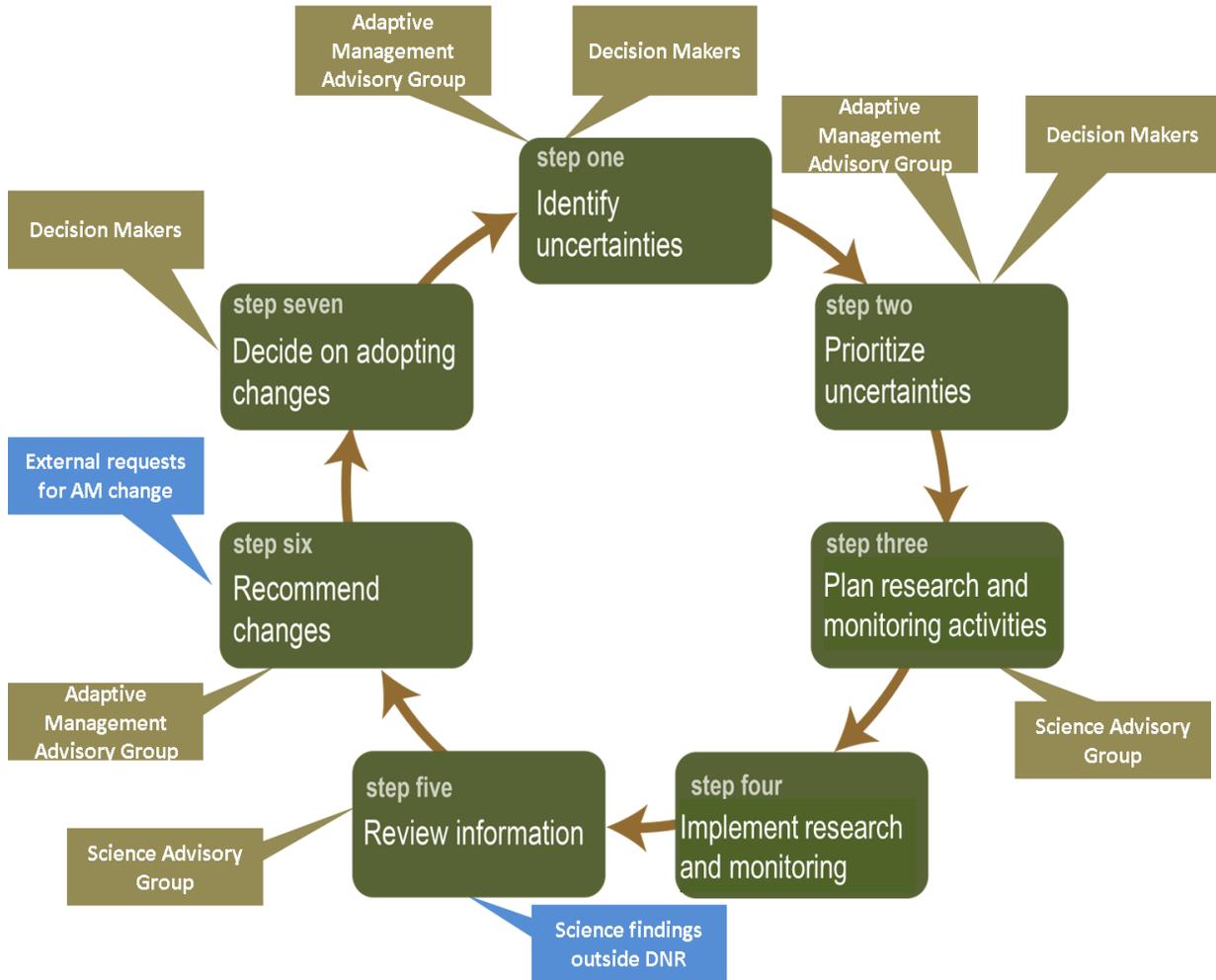
Adaptive management is a seven-step, science-informed process (refer to Figure 1) in which DNR:

- Determines what it needs to know (uncertainties) about natural systems, how they are affected by land management, and how that management affects desired outcomes (for example, revenue production or long-term sustainability).
- Reduces the uncertainty (learns) by conducting research and monitoring or gathering information from other sources. Other sources may include results from DNR operational trials; research conducted by other organizations, such as research co-operatives; or expert judgement if supported by reliable information.
- Uses that new information to affirm or adjust management. Adjustments may include (but are not limited to) changing DNR policies, updating or developing procedures, changing operational guidelines, or updating or developing new training materials.



The adaptive management cycle is illustrated in Figure 1 and will be described in more detail under “Action” in this procedure.

**Figure 1. Adaptive Management Process and Responsible Parties**



Following is a description of responsible parties and their roles. Both may change over time. Also, over time DNR may adjust the adaptive management process itself through results-based learning.

**Adaptive Management Advisory Group**

The Adaptive Management Advisory Group is responsible for identifying and prioritizing uncertainties (Steps 1 and 2) and making recommendations for potential research and monitoring activities to reduce them. This group also is responsible for reviewing new information from research and monitoring and other sources and making recommendations



for changes to management (Steps 5 and 6). Members of the Adaptive Management Advisory Group include the following:

- **Forest Resources assistant division managers**, who ensure that prioritized uncertainties are relevant to management needs and objectives, and that proposed changes to management are economically feasible and in agreement with the agency’s multiple obligations.
- **Olympic Region state lands assistant and Coast District manager**, who ensure that prioritized uncertainties are relevant to operational needs and that recommended changes to management are operationally feasible.
- **OESF Research and Monitoring Manager**, who provides information (for example, lists of uncertainties, study results), and facilitates the meetings.
- **Scientists as needed to** help the managers interpret study results; for example, the scientist involved in a study that prompted a change in management or if this scientist is not available, a DNR scientist with expertise on the subject.

### **Decision Makers**

Decision makers are responsible for determining:

- Which prioritized uncertainties to address,
- Which recommended research and monitoring activities to implement, and
- Whether to adopt a proposed change in management.

Decision makers vary depending on the type and magnitude of the proposed changes to management. These assignments may change over time.

- The **Board of Natural Resources** is the decision maker for major amendments to the HCP and changes to other DNR policies, for example the *Policy for Sustainable Forests*.
- **Executive Management** is the decision maker for other changes to the HCP and changes to the OESF Plan. Executive management also makes decisions on budget allocations and approvals.
- The **Forest Resources Division Manager** is the decision maker for changes to Forestry Handbook procedures.
- The **Olympic Region Manager** (and other regional managers, in case the changes are implemented outside the OESF) is the decision maker for changes to management operations.



### ***Science Advisory Group***

The Science Advisory Group helps plan and review research and monitoring activities, reviews progress and results of ongoing and completed activities, and reviews scientific information from outside sources. Membership in this group will not be permanent; participating experts will be carefully selected for each project based on their professional credentials in a particular subject area. Members of the Science Advisory Group include:

- Three scientific experts on the subject being reviewed. The areas of expertise include but are not limited to forest ecology, silviculture, wildlife biology, fish biology, geology, hydrology, and statistics. The scientists may be from DNR or from external organizations.
- The OESF Research and Monitoring Manager (or a DNR scientist leading the study).

### ***OESF Research and Monitoring Manager***

The OESF Research and Monitoring Manager has the following responsibilities:

- Convene and chair the Adaptive Management Advisory Group, and facilitate discussions at two annual meetings. After these meetings, prepare and submit meeting notes or recommendation reports to decision makers.
- Convene and chair the Science Advisory Group (if not done by a DNR scientist leading the study) and facilitate discussions at group meetings.
- Bring new information (from DNR research and monitoring projects and projects completed by external organizations) to the attention of the Adaptive Management Advisory Group.
- Keep records of meetings, recommendations and decisions related to adaptive management process. This effort includes maintaining a current list of uncertainties, which will be available in the living library. (The living library is an OESF document management system on SharePoint). An initial list of uncertainties can be found in Chapter 4 of the OESF Plan.

### ***Forest Resources Division Manager***

In addition to serving as a decision maker, the Forest Resources Division Manager will work with Executive Management to obtain funding for selected research and monitoring activities.

### ***Olympic Region Manager***

In addition to serving as a decision maker, the Olympic Region Manager will update regional records to reflect changes in management and ensure that training needs are met.

### ***Program and District Managers***

The program and district managers are responsible for implementing management changes and training staff.



## **ACTION**

1. The OESF Research and Monitoring Manager will convene the Adaptive Management Advisory Group for the first of two annual meetings and will provide, before the meeting, a short list of uncertainties and potential research and monitoring activities for consideration. Requests for addressing uncertainties or conducting research may come from external organizations; such requests must be submitted to the Adaptive Management Advisory Group before the meeting and include the rationale behind the request and suggestions for the information gathering approach and funding.

The group will:

- a. Review uncertainties in the context of current and emerging management issues, and possibly suggest new uncertainties.
- b. Prioritize uncertainties using the prioritization process and criteria in Chapter 4 of the OESF Plan.
- c. Identify research and monitoring activities to reduce prioritized uncertainties.

After the meeting, the OESF Research and Monitoring Manager will prepare and submit meeting notes or a recommendation report to decision makers.

2. Decision makers will consider the recommendations of the Adaptive Management Advisory Group and will do one of the following:
  - a. Decide which research and monitoring activities will be implemented and notify the Adaptive Management Advisory Group how those activities will be funded.
  - b. Make an informed decision to not address some or all of the recommended uncertainties at this time and document the rationale for this decision.
  - c. Request more information.

Decision makers will produce a brief report (or meeting notes) of their decisions and provide it to the OESF Research and Monitoring Manager.

3. The OESF Research and Monitoring Manager (or a lead DNR scientist) will assemble and convene a Science Advisory Group on an as-needed basis to:
  - a. Review the prioritized uncertainties approved by decision makers and the research and monitoring activities suggested for reducing the uncertainties.
  - b. Review proposed, ongoing, and completed research and monitoring activities conducted in, or related to, the OESF.
  - c. Review scientific information from external sources and provide an opinion on its merits for a potential management change.



The science advisory group will develop a brief report (or meeting notes) of its findings and recommendations and submit it to the Adaptive Management Advisory Group.

4. Research and monitoring activities will be planned, implemented and results reported by DNR staff and cooperators.
5. The OESF Research and Monitoring Manager will convene the Adaptive Management Advisory Group for the second of two annual meetings. Prior to the meeting, the OESF Research and Monitoring Manager will compile and submit new information from completed or ongoing research and monitoring activities and operational trials, and also select the scientist who will help the group interpret study results. In this meeting, the group will:
  - a. Review the progress and results of ongoing OESF research and monitoring projects.
  - b. Decide whether to recommend a change in management. This decision is made by a majority; no consensus is needed. If any member of the group disagrees with the recommendation, his or her opinion will be recorded and provided to decision makers.
  - c. Consider requests for adaptive management changes submitted by external organizations; seek scientific review on those requests if necessary. Requests for changes from external organizations must be submitted to the Adaptive Management Advisory Group and include new scientific information substantiating the request.

After the meeting, the OESF Research and Monitoring Manager will prepare and submit meeting notes or a recommendation report to decision makers. This document will describe the data upon which a recommendation is based, the rationale for the recommended change, the expected management implications, and suggests implementation options, if any.

6. Decision makers will consider the findings and recommendations of the Adaptive Management Advisory Group. Decisions on requests for management changes could be one of the following:
  - a. Direct a specific management change to be implemented.
  - b. Make an informed decision not to change current management practices and document the rationale for this decision.
  - c. Request more information.

Decision makers will produce a brief report (or meeting notes) of their decisions and provide it to the OESF Research and Monitoring Manager.





# DRAFT Northern Spotted Owl Habitat Management in the Olympic Experimental State Forest (OESF) Habitat Conservation Plan (HCP) Planning Unit

**Date:** ###

**Application: All HCP-covered lands within the OESF HCP planning unit**

## **DISCUSSION**

Per the OESF northern spotted owl conservation strategy in the *State Trust Lands Habitat Conservation Plan (HCP)*, in each of the 11 landscapes in the OESF DNR restores and maintains a level of habitat on state trust lands capable of supporting northern spotted owls (DNR 1997, p. IV.86). DNR manages each landscape for the following threshold proportions:

- Forty percent (by area) of DNR-managed lands in the landscape (forested or non-forested) as Young Forest Habitat and better (Young Forest or Old Forest).
- At least 20 percent (by area) of DNR-managed lands in the landscape (forested or non-forested) as Old Forest Habitat.

Young Forest Habitat, which is an aggregation of sub-mature habitat and young forest marginal habitat, supports dispersal (movement) and provides some opportunities for roosting and foraging. Old Forest Habitat, which is an aggregation of Type A, Type B, and high-quality nesting habitat, supports all of the northern spotted owl’s life history requirements (nesting, roosting, foraging, and dispersal).

The HCP definitions of northern spotted owl habitat list the structural attributes a forest stand must have to be considered habitat. The Forest Resources Division (Division) has translated those attributes into specific, numeric queries, for example a minimum number of trees per acre. The Division applies these queries to its forest inventory data to determine if a stand meets habitat definitions. Both the habitat definitions and their numeric queries are shown in Tables 1 and 2. Through research, monitoring, and adaptive management, both the habitat definitions and the queries used to identify them may change over time.



**Table 1. Young Forest Habitat Definition and Numeric Queries Applied to Forest Inventory Data**

<b>Sub-mature Habitat</b>	
<b>Definition</b>	<b>Numeric queries applied to inventory data</b>
<ul style="list-style-type: none"> <li>• Forest community dominated by conifers, or in mixed conifer/hardwood forest, the community is composed of at least 30 percent conifers.</li> <li>• At least 70 percent canopy closure</li> <li>• Tree density of between 115 and 280 trees greater than 4 inches DBH per acre</li> <li>• Trees over 85 feet tall</li> <li>• At least three snags per acre that are at least 20 inches in diameter</li> <li>• At least 5 percent groundcover of large woody debris</li> </ul>	<ul style="list-style-type: none"> <li>• 30 percent or more conifer trees per acre</li> <li>• 115 to 280 trees per acre &gt;4 inches diameter at breast height (DBH) class</li> <li>• Minimum top height of 40 largest trees &gt;85 feet tall</li> <li>• Curtis's Relative Density <math>\geq 48</math></li> <li>• At least 3 snags per acre &gt;20 inches DBH and 16 feet tall</li> <li>• At least 2,400 cubic feet per acre down wood</li> </ul>
<b>Young Forest Marginal</b>	
<b>Definition</b>	<b>Numeric queries applied to inventory data</b>
<ul style="list-style-type: none"> <li>• Forest community dominated by conifers, or in mixed conifer/hardwood forest, the community is composed of at least 30 percent conifers.</li> <li>• At least 70 percent canopy closure</li> <li>• Tree density of between 115 and 280 trees greater than 4 inches</li> <li>• Trees over 85 feet tall</li> <li>• At least two snags per acre that are at least 20 inches in diameter or equal to 10 percent of the ground covered with 4 inch diameter or larger wood with 25 to 60 percent shrub cover.</li> </ul>	<ul style="list-style-type: none"> <li>• 30 percent or more conifer trees per acre</li> <li>• 115 to 280 tree per acre &gt;4" DBH class</li> <li>• Minimum top height of 40 largest trees &gt;85 feet tall</li> <li>• Curtis's Relative Density <math>\geq 48</math></li> <li>• At least 2 snags per acre &gt;20 inches DBH and 16 feet tall or at least 4,800 cubic feet per acre down wood</li> </ul>



**Table 2. Old Forest Habitat Definition and Numeric Queries Applied to Forest Inventory Data**

<b>High Quality Nesting</b>	
<b>Definition</b>	<b>Numeric queries applied to inventory data</b>
<ul style="list-style-type: none"> <li>• At least 31 trees per acre are greater than or equal to 21 inches dbh with at least 15 trees, of those 31 trees, per acre greater than or equal to 31 inches DBH</li> <li>• At least three trees, from the above group of 31 trees, have broken tops</li> <li>• At least 12 snags per acre larger than 21 inches DBH</li> <li>• Canopy closure at least 70%.</li> <li>• A minimum of 5 percent ground cover of large woody debris.</li> </ul>	<ul style="list-style-type: none"> <li>• At least 3 live trees per acre &gt;21inches DBH with broken tops</li> <li>• At least 16 trees per acre &gt; 21 inches DBH</li> <li>• At least an additional 15 trees per acre &gt;31 inches DBH</li> <li>• Minimum top height of 40 largest trees &gt;85 feet tall</li> <li>• Curtis's Relative Density <math>\geq 48</math></li> <li>• At least 2,400 cu feet per acre down wood</li> <li>• At least 12 snags per acre larger than 21 inches DBH</li> </ul>
<b>Type A Habitat</b>	
<b>Definition</b>	<b>Numeric queries applied to inventory data</b>
<ul style="list-style-type: none"> <li>• A multi-layered, multispecies canopy dominated by large (30 inches diameter or greater) overstory trees (typically 15 to 75 trees per acre)</li> <li>• At least 70 percent canopy closure</li> <li>• A high incidence of large trees with various deformities such as large cavities, broken tops, and dwarf mistletoe infection.</li> <li>• At least two snags per acre that are at least 30 inches in diameter or larger.</li> <li>• Large accumulation of fallen trees and other woody debris on the ground.</li> </ul>	<ul style="list-style-type: none"> <li>• At least 2 canopy layers with at least 2 species</li> <li>• At least 20% of trees per acre in minor species</li> <li>• Canopy typically dominated by 75 to 100 trees per acre &gt;20 inch DBH</li> <li>• At least 2 live trees per acre &gt;21inches DBH with broken tops</li> <li>• Two or more snags per acre &gt;30 inches DBH and 16 feet tall</li> <li>• At least 2,400 cubic feet per acre down wood</li> <li>• Curtis's Relative Density <math>\geq 48</math></li> </ul>



**Table 2, Continued. Old Forest Habitat Definition and Numeric Queries Applied to Forest Inventory Data**

<b>Type B Habitat</b>	
<b>Definition</b>	<b>Numeric queries applied to inventory data</b>
<ul style="list-style-type: none"> <li>• Few canopy layers, multispecies canopy dominated by large (greater than 20 inches diameter) overstory trees (typically 75 to 100 trees per acre, but can be fewer if large trees are present).</li> <li>• At least 70 percent canopy closure</li> <li>• Some large trees with various deformities</li> <li>• Large (greater than 20 inches diameter) snags present</li> <li>• Large accumulation of fallen trees and other woody debris on the ground.</li> </ul>	<ul style="list-style-type: none"> <li>• At least 2 canopy layers with at least 2 species</li> <li>• At least 20% of trees per acre in minor species</li> <li>• Canopy typically dominated by 15 to 75 trees per acre &gt;30 inches DBH</li> <li>• Large trees with various deformities</li> <li>• At least 1 live trees per acre &gt; 21 inches with broken top</li> <li>• One or more snags per acre &gt;20 inches DBH and 16 feet tall</li> <li>• At least 2,400 cubic feet per acre down wood</li> <li>• Curtis's Relative Density &gt;= 48</li> </ul>

***Phase of the Northern Spotted Owl Conservation Strategy***

Within each landscape, the northern spotted owl conservation strategy is implemented in two phases, the **restoration phase** and the **maintenance and enhancement phase**. The restoration phase is the time it takes a landscape to achieve the 40 percent Young Forest Habitat and better threshold. The maintenance and enhancement phase is the period of time between attainment of the 40 percent threshold and the end of the HCP permit period (currently 2067). The Old Forest Habitat threshold can be met in either phase.

During the maintenance and enhancement phase, one area of Young or Old Forest Habitat may be harvested (regeneration harvest) after another area matures into habitat, so long as DNR maintains threshold proportions of habitat in the landscape. Thus the location of habitat can shift over time.

***Management Pathways***

Per the *OESF HCP Planning Unit Forest Land Plan*, DNR will apply management “pathways” to each landscape in the OESF to help meet habitat thresholds or address spatial considerations, such as locating future habitat near existing habitat



on state trust lands or adjacent federal lands or encouraging habitat to develop in areas currently deferred from harvest.

Pathways involve selecting forest stands in each landscape for active or passive management. In this context:

- Active management means thinning to create or accelerate the development of habitat.
- Passive management means no harvest (thinning or regeneration).

For active management, the Forest Resources Division (Division) will select candidate stands of non-habitat that are best suited to becoming Young Forest habitat through thinning. For example, some stands of non-habitat meet all requirements of habitat (refer to Table 1) except for having too many trees per acre. For passive management, the Division will select candidate stands of Young or Old Forest Habitat that are best suited to meeting its objectives (for example, attaining habitat thresholds more quickly or increasing patch size). The Olympic Region (Region) will have an opportunity to modify these selections based on local knowledge and other factors.

Pathways are not the only means by which a landscape will attain thresholds. In any given landscape, threshold will be met by a combination of the following, depending on the pathway(s) selected for the landscape:

- Habitat created through active management or selected for passive management under the pathways,  
plus
- Existing and future Young and Old Forest Habitat the tactical model has selected for meeting habitat thresholds.

Once the threshold for Young Forest Habitat and better is attained, landscapes move from the restoration phase to the maintenance and enhancement phase. In most cases, forest stands in operable areas selected for active or passive management during the restoration phase become available for the full range of forest management activities in the maintenance and enhancement phase, so long as habitat thresholds are maintained in the landscape.



## ***The 2006 Settlement Agreement, PR 14-001-030 (Settlement Agreement)***

The portion of the Settlement Agreement that limited the amount of harvest that can occur in forest stands that are 50 years old and older expired when DNR adopted the *OESF HCP Planning Unit Forest Land Plan*. However, the remainder of the Settlement Agreement remains in effect until the Board of Natural Resources adopts a sustainable harvest level for the next planning decade (FY2015 through 2024).

### **1. Action by Division**

- A. **Database(s)**: Create, maintain and make available one or more spatial data sets in GIS that include the following information:
- **Landscape status:**
    - Whether the landscape currently is in the restoration phase or the maintenance and enhancement phase.
    - The current threshold proportions of habitat in the landscape (Young Forest Habitat and better, and Old Forest Habitat).
  - **Land management:**
    - Current forested habitat status as Young Forest Habitat, Old Forest Habitat, or non-habitat.
    - Locations of the best 70 acres around known nest sites (defined as the center of a Status 1 or 2 owl circle).
    - Areas deferred from harvest for reasons other than being northern spotted owl habitat.
  - **Management pathway:**
    - Candidate stands that have been selected for active or passive management.
    - Stand selection criteria used to identify stands for active or passive management.



- B. On an annual basis, run the Region’s five-year action plan through the tactical model to see if (or how) the action plan affects the attainment of habitat thresholds. If the action plan does not change the decade thresholds are attained, the Region will implement the action plan. If the action plan does affect the decade thresholds are attained, the Region will adjust the action plan.

## 2. Action by Region

- A. **Selection of candidate stands:** From the management pathway database, select stands for active and passive management as appropriate. Record the candidate stand selections and provide the information to the Forest Resources Division to inform future tactical model updates.
- B. **For thinning and regeneration harvests:**
- Identify the landscape in which the timber sale will be located
  - Using the **landscape status database**, identify the phase the landscape is in (restoration phase or maintenance and enhancement phase).
  - Using the **land management database**, determine whether the proposed timber sale includes Young or Old Forest Habitat.
  - Using the **management pathway database**, determine whether the proposed timber sale includes a candidate stand for active or passive management.
- C. If the landscape is in either phase (**restoration or maintenance and enhancement phase**) and the proposed timber sale includes a **candidate stand for active or passive management:**
- **Active management:** Thinning is allowed. Write a silvicultural prescription describing the candidate stand’s structural components, such as down wood, snags, large diameter trees, and number of trees per acre as identified in DNR’s corporate GIS data. Also, describe how the thinning will maintain or improve these structural components. The prescription should include an estimated time in which the stand will satisfy the minimum habitat definitions described in Tables 1 and 2. Record the silvicultural prescription in DNR’s forest management planning and tracking database.
  - **Passive management:** No thinning or regeneration harvest is permitted for as long as the stand is classified as a candidate for passive management.



- D. If the landscape is in the **restoration phase** and the proposed timber sale includes **Young or Old Forest Habitat**:
- **Young Forest Habitat** is not available for regeneration harvest unless it can be demonstrated that regeneration harvest would not increase the length of the restoration phase for the landscape. Regeneration harvest of Young Forest Habitat during the restoration phase requires consultation with the HCP and Scientific Consultation Section.
  - **Young Forest Habitat** is available for thinning if the thinning will maintain or improve the habitat’s structural components such as down wood, snags, and large diameter trees. The stand must continue to meet the definition of Young Forest Habitat (Table 1), including a minimum Curtis’ relative density of 48, after the thinning.
  - **Old Forest Habitat** is not available for regeneration harvest or thinning.
  - For Young or Old Forest Habitat that is also a candidate stand, refer to Step C.
- E. If the landscape is in the **maintenance and enhancement phase** and the proposed timber sale includes **Young or Old Forest Habitat**:
- **Young Forest Habitat** is available for the full range of silvicultural activities as long as the 40 percent Young Forest Habitat and better threshold is maintained in the landscape.
  - **Old Forest Habitat** is available for the full range of silvicultural activities as long as both the 20 percent Old Forest Habitat and 40 percent Young Forest Habitat and better thresholds are maintained in the landscape.
  - For Young or Old Forest Habitat that is also a candidate stand, refer to Step C.
- F. On an annual basis, provide the Region’s 5 year action plan to the Division to be run through the tactical model for the purpose of identifying whether it delays attainment of meeting habitat thresholds. If the action plan would delay attainment, adjust the action plan.
- G. Additional guidelines
- New road construction in Old Forest Habitat is not permitted until both Young Forest Habitat and better and Old Forest Habitat thresholds are met and maintained. Proposals for new road construction in Old Forest



Habitat must be reviewed by the HCP and Scientific Consultation Section before any construction-related activities occur.

- Timber harvest, road construction, or other forest management activities should not be conducted within the best 70 acres (that may or may not be habitat) around known nest sites (the centers of Status 1 and 2 owl circles) between March 1 and August 31 of each year.

#### H. Exceptions

- The following are exceptions to the guidance in other sections of this procedure:
  - In either phase, new road construction, tail holds, guy line circles, road maintenance and abandonment plan-related work or other auxiliary operational activities can occur in Young Forest Habitat or candidate stands, but such work should be limited to the greatest extent practicable.
  - In either phase, forest road maintenance such as grading, shaping, ditch cleanout, culvert replacement, road abandonment, and daylighting within the road prism can be conducted on an as-needed basis in Young and Old Forest Habitat and candidate stands.
- For any other exceptions to the guidelines in this procedure (for example, operational trials or research and monitoring projects), attain approval from the Region Manager and consult with the Forest Resources Division Manager.

APPROVED BY: \_\_\_\_\_

Date: \_\_\_\_\_

[Title]



# DRAFT Riparian Management in the Olympic Experimental State Forest (OESF) Habitat Conservation Plan (HCP) Planning Unit

**Cancels:** This procedure replaces the interim procedure (PR 14-004-160 [twelve-step watershed assessment], dated May, 2000). Implement immediately.

**Date:** #####

**Application:** All HCP-covered lands within the OESF HCP planning unit

## **DISCUSSION**

The vision of the HCP riparian conservation strategy for the OESF is to protect, maintain, and restore habitat capable of supporting viable populations of salmonid and other species dependent on in-stream and riparian environments. This vision is achieved in part by applying riparian management zones to all Type 1 through 4 streams and Type 5 streams on potentially unstable slopes or landforms. The riparian management zone consists of an interior-core buffer adjacent to the stream and an exterior buffer (when applied) adjacent to the interior-core buffer.

In the OESF, riparian management zones are tailored to watershed and site-specific conditions. On Type 1 through 4 streams, the starting point for applying riparian management zones is the basic or “default” width of the interior-core buffer per the HCP. The default width of the interior-core buffer is then adjusted for potentially unstable slopes or landforms with the potential to deliver sediment or debris to the stream network, wetlands, and a limited amount of regeneration harvest within the interior-core buffer. Exterior buffers are applied as needed based on an assessment of severe endemic windthrow risk (severe endemic windthrow will be defined later in this procedure).

Through a watershed assessment process, Forest Resources Division (Division) staff calculate the maximum number of acres of regeneration harvest (“allotted acres”) that may occur each decade without impeding riparian function within the interior-core buffers of Type 1 through 4 streams in each Type 3 watershed. Allotted acres are based on the current and projected ecological conditions of each Type 3 watershed. Division staff periodically update the number of allotted acres as harvests are performed, forest stand conditions change, land is acquired or transferred, new scientific information becomes available, or other changes occur. Refer to the *OESF HCP Planning Unit Forest Land Plan* for information on how the number of allotted acres is determined and updated, and for a more complete explanation of the OESF riparian conservation strategy.

Allotted acres are set for the overall Type 3 watershed, not for individual streams. Allotted acres can be used on one stream or split across two or more streams, so long as the number of allotted acres is not exceeded for the watershed. Thinning in the riparian management zone also is allowed, as described in this procedure.



On all streams regardless of type, DNR also applies a 30-foot equipment limitation zone measured outward horizontally from the outer edge of the 100-year floodplain.

## **ACTION**

### **For all regeneration harvests:**

- A) Using DNR’s corporate GIS data layers, identify the Type 3 watershed (s) in which the timber harvest unit is located.
- B) Identify the location and stream type of all waters located within and adjacent to the boundary of the timber harvest unit using the water typing information in PR 14-004-150 (available in the Forestry Handbook).<sup>1</sup> Consult the region biologist or other specialist if needed for additional guidance on this or any other step of this procedure.
- C) Apply the interior-core buffer to Type 1 through 4 streams, using the following default widths:
  - i. Type 1 and 2 streams: 150 feet
  - ii. Type 3 and 4 streams: 100 feet

Default widths are based on the average widths listed in Tables IV.5 (p. IV.58) and IV.10 (p. IV.123) of the HCP.

Measure the default width of the interior-core buffer outward horizontally from the outer edge of the 100-year floodplain. To identify the edge of the 100-year floodplain, use the guidance in PR 14-004-150 (available in the Forestry Handbook).

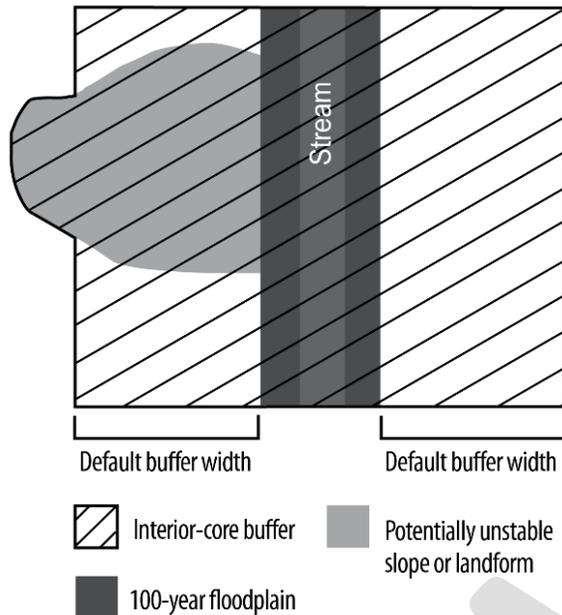
- D) Per the forest practices rules, identify and field-verify potentially unstable slopes or landforms that can contribute debris or sediment to the stream network. Incorporate the potentially unstable slope or landform into the interior-core buffer even if the slope or landform extends beyond the default width of the interior-core buffer (refer to Figure 1).
- E) For all wetlands associated with typed waters, extend the interior-core buffer outward as necessary to encompass the wetland and its wetland management zone.

---

<sup>1</sup> DNR is using the same State Lands stream typing system in the OESF that is used in all other west side planning units.



Figure 1. Interior-core buffer with a potentially unstable slope or landform



- F) Assess the potential for *severe endemic windthrow* in the interior-core buffer of Type 1 through 4 streams. Endemic windthrow results from peak winds that occur fairly frequently (every five years or less) and is considered severe when it causes a significant loss of riparian function.
- i. Run the OESF windthrow probability model, or a future model as developed, using the “severe endemic windthrow” setting. This setting identifies areas with a 5 percent or greater chance of severe endemic windthrow, which is defined in the model as 90 percent of the area experiencing 50 percent or greater canopy loss. Run the model at both the watershed and stream-reach scale. Use of the model can be combined with field assessments or the methods described in Step Eii, below.
  - ii. If the model is not available, use other, qualitative methods to determine severe endemic windthrow risk. Those methods include but are not limited to review of aerial photos and other information (to understand windthrow trends in the area) or completion of the “Buffer Strip Survival Rate Worksheet” in “Designing Stable Buffer Strips for Stream Protection” in the Forestry Handbook.



G) If there is potential for severe endemic windthrow in the interior-core buffer of Type 1 through 4 streams, select one or both of the following options:

i. Reconfigure the shape and orientation of the harvested edge, distribution of leave trees, or both to reduce severe endemic windthrow risk and rerun the OESF windthrow probability model on the reconfigured sale to ensure that the risk has been reduced (if not, an exterior buffer will be required).

ii. Apply an 80-foot-wide exterior buffer along areas of the interior-core buffer identified as having potential for severe endemic windthrow. Measure the exterior buffer outward horizontally from the default width of the interior-core buffer (refer to Figure 2).

Thinning is allowed in exterior buffers (refer to “Other management activities Within the Riparian Management Zone”) but regeneration harvest is not.

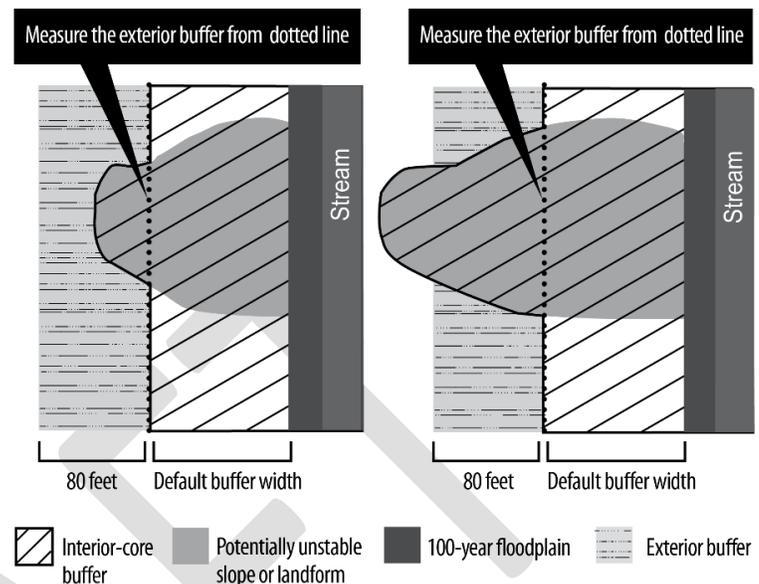
H) Write an activity prescription for the riparian management zones of Type 1 through 4 streams.

i. Identify the current allotted acres (refer to introduction of this procedure) for the Type 3 watershed in which the timber harvest unit is located. A list of allotted acres by watershed is located in the Forestry Handbook.

ii. Adjust outer edge of the interior-core buffer as necessary to accommodate planned regeneration harvest (if any) or mark any areas of regeneration harvest that are within the interior-core buffer but not located along the outer edge of the buffer (refer to Figure 3 for examples). In determining where to place allotted acres:

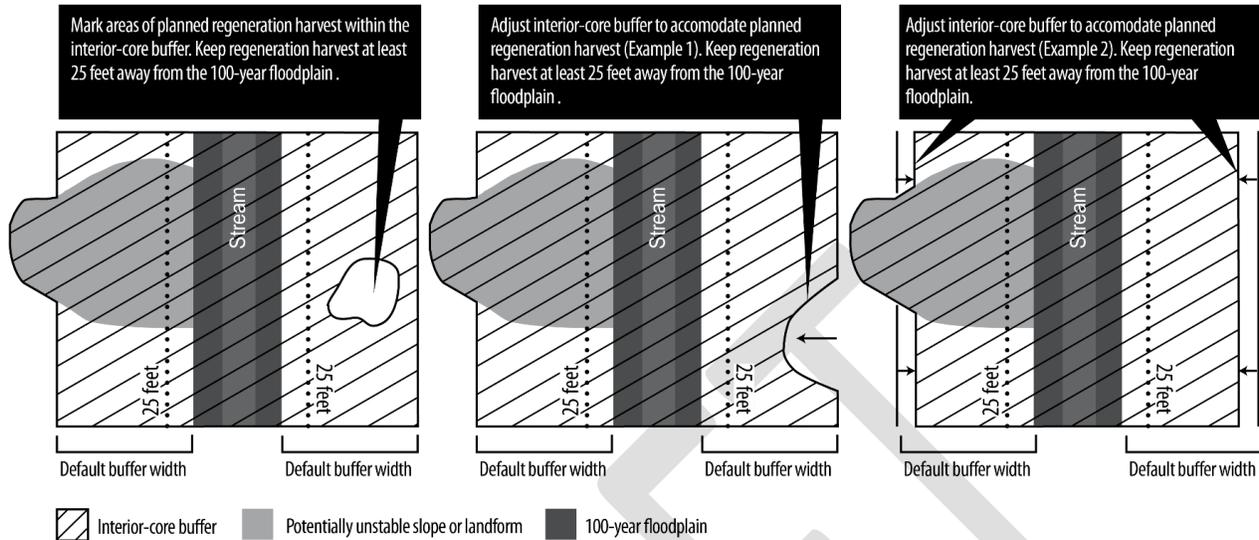
- a) Do not exceed the number of allotted acres for the watershed. Harvest on any portion of the interior-core buffer that extends beyond the default width of the buffer is not counted against the allotted acres.
- b) Place regeneration harvest at least 25 feet away from the outer edge of the 100-year floodplain.
- c) Consider windthrow risk.

**Figure 2. Measuring the exterior buffer when the exterior buffer is applied (drawing is not to scale)**





**Figure 3. Examples of regeneration harvest placed within the interior-core buffer**



d) For harvest on potentially unstable slopes, follow the guidance in Chapter 16 of the Forest Practices Board Manual.

iii. Document the decisions made in this step in the activity prescription.

- I) Apply and mark an interior-core buffer on all Type 5 streams located on field-verified, potentially unstable slopes or landforms. The interior-core buffer includes the stream and the identified potentially unstable slope or landform. Do not apply an exterior buffer to Type 5 streams that receive an interior-core buffer.
- J) Mark the final edge of the riparian management zones for all streams in or adjacent to the timber harvest unit.

### **Other management activities within the riparian management zone**

Activities that may occur in the riparian management zone include but are not limited to the following:

- Thinning harvest.
  - “Thinning harvest” refers to both pre-commercial thinning and commercial thinning, including variable density thinning.
  - Thinning harvests are allowed in all areas of the interior-core buffer (up to the last row of trees adjacent to typed waters) except any 100-year floodplain that has been designated by the Federal Emergency Management Agency (FEMA) on flood insurance rate maps; these floodplains are typically associated with Type 1 and 2 streams (DNR 1997 p.



IV.110). Follow forest practices rules for thinning on any potentially unstable slopes or landforms that have been incorporated into the interior-core buffer. To maintain shade, do not thin any area of the interior-core buffer below an average of RD 35. For variable density thinning, gaps larger than ¼ acre located inside the interior-core buffer count against allotted acres of regeneration harvest.

- Thinning is allowed in exterior buffers. Determine the spacing of tree removal at the time of thinning based on an assessment of the physical and biological condition of the site. The OESF windthrow probability model can be used to test different thinning configurations to ensure wind firmness after thinning.
  - It is not necessary to mark the boundaries of the riparian management zone for a thinning unless the thinning prescription for the riparian management zone is different from that of the uplands. In that case, mark the boundary where the prescription changes.
- Selective harvest of a small number of hardwood trees (hardwood conversion) and/or removal of single hardwood trees. Hardwood conversions count against the allotted acres of regeneration harvest.
  - Restoration efforts, including habitat-enhancement projects such as the creation of snags, down wood, and in-stream large woody debris.
  - Peer-reviewed research projects designed to improve the integration of revenue and ecological values or operational trials.
  - Application of herbicides in accordance with WAC 222-38-020, *Handling, Storage, and Application of Pesticides* and PR 14-006-040, *Site Preparation and Vegetation Management*.
  - Road construction and road crossings over streams. Per Section 3 of the Forest Practices Board Manual, roads within 200 feet of typed waters should be avoided where possible. Refer to Section 3 of the manual for more information. To minimize cumulative impacts associated with roads, design roads to take the most direct route over streams that is operationally feasible.
  - Yarding corridors.
  - Salvage in the case of a natural disturbance. Salvage that involves regeneration harvest counts against the allotted acres Refer to PR 14-004-520 for more information on natural disturbance.
  - Brush and bough harvest.
  - Pruning.
  - Construction of recreational trail crossings.

## **Exceptions**

For exceptions to the guidelines in this procedure, attain approval from Region Manager and consult with the Forest Resources Division Manager.



APPROVED BY: \_\_\_\_\_ Date: \_\_\_\_\_

Title

DRAFT



# DRAFT Wetlands Management in the Olympic Experimental State Forest (OESF) Habitat Conservation Plan (HCP) Planning Unit

**Date:** ###

**Application:** All HCP-covered lands within the OESF HCP planning unit

## **DISCUSSION**

This procedure describes management of wetlands in the OESF that are in, or associated with, forest ecosystems. DNR’s objective for wetland management is to protect wetland plant and wildlife species, water quality, soils, and plant communities. To accomplish this objective, DNR will identify wetlands and ensure that management activities within and adjacent to them are conducted in a manner that adequately protects wetland ecosystem function.

Wetlands serve many vital landscape functions, including protection and improvement of water quality, storm-water retention, flood-peak attenuation, seasonal stream flow augmentation, nutrient supply to downstream ecosystems, and habitat for many native wildlife species, either seasonally or for part of their lifecycles. Wetland losses through development and other forms of management have increased the ecological value of remaining wetlands, and DNR is committed through policy to protecting remaining wetland acreage and function statewide.

## **Policy Context**

Management of wetlands is guided by the *Policy for Sustainable Forests*, the *State Trust Lands Habitat Conservation Plan* (HCP), and the Washington forest practices rules.

- **Policy for Sustainable Forests:** This document states that "Statewide, the department will allow no net loss of acreage and function of wetlands, as defined by state forest practices rules" (DNR 2006, p. 38).
- **HCP:** The primary conservation objective for wetland protection in the OESF under the HCP is to maintain and aid natural restoration of wetland hydrologic processes and functions. This protection will be achieved through the following:
  - Retaining plant canopies and root systems that maintain adequate water uptake and transpiration processes;



- Minimizing disturbance to natural surface and subsurface flow regimes; and
- Ensuring stand regeneration (DNR 1997, p. IV-119).

Under the HCP, both forested and non-forested wetlands are protected with wetland management zones. The HCP allows management of wetland management zones and wetlands.

**Washington forest practices rules:** Refer to the “DNR Proprietary HCP-OESF Substitution Agreement for Aquatic Resources” in the forestry handbook.

## **Help and Additional Information**

For assistance with any part of this procedure, contact the region biologist or other specialist with the Olympic Region or the Forest Resources Division HCP Implementation and Consultation Section. A list of helpful resources and information is provided under “Resources” at the end of this procedure.

## **ACTION**

### **Wetland Identification**

#### ***Office Screening:***

Office screening is optional but assists with field screening. The following office-screening tools are available:

- Natural Resources Conservation Service (NRCS) Web Soil Survey (available on the internet), or the NRCS hydric soils GIS layer and the US Fish and Wildlife Service (USFWS) National Wetland Inventory (available on DNR’s quick data loader and state uplands viewing tool). Note, wetlands often are present where there are no mapped hydric soils or wetlands.
- LiDAR data, which may indicate topography that could concentrate surface water or indicate possible discharge of groundwater; such areas include old slumps and landslides, depressions, channels, and concave slopes.
- Color infrared photos to identify hardwood areas or areas of different or stunted vegetation.

#### ***Field Screening:***

1. Walk the timber sale area and identify wetlands. Delineate wetland boundaries using the most current Forest Practices Board Manual.

Per the forest practices rules, wetlands are defined using three criteria: wetland hydrology, wetland soils, and wetland plants. During some seasons or circumstances, one or more of these parameters may be difficult to observe (for example, in winter,



soils may be flooded and inaccessible, and plants may not be present; in summer, soils may be dry and evidence of hydrology scarce or non-existent, or one or more parameters may be disturbed to the extent that positive identification cannot be made). The field criteria in *Regional Supplement to the Corps of Engineers’ Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* may help in identifying wetlands in the dry season (refer to “Resources” at the end of this procedure).

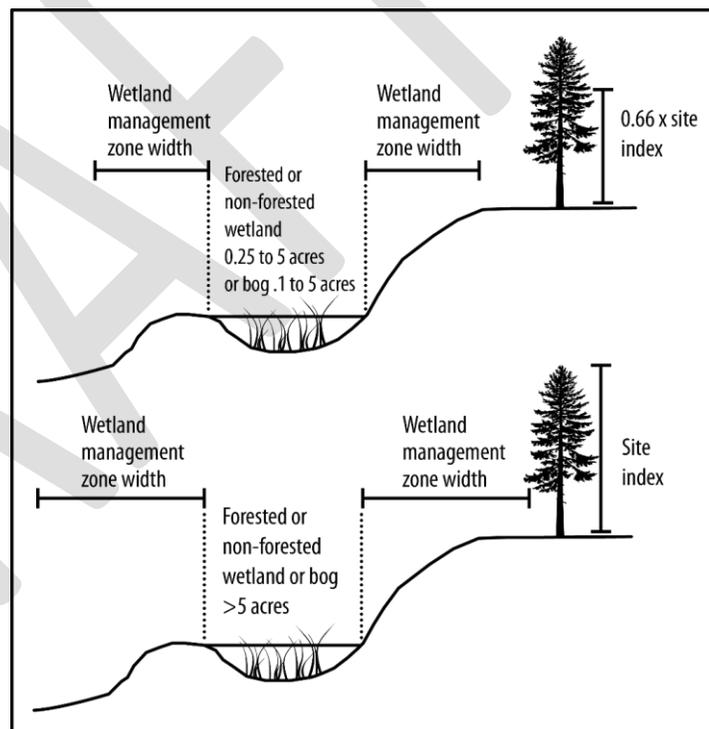
2. To determine if a wetland is forested or non-forested, determine the current percentage of canopy closure (if the trees are mature) or probable future percentage of canopy closure (if the trees are not mature) in the wetland. Any wetland with canopy closure of 30 percent or higher is considered forested.

### Layout of Wetland Management Zone(s)

Measure the wetland management zone outward using horizontal distance, perpendicular to the edge of the wetland (refer to Figure 1):

1. For wetlands that are between 0.25 and 5 acres and bogs 0.1 to 5 acres, apply a wetland management zone that is two-thirds of the 100-year site potential conifer tree height of the adjacent riparian forest. Use the site index for site-adapted (vigorously growing) species.
2. For wetlands (including bogs) greater than 5 acres, apply a wetland management zone that is equal to the 100-year site potential conifer tree height of the adjacent riparian forest. Use the site index for site-adapted (vigorously growing) species.
3. Wetlands smaller than .25 acres can be harvested. However, a series of wetlands smaller than .25 acres can function collectively as a larger wetland (DNR 1997, p. IV.120). In this situation, consultation with the Forest Resources Division HCP Implementation and Consultation Section is recommended. Additional information on protecting a series of small wetlands can be found on SharePoint at <http://sharepoint/sites/frc/teams/WestsideWetlands/default.aspx>.

Figure 1. Measuring wetland management zones

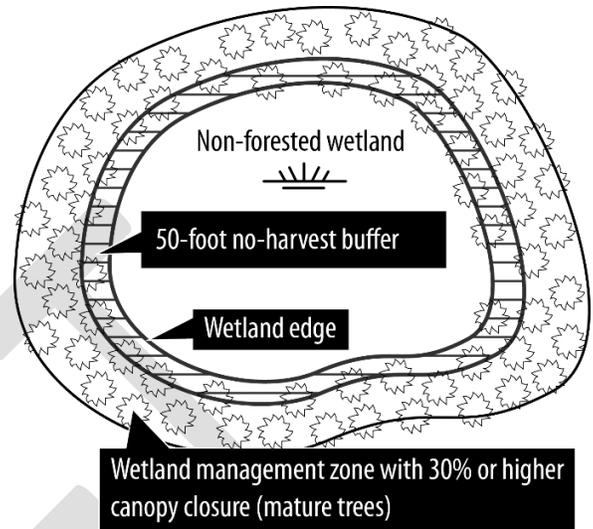




## Management in Wetland Management Zones and Wetlands

- 1) Apply a no-harvest buffer around non-forested wetlands that have forested wetland management zones (refer to Figure 2). A wetland management zone is forested if the current percent of canopy closure (if the trees are mature) or probable future percentage of canopy closure (if the trees are not mature) is 30 percent or greater. Measure the no-harvest buffer outward 50 feet, using horizontal distance, perpendicular to the edge of the wetland.
- 2) When thinning a forested wetland or a forested wetland management zone (outside the no-harvest buffer where applied), maintain and perpetuate a stand that is wind firm and has a minimum basal area of 120 square feet per acre. Tools for evaluating wind firmness include evidence of recent windthrow in similar types of wetlands and their wetland management zones, or use of the OESF windthrow probability model. When thinning, retain trees that are representative of the dominant and co-dominant species prior to harvest.
- 3) Roads and logging corridors can be built through wetlands and wetland management zones. Provide on-site and in-kind mitigation of acreage and function for wetland losses from road construction, or other management activities within wetlands or wetland buffers that result in a loss of function. For mitigation, consult with a specialist from the Forest Resources Division HCP Implementation and Consultation Section.

Figure 2. No-harvest buffer



Tables 1 and 2 summarize layout and management of wetlands and their wetland management zones.



**Table 1. Wetland Management in the OESF**

<b>Wetland type</b>	<b>Wetland size</b>	<b>Width of wetland management zone</b>	<b>No-harvest buffer</b>	<b>Thinning in wetland?</b>	<b>Thinning in wetland management zone?</b>
<b>Forested wetland</b>	0.25 - 5 acre	2/3 100-year site potential tree height	None	Allowed. Maintain wind firmness and $\geq 120 \text{ ft}^2$ basal area	Allowed. Maintain wind firmness and $\geq 120 \text{ ft}^2$ basal area
<b>Forested wetland</b>	> 5 acre	100-year site potential tree height	None	Allowed. Maintain wind firmness and $\geq 120 \text{ ft}^2$ basal area	Allowed. Maintain wind firmness and $\geq 120 \text{ ft}^2$ basal area
<b>Non-forested wetland</b>	0.25 - 5 acre	2/3 100-year site potential tree height	50 feet	Not applicable	Allowed outside no-harvest buffer. Maintain wind firmness and $\geq 120 \text{ ft}^2$ basal area
<b>Non-forested wetland</b>	> 5 acre	100-year site potential tree height	50 feet	Not applicable	Allowed outside no-harvest buffer. Maintain wind firmness and $\geq 120 \text{ ft}^2$ basal area



**Table 2. Bog Management in the OESF**

<b>Wetland type</b>	<b>Wetland size</b>	<b>Width of wetland management zone</b>	<b>No-harvest buffer</b>	<b>Thinning in bog?</b>	<b>Thinning in wetland management zone?</b>
<b>Forested bog</b>	0.1 - 5 acre	2/3 100-year site potential tree height	None	Allowed with consultation* Maintain wind firmness and $\geq 120$ ft <sup>2</sup> basal area	Allowed with consultation* Maintain wind firmness and $\geq 120$ ft <sup>2</sup> basal area
<b>Forested bog</b>	> 5 acre	100-year site potential tree height	None	Allowed with consultation* Maintain wind firmness and $\geq 120$ ft <sup>2</sup> basal area	Allowed with consultation* Maintain wind firmness and $\geq 120$ ft <sup>2</sup> basal area
<b>Non-forested bog</b>	0.1 - 5 acre	2/3 100-year site potential tree height	50 feet	Not applicable	Allowed outside no-harvest buffer with consultation* Maintain wind firmness and $\geq 120$ ft <sup>2</sup> basal area
<b>Non-forested bog</b>	> 5 acre	100-year site potential tree height	50 feet	Not applicable	Allowed outside no-harvest buffer with consultation* Maintain wind firmness and $\geq 120$ ft <sup>2</sup> basal area

\*Consult with HCP and Scientific Consultation Section

### **Other Activities Within Wetland Management Zones**

Peer-reviewed research projects designed to improve the integration of revenue and ecological values or operational trials.

### **Exceptions**

For exceptions to the guidelines in this procedure, attain approval from Region Manager and consult with the Forest Resources Division Manager.



## **RESOURCES**

1. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0, May, 2010):  
[http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg\\_supp/west\\_mt\\_fin\\_alsupp.pdf](http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/west_mt_fin_alsupp.pdf)
2. NRCS Web Soil Survey:  
<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
3. Summary of Forest Practices Equipment Limitation Zones: [WAC 222-30-021 \(2a Equipment Limitation Zones\)](#)
4. Westside Wetland SharePoint Site (includes a link to wetland identification training materials)  
<http://sharepoint/sites/frc/teams/WestsideWetlands/default.aspx>
5. Forest Practices Board Manual:  
<http://www.dnr.wa.gov/about/boards-and-councils/forest-practices-board/rules-and-guidelines/forest-practices-board-manual>

APPROVED BY: \_\_\_\_\_ Date: \_\_\_\_\_  
Title

# Other Procedures

# ***Forest Management Procedures***

# Identifying Off-Base Land

**Date: August, 1999**

**Application: All forest ecosystems managed under the direction of the Forest Resources Division, except for recreation sites, Natural Area Preserves, and Natural Resources Conservation Areas.**

## **DISCUSSION**

The purpose of this procedure is to define a process to determine how specific lands should be designated AS off base. Generally, DNR manages land in either an “on-base” or “off-base” status. Off-base lands are defined as those lands that are precluded from timber management because of their sensitivity to disturbance or to protect a higher ecological or social value (see PR 14-004-020 for information regarding permissible management activities on off-base land). On-base lands are defined as those lands that are managed to produce some timber volume over time. Only the on-base lands are used to model the sustainable harvest volume.

Off-base designations are not permanent. Land can be moved into, and out of, the off-base category as the regulatory constraints change, as additional information becomes available, and as management objectives and techniques are further developed over time. However, changes to land designations will impact the sustainable harvest volume targets and should be made only after informed/careful consideration and with the proper approval.

The department designates forest land as off-base for the following reasons:

- Marginal productivity — an area that can not economically produce merchantable trees within 60 years of a harvest (westside) or within 80 years of a harvest (eastside).
- Public sensitivity — as determined by the deputy supervisor for state lands.
- Economic feasibility — operating costs of a timber harvest would be higher than the expected revenue.
- Harvest deferral — areas that have been designated as Old Growth Research Areas or Gene Pool Reserve (see Forest Resource Plan (FRP) Policy 14 and Policy 15) , and those areas deferred from harvest by the Board of Natural Resources (BNR).

The department also designates land as off-base when:

- harvesting is expected to result in a high risk to private property or public resources,
- stands in Habitat Conservation Plan (HCP) planning units are identified as being on unstable slopes,
- areas managed under the HCP (i.e., nest patches) have harvest restrictions for species protection,
- areas are designated as Natural Area Preserves or Natural Resources Conservation Areas, or
- areas are restricted from harvest by the legal requirements of the Forest Practices Act.

### **Action**

- (1) Evaluate lands for marginal productivity (i.e., economic return and site productivity). Lands that should be considered for off-base designation are those:
  - (a) that are expected to produce less than 40 cubic feet per acre, per year over a rotation-length period (currently 60 years for the westside and 80 years for the eastside) as off-base due to low productivity. This translates to a final harvest yield of approximately 10,000 board feet per acre.
  - (b) where harvest would result in the probability of high risk to private property or public resources.
    - Identify all areas in Watershed Administrative Units (WAUs) where watershed analysis indicates that a harvest would result in a high risk to private property or public resources, unless mitigated by prescription.
    - Identify areas of known resource risk that can't be mitigated in WAUs where watershed analysis has not been completed.
  - (c) that are already identified as deferred from harvest. These deferral areas include:



- areas identified as gene pool. These areas will be deferred indefinitely.
  - all west-side Old-growth Research Areas will be deferred for 15 years. However, the deferrals may be modified by the HCP.
  - areas constrained by the HCP,
  - spotted owl nest patches in the west-side HCP planning units, excluding the OESF Planning Unit,
  - unstable slopes (see PR 14-004-050) in the west-side HCP planning units, excluding the Olympic Experimental State Forest, and
  - areas in all the west-side HCP planning units where harvest has been deferred to protect specific wildlife habitat types (PR 14-004-170 through PR 14-004-390).
  - areas deferred due to local agreements (i.e., neighbors, tribes, and local organizations), or state and local government agencies. The deputy supervisor for state lands is responsible for all local site-specific agreements. Landscape-level agreements must be reviewed and approved by executive management.
  - any area where harvest restrictions preclude sustainable timber harvest production (i.e., regulatory restrictions).
- (d) that are identified by the deputy supervisor for state lands as socially/politically sensitive areas.
- (e) that are not economically feasible to harvest.
- i. Locate areas where the expense of a timber harvest would exceed the value of either the present or future timber, resulting in a negative sale value.
- A. If an expected negative sale value is due to the condition of the stand (i.e., defective trees, low value hardwoods, poor stocking), the harvest may proceed. If the timber is harvested, the area will remain on-base, classified as stand rehabilitation. Funds for pre-sales

and negative stumpage will be provided by the program desiring the harvest.

- B. If an expected negative sale value is not due to biological conditions, the area is a strong candidate for off-base designation.
- (2) Submit a list of all areas identified in Step 1 to the region manager for approval. (The region manager must approve all off-base land designations.)
  - (3) Record the locations of all areas approved for off-base designation in DNR's Geographic Information System (GIS) data base.
    - Identify the reason for designating an area as off-base by entering the appropriate code in the GIS land use coverage. All off-base stands shall be at least five acres in size.
  - (4) Review procedure PR 14-004-020 (Addressing Timber Management Issues on Off-base Land).
  - (5) Obtain approval from the Forest Resources Division Manager to re-designate off-base land as on-base land.

APPROVED BY: Michael Perez-Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Gene Pool Reserves

Cancels: This procedure replaces guideline [GL 14-004-020](#), issued August, 1999. Implement immediately.

**Date: May 2000**

**Application: All Forests**

## **DISCUSSION**

This procedure identifies the process DNR will use to protect or relocate designated gene pool reserve (GPR) stands. These GPR stands are considered to be a trust asset that the department intends to maintain and improve to protect the genetic integrity of future forests.

The department identified Douglas-fir stands in every 500-foot elevation band of every seed zone in western Washington that contained at least 1,000 acres of trust land. These stands were then designated as GPR stands and have been removed from the harvest base (i.e., are designated as off-base land (see PR 14-004-010). Management activities are not permitted in these GPR areas unless the stand is damaged by catastrophic events (see PR 14-004-020). (Note: Although Forest Resource Plan Policy 15 applies to both eastern and western Washington, there are no designated GPR on the eastside at this time.)

The department will evaluate management options (i.e., keep, relocate, or eliminate the GPR) when:

- a designated GPR is impacted by a proposed activity (such as a land exchange),
- a designated GPR is impacted by a catastrophic event,
- access to a proposed timber sale is blocked by a GPR, and
- fish or wildlife habitat or water quality is impacted by existing roads and road relocation through a GPR is needed.

The department will consider the importance of the specific resource and the availability of a replacement stand before choosing to eliminate a GPR stand.

**Action**

- (1) Evaluate options when a GPR may be included in a proposed activity.  
Consider:
  - excluding the GPR from the proposed activity area.
  - replacing the GPR with another stand that contains a similar resource. Contact the Lands and Resources Division's geneticist to determine if a suitable replacement stand exists.
  - eliminating the GPR. Contact the Lands and Resources Division's geneticist to determine the impact.
  
- (2) Notify the Lands and Resources Division geneticist if a GPR is going to be included in a management activity proposal (i.e., before requesting approval to include the GPR in the management activity).
  
- (3) Request approval from the Lands and Resources Division manager to include the GPR in a proposed management activity including any proposed land exchange or sale. Provide:
  - reasons for including the GPR in the proposed activity or exchange,
  - impacts of both including and not including the GPR (i.e., impacts to the trust, specific timber sale, and genetic resource),
  - alternatives that were considered, and
  - the reasons why alternatives were found to be unacceptable.

The decision should be based on the criticality of the GPR to the activity and the impact of losing the GPR.

- (4) Record decisions in the Planning and Tracking (P&T) system.
  - Record denied requests and end this procedure.



- Record approved requests and document whether the GPR will be replaced or eliminated. If the GPR is replaced, include the location of the new stand and ensure that the new stand is placed off-base (see PR 14-004-010).

APPROVED BY: Rick Cooper, Manager  
Forest Resources Division  
May, 2000

# Old-Growth Timber Harvest Deferral and Protection (Westside)

**Cancels:** Replaces Guideline [GL 14-004-010](#) dated August 2006

**Date:** January, 2007

**Application:** All forested state trust lands west of the Cascade crest.

## **DISCUSSION**

The Board of Natural Resources' policy is to protect and defer timber harvests in all existing old growth on forested state trust lands in Western Washington in order to help meet DNR's Habitat Conservation Plan (HCP) and regulatory requirements, older forest targets, as well as social and cultural values. This procedure provides direction for the identification of old-growth stands on westside forested state trust lands. The Land Management division will train selected region staff (old-growth designees) to identify old-growth stands in the field.

Board of Natural Resources definition of old growth stands: Old growth is defined as stands 5 acres and larger that originated naturally before the year 1850, that are in the most structurally complex stage of stand development, sometimes referred to as fully functional.

The Board of Natural Resources also defined individual trees to be deferred from harvest: Single very large diameter, structurally unique trees (native conifers that are generally 60 inches or more at breast height and possessing large, strong limbs; open crowns; hollow trunks; broken tops and limbs; and deeply furrowed bark) and small patches (less than 5 acres) of such trees will be retained to meet DNR's HCP requirements for large, structurally unique trees.

Identifying Old Growth: The Land Management Division currently maintains a scientifically derived screening tool to assess potential old growth. The current method for identifying old growth using this tool is part of this procedure. This indexing approach to old growth assessment is based on stand-level structural variables identified below and derived from and recorded with Forest Resource Inventory System (FRIS) data (See Policy for Sustainable Forests Final EIS p. 3-60):

1. Number of large live trees greater than 40 inches in diameter at breast height (dbh) per acre;
2. Amount of live tree diameter diversity within the stand;
3. Number of large dead standing trees greater than 20 inches dbh per acre; and
4. Volume of down woody debris.

Stand Size: Stands will be documented within the department's capability to inventory and map stands. Currently this capability is limited to stands of 5 acres or larger. Individual or patches (less than 5 acres) of very large, structurally complex trees are addressed through the HCP directive to retain structurally unique trees (HCP, p. IV 156) and PR 14-006-090, Management of Forest Stand Cohorts (January 2007).

Training: The Land Management Division's HCP/Science Section will train and ensure proficiency for selected region staff (region old growth designees) under the guidance of Old Growth Definition Committee members to identify old-growth stands.

Weighted Old-Growth Habitat Index Tool: The Land Management Division's data stewardship section is the data steward of the old-growth index tool. Old Growth Index scores for individual stands are available on the state uplands viewing tool and as GIS data at the scales of the forest inventory unit (FIU) and forest inventory sample point.

### **Action**

1. Access the State Uplands Viewing Tool on the DNR intranet and retrieve Weighted Old Growth Habitat Index scores for sample points that intersect with FMUs in the harvest schedule and all adjacent FIUs. As stand level Weighted Old Growth Habitat Index scores represent a stand-wide average value, it is advisable in most cases to examine point level data, to be sure to capture old growth patches embedded within younger stands. In addition, examine sample points of adjacent stands to avoid missing old growth stands that overlap two or more FIUs.
2. For all westside HCP planning units, a Weighted Old Growth Habitat Index score of 60 or more implies a high likelihood of being old growth. Weighted Old Growth Habitat Index scores between 38 and 59 in the OESF and 50-59 in other westside HCP planning units imply a modest likelihood of being old growth. Any sample points or stands that the Weighted Old Growth Habitat Index identifies as having either a high **or** modest likelihood of being old growth will be field verified by a qualified old-growth designee.
3. Review the area in question using aerial photography. Delineate the divide using the plot level Weighted Old Growth Habitat Index and aerial photography, and confirm through a field assessment. Submit changes to Forest Inventory in the Data Stewardship section, Land Management division in order to implement new, discrete FIUs.
4. Contact the region Old Growth Designee to conduct a field verification of the area in question. Areas in question should be assessed for the presence of old growth using the following criteria as outlined in the Weighted Old Growth Habitat Index:
  - Large trees (number of trees per acre > 40 inches dbh).
  - Large snags (number of standing dead trees per acre > 20 inches dbh and >16 feet tall).
  - Volume of down woody debris (cubic feet per acre).
  - Tree size diversity

The old growth policy requires old growth stands to have an origin year prior to 1850. Age of the stand is to be determined through evaluation of the physical characteristics of the oldest trees in the stand. Using this information, the Old Growth Designee will make a determination as to the status of the area in

- question, and send this determination and documentation of stand condition to LMD, including a report on any necessary modifications of spatial data.
5. If it is determined that the stand in question is old growth, defer it from harvest with the following possible exceptions:
    - Harvest of part of an existing old-growth stand for operational or safety considerations;
    - Harvest of individual very large structurally unique trees that are not part of an old growth stand for operational or safety or other reasons, or if in excess of HCP requirements (see PR 14-006-090, Management of Forest Stand Cohorts (Westside))
    - Harvest of existing old growth to meet research objectives in the OESF planning unit. NOTE: these areas are deferred from harvest for the term of the Settlement Agreement (WEC vs. Sutherland).
    - Harvest of individual trees for cultural/spiritual use by the Tribes to construct ocean going canoes, ceremonial lodges and/or totem poles, or for other cultural/spiritual uses.
  6. In addition to deferral of old growth stands from timber harvest, the intent is to protect them from ecological and socio-cultural degradation. Activities such as using existing roads are permissible; proposed timber removal or other activities require prior notification of the Board of Natural Resources and may occur by exception, only.
  7. If any of the situations in paragraphs 5. and 6., above, applies, consult with Land Management division before proceeding.
  8. The department will notify the Board of Natural Resources of any of these exceptions during monthly presentations to the Board.
  9. Record verification of existing old growth along with any new mapping delineation and submit the information to the Forest Inventory program in Land Management division.
  10. If further assistance is necessary, contact the Land Management division's HCP/Science section, which will provide a qualified scientist to aid in the assessment of old-growth conditions in the field.
  11. Existing roads within old-growth stands will be maintained as necessary.

APPROVED BY: Gretchen Nicholas, Manager  
Land Management Division  
January, 2007

**SEE ALSO:**

- PR 14-004-046, Identifying And Managing Structurally Complex Forests To Meet Older Forest Targets (Westside)
- PR 14-001-030, Settlement Agreement

# Identifying and Managing Structurally Complex Forests to Meet Older Forest Targets (Westside)

**Cancels:** Replaces Procedure [14-004-046X:\Old Documents\procedure14-004-046old1.htm](#) dated August 2006.

**Date:** January, 2007

**Application:** All forested state trust lands west of the Cascade crest.

## **DISCUSSION**

The Board of Natural Resources General Silvicultural Strategy policy includes direction on older forests for Western Washington and states:

- The department will target 10 to 15 percent of each Western Washington Habitat Conservation Plan planning unit for “older” forests—based on structural characteristics—over time.
- Through landscape assessments, the department will identify suitable structurally complex forest stands to be managed to help meet older-forest targets. Once older-forest targets are met, structurally complex forest stands that are not needed to meet the targets and are not old growth may be considered for harvest activities. Old growth is addressed in the Old-Growth Stands in Western Washington policy (PO 14-008).

The department intends to actively manage suitable structurally complex forests (fully functional, niche diversification, and botanically diverse stand development stages) to meet older forest targets. Older forests are represented by the niche diversification and fully functional stages of stand development. (See Policy for Sustainable Forests Final EIS p. 3-177) Stand structural complexity begins notably in the botanically diverse stage but is significantly functional only in the niche diversification and fully functional stages of stand development (see Final Environmental Impact Statement on Alternatives for Sustainable Forest Management of State Trust Lands in Western Washington, July 2004, section 4, for a description of these stages). The goal is to achieve functional older forest structures across 10 to 15 percent of each Western Washington HCP planning unit within 70 to 100 years.

The HCP planning unit landscape context of a structurally complex stand determines its suitability to be managed to meet older forest targets. The percentage of the planning unit in a structurally complex condition, the location and size of these stands, their proximity to old growth or other structurally complex forest stands, or the scarcity of old growth and other structurally complex stands are all factors in determining if a stand is suitable for contributing to older forest targets. (See Policy for Sustainable Forests Final EIS p. 3-177).

The identification and review of landscape level management strategies to achieve the 10 to 15 percent older forest target will be completed during the forest land planning process that will be conducted for each HCP planning unit. However, until that time, the following programmatic guidance to aid in identifying appropriate stands to manage to meet older forest targets must be followed.

Prior to development of a forest land plan, proposed harvest activities in FMUs that are considered structurally complex forests must be accompanied by the following information: a) an assessment of forest conditions using readily available information, b) an analysis of the known landscape management strategies and, c) role of the structurally complex stand in meeting older forest targets. For the actions listed below, the Land Management Division has sources of information it will make available.

### **Action**

- If a proposed forest management unit is determined to be in one of the three structurally complex stages, assess and describe the landscape conditions. Information provided by Land Management Division may be helpful. Field verification may determine different conditions than the provided datasets. Identify acres of existing structurally complex stands managed for older forest conditions. Those are:
  - Old-growth stands.
  - Structurally complex stands located in special ecological management areas (i.e., designated northern spotted owl NRF or Dispersal Management Areas, riparian management zones, natural areas, gene pool reserves, etc.). Structurally complex stands that are currently meeting targets for various HCP conservation strategies and not identified above, such as suitable northern spotted owl NRF habitat outside of designated NRF and Dispersal Management areas (i.e., high quality nesting habitat, Type A, Type B, and sub-mature habitat).
  - Suitable marbled murrelet nesting habitat and designated marbled murrelet occupied sites.
  - Riparian areas that are currently meeting the Riparian Desired Forest Condition (RDFC).
- Based on the assessment above determine if 10 to 15 percent or more of the HCP planning unit contains structurally complex forest prioritized to meet older forest targets. If yes, stands managed for structural complexity will be designated in a department lands data base. Structurally complex forests in addition to the amount identified and designated may be subject to harvest activities designed to meet other objectives. If no, proceed to the next bullet, below.
- If less than 10 percent of the HCP planning unit contains structurally complex forests prioritized to meet older forest targets based on the assessment, designate in a department lands database additional suitable structurally complex forest stands or acreage to equal 10 to 15 percent of the HCP



planning unit managed for older forest targets. Once those stands designated as suitable constitute at least 10 percent of the HCP planning unit, other (not otherwise withdrawn) stands are available for the full spectrum of timber harvests. Determine suitability based on a landscape context, considering such things as:

- Stand size.
  - Proximity to old growth or other structurally complex forest stands in the ownership block, landscape or watershed.
  - Scarcity of other structurally complex stands in the ownership block, landscape or watershed.
  - Future strategic plans for the stand within the ownership block, landscape or watershed.
- Information gathered in the previous steps should be included in the State Environmental Policy Act (SEPA) checklist for the proposed harvest activity for public review.
  - The Land Management Division Manager may approve variances to this procedure.

Management Considerations:

- The department will defer from final harvest older forest and other structurally complex stands designated as suitable to meet older forest targets.
- Harvest activities in older forest and other structurally complex stands designated as suitable to meet older forest targets must enhance the older forest condition.

APPROVED BY: Gretchen Nicholas, Manager

Land Management Division

January, 2007

**SEE ALSO:**

- **PR 14-004-045, Old-Growth Timber Harvest Deferral and Protection (Westside)**
- **PR 14-001-030, Settlement Agreement**

# Visual Management

**Cancels:** [PR 14-004-080](#) VISUAL MANAGEMENT, August 2006

**Date:** April, 2008

**Application:** All Forested State Trust Lands.

## **DISCUSSION**

The purpose of this procedure is to establish a process that integrates visual with financial and other important policy objectives in managing forested state trust lands. An important social concern is aesthetics. This concern creates a need for outcome-based landscape perspectives supported by silvicultural prescriptions that together balance management of aesthetics and other imperatives (such as certain wildlife habitats and forest health). Thus, when aesthetic concerns exist, the following process shall be put into action.

## **Action**

BNR policy requires the department to first consider whether visual impacts of management activities are of local significance or have wider public impacts, such as melding with other already established visually sensitive areas (e.g., on nearby federal lands or along major travel routes). For local impacts, mitigation would generally be through FMU design alterations. For wider impacts, the department will use the Forest Land Planning Process. This process will assess visual impacts, appropriate mitigation measures (in light of known public concerns), and the resulting cost-benefit.

The resulting visual management process shall incorporate the following major steps. Regions may perform this process incrementally or as a part of the Forest Land Planning Process, as warranted by emerging visual issues.

- Step 1 – Recognize Potential Viewshed: Delineate a potential viewshed, generally through public input. A viewshed should have a size and shape that includes the viewable area (i.e., reverse slopes of hills that are not seen from vantage points or trails should be excluded), and should distinguish local from wider implications. Viewsheds, particularly those with wider implications, should be recorded in GIS.
- Step 2 – Determine Objectives for the Viewshed: Develop visual FMU objectives per PR 14-005-010 that are based on viewshed-landscape considerations. As Forest Land Planning is implemented, landscape-level objectives will be refined to include how large a portion of a viewshed must meet a specified visual stand condition at any point in time.
- Step 3 – Consider Altering the Silvicultural Prescription: Meeting viewshed objectives should first be attempted through manipulation of FMU shape and size as well as placement and number of required leave trees. Target the leave tree arrangements to detract no more than approximately 25 percent from first decade uninhibited growth potential for species prescribed for reforestation (equivalent to a Curtis' RD for leave tree legacies of less than 7.5 if the reforested cohort is Douglas-fir) and to ensure negligible impact on



survival. However, leave tree arrangements should otherwise be responsive to visual issues such as nearness to viewpoints (roads, trails, vistas, etc.). The Forest Land Planning process is anticipated to account for cost/benefits to the trusts of landscape level mitigation strategies.

- Step 4 – Validate: Once potential viewsheds and objectives are developed, they shall be recorded in a department-approved database.

In summary, local visual impacts are addressed through FMU configurations and/or scheduling, while visual issues with wider implications are dealt with through the Forest Land Planning process. Resulting FMU objectives and viewsheds shall be recorded in a department-approved database. In devising silvicultural prescriptions for viewshed FMUs, understory species shall be selected for potential future value and their ability to grow under the circumstances created, which must provide for generally unimpeded and sustained vigor.

*/s/ Gretchen Nicholas*

APPROVED BY: GRETCHEN NICHOLAS  
Manager, Land Management Division  
April 2008

# Maximum Size for Even-Aged Final Harvest Units

Cancels: TK 14-001-010 Maintaining Mature Forest Components (Sept 2004)

**Date: August, 2006**

**Application: All forested state trust lands designated for timber harvest.**

## **DISCUSSION**

This procedure outlines how to apply the department's intent to generally limit even-aged final harvest unit size to a maximum of 100 acres, or the legally required unit size of 40 acres in size when located on islands, per WAC 222-30-110, Timber Harvesting on Islands.

"Even-aged final harvest" means that there is a residual stand, meant to last through the next rotation, of fewer than 20 trees per acre that are 10 inches DBH or larger.

Even-aged final harvest units larger than 100 acres may be evaluated when there are special needs (e.g., timber salvage, forest health, land transaction, or environmental protection reasons).

Even-aged final harvest units may only be considered as single units for purposes of size determination if they are separated from adjacent openings as directed in WAC 222-30-025, Harvest Size and Timing.

## **Action**

1. Determine the size of the proposed even-aged final harvest unit.
  - a. If the even-aged final harvest unit is less than 100 acres, or less than 40 acres on an island proceed with your timber harvest plans.
  - b. Even-age final harvest units (Clearcut) located on an island cannot exceed 40 acres per WAC 222-30-110, Timber Harvesting on Islands.
  - c. If the even-aged final harvest unit is greater than 100 acres and the majority of timber is sold for salvage, forest health, land sale or purchase, land exchange or environmental protection reasons, seek region manager approval before including it in the timber sale harvest schedule.
    - i. If region manager approves: end this procedure.
    - ii. If region manager disapproves: reduce the size of the proposed even-aged final harvest unit so that it does not exceed 100 acres.

APPROVED BY: Gretchen Nicholas, Manager

Land Management Division

August, 2006

# Reforestation

**Cancels:** [PR 14-006-010](#) (Nov 2003)

**Date:** April 2008

**Application:** All forested state trust lands

**Discussion:** Prompt reforestation is required by forest practice rules for establishing and developing forests. It is the step in sustainable forestry in which the future stand can be influenced more than at any other decision point. This procedure summarizes regulatory requirements and Department direction for reforestation on forested state trust lands. Department education and training will sustain region capability to practice state-of-the art reforestation techniques and field craft in implementing this procedure.

**Action:** Forest stands subjected to final harvest shall be promptly reforested. Reforestation shall be by planting, natural regeneration, or a combination thereof. Reforestation efforts shall aim towards best attainment of forest management unit (FMU) objectives (re. PR 14-005-010, FMU Rotational Objectives), as determined in silvicultural rotational prescriptions (re. PR 14-005-060, Silvicultural Rotational Prescriptions). In order to preserve the native forest gene pool, seed source shall be consistent with the USDA-Forest Service/DNR publication "Washington Tree Seed Transfer Zones" (2002) for forest collection or, for seed orchard collection, comparable breeding zones.

## Required Steps:

1. Reforestation planning shall begin as a part of the FMU silvicultural rotational prescription process and guide timber sale preparation/design by considering current harvest revenue along with projected future revenues (inter-generational equity).
  - a. Planting shall be the first consideration for reforestation. Natural regeneration is intended for situations where suitable advanced regeneration or the probability of viable seed-fall, germination, and survival indicate achievement of targeted stocking and species composition as specified in the silvicultural prescription.
  - b. Surveys: As a minimum, every reforestation project shall receive at least one early survey (after the first growing season following planting, or a natural regeneration survey within two years following harvest) and at least one subsequent survey to certify that desired species are present in prescribed numbers and distribution, vigorous, and beyond lethal vegetative competition ("free to grow"). Additional surveys shall be added as needed to ensure timely re-planting or vegetation management. Surveys may vary from formal plots on a grid to informal walk-through estimates (re. PR 14-006-010, Surveying Young Stands). The forester's professional judgment shall determine survey intensity. Survey intensity must satisfy the need for accuracy to guide a process that maximizes trust benefit for the site. All samples, whether formal or estimates, shall be recorded in P&T.
  - c. Site preparation and management of competing vegetation (re. Under Controlling Competing Vegetation – PR 14-006-040, under Pesticides – TK 14-006-060 – Safety and several guidelines) shall be intrinsic to the reforestation process and shall employ

preventive and/or active measures to best attain prescription rotational objectives.

- d. Forest Health: The reforestation process shall incorporate the concept that forest health is facilitated by species diversity and tree vigor.
2. The reforestation process shall terminate with the FMU being stocked and free to grow.
- a. "Stocked" shall mean presence of viable crop trees in sufficient numbers, distribution, species, and vigor to accomplish rotational objectives per the FMU silvicultural prescription—as evidenced by appropriate intensity of surveys.
  - b. "Free to grow" shall mean that a sufficient number of suitable crop trees are beyond lethal suppression —as evidenced by appropriate intensity of surveys.

**Other Requirements:**

The maximum periods within which to achieve stocking targets (not necessarily "free to grow") after final harvest are:

<u>Westside</u>	<u>Planted—Site III and Better</u>	<u>Natural Regen—Site III and Better</u>	<u>Planted—Site IV and Poorer</u>	<u>Natural Regen—Site IV and Poorer</u>
	3 years	5 years	5 years	10 years
<u>Eastside</u>	<u>Planted</u>	<u>Natural Regen</u>		
	5 years	10 years		

Stocking shall be in accordance with the silvicultural rotational prescription, but not less than:

<u>Westside</u>	<u>Eastside</u>
190 crop trees per acre of vigorous, undamaged, well-distributed seedlings of commercial tree species	150 crop trees per acre of vigorous, undamaged, well-distributed seedlings of commercial tree species

Remedial action (e.g., site preparation, replanting, vegetation management) shall correct departures from stocking levels specified or implied in silvicultural prescriptions and the above schedules at first biologically and budgetarily available opportunity.

**Summary**

Reforestation shall be prompt and site-specific. A professional assessment of each situation shall certify when stocking and free-to-grow requirements are met. Timely remedial action shall address departure from stocking levels specified or implied in silvicultural prescriptions. Reforestation activity prescriptions, treatments, and certifications shall be recorded in P&T.

**APPROVED BY:** /s/Gretchen Nicholas  
Gretchen Nicholas, Manager  
Land Management Division

# Site Preparation and Vegetation Management

Supersedes: [PR 14-006-040](#) – Controlling Competing Vegetation (August 1999), [GL 14-006-050](#) – Container Disposal (August 1999), and [GL 14-006-060](#) – Licensing (August 1999), which are hereby rescinded

Date: May 2009

Application: All forested state trust lands

## Discussion

Responsible site preparation and vegetation management treatments are often vital in successful reforestation of forested state trust lands. The following site preparation and vegetation management considerations have over the years become required for these lands.

- Policy Trace
  - Forest Practice Rules: [WAC 222-38](#)
  - Integrated Pest Management, Legislative Declaration: [RCW 17.15.005](#)
  - Policy for Sustainable Forests, p.46: [Policy on general silvicultural strategy](#)
  - Sustainable Forestry Initiative® (SFI®) Reforestation Standards
  - Forest Stewardship Council (FSC) Reforestation Standards
  
- General Principles for Managing Competing Vegetation During the Reforestation Stage
  - Integrated pest management (IPM) – the United States Environmental Protection Agency (EPA) is the federal agency charged with national certification of pesticides for agricultural, forestry, domestic, and other uses. EPA defines IPM as  
“an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.”  
Meanwhile, the Washington State Department of Agriculture (WSDA) is charged with pesticide regulation within the state. WSDA defines IPM as  
“a coordinated decision-making and action process that uses the most appropriate pest control methods and strategy in an environmentally and economically sound manner to meet agency programmatic pest management objectives.”  
In agriculture, arrays of different pesticides are often applied repeatedly each year to the same site, while DNR’s site preparation and vegetation management seeks to control only vegetative pests and does so very few times or not at all during a stand’s rotation, with herbicides. In some forestry situations, one or a few herbicide applications may be the only treatment needed and the only feasible means of control. In other situations, a slashing done when growth hormones are in the crown and not

the root may suffice, while in yet other situations, crop species may simply out-grow weed species without any action being necessary. It is viewed as vital and consistent with the principles of IPM to select the method that most effectively serves the trusts while also considering public and worker safety as well as ecological health.

- Spectrum of treatment types -
  - Considering which species are suitable for reforestation on each particular site and these species' probable need for release from competing vegetation
  - If vegetation control is deemed necessary, evaluating mechanical treatment, broadcast burning, slashing, biological controls (if available), aerial broadcast herbicide treatment, ground broadcast herbicide treatment, and ground spot herbicide treatment
  - Considering varieties of each type of treatment relating to, for example, specifications for coverage, target species, and herbicide types.
- Rotational silvicultural prescriptions – developing each FMU's optimal bio-diversity pathway for timing and sequencing entries to optimally attain rotational stand objectives
- Biological Assessments
  - Assessment of threat to crop tree species from suppressive vegetation (risk analysis)
  - Susceptibility of target species to various types of treatments (effectiveness analysis)
  - Potential harmful effects to the ecosystem (sensitivity analysis)
- Legal – Regulatory Review
  - Prudent compliance with federal and state laws, regulations, and rules, including SEPA (particularly whether or not the action constitutes a Class IV Special Forest Practice)
  - Ensuring that herbicide certification, licensing, and application requirements are met or exceeded
- Herbicide Selection Screens
  - First screen: United States Environmental Protection Agency (EPA) and Washington State Department of Agriculture WSDA approval for the class of use
  - Second screen: Forester professional judgment in integrating IPM with the silvicultural prescription and achieve the best possible site-specific suitability and prudence of use
  - Third screen: Sustainable Forestry Initiative® (SFI®) "standards" and Forest Stewardship Council (FSC) "guidance," (which include stakeholder input--see App 1)
- Financial analysis
  - Comparing present cost of treatment vis à vis available budget
  - Predicting benefit of treatment in terms of net future benefit compared to no action
  - Noting cost changes in the rotational silvicultural prescription's financial analysis

## **Action**

Field foresters shall pro-actively assess stands prior to final harvest and prepare or update rotational silvicultural prescriptions in accordance with [PR 14-005-060, Silvicultural Rotational Prescriptions](#) and [PR 14—006-010, Reforestation](#). In that process, the need for site preparation and vegetation management shall be assessed. The above policy trace, general

principles, biological considerations, and, if applicable, legal and herbicide selection screens shall be used. Only herbicides [approved by EPA and WSDA](#), for which [registration information is officially available](#), and which are circumstantially condoned by applicable non-governmental certifying organizations (NGCOs—see appendix 1) constitute the department's approved list of herbicides that may be used on forested state trust lands. Herbicides not condoned by applicable NGCOs for the site-specific circumstances at hand shall be avoided for operational uses even if approved by EPA/WSDA. SEPA shall be performed per [WAC 222-16-050](#) and as region managers otherwise deem prudent. Other public outreach shall be conducted as required for certification by applicable NGCOs or as region managers deem prudent. For further technical rules governing herbicide use, refer to [WAC 222-38](#) and the [FP Board Manual](#); for forest worker protection see [TK 14-006-020](#). Only cost-effective, best practices types of site preparation and vegetation management treatments shall be implemented as consistent with the principles of IPM.

**APPROVED BY:** /Signed 6/1/09/  
Gretchen Nicholas, Manager  
Land Management Division

**See also:**

[GL 14-006-030 – Treatment Effectiveness](#)

[GL 14-006-040 – Handling Spills](#)

## **Appendix 1: SFI® and FSC Standards for Herbicide Use and USDA-Forest Service Human Health and Ecological Risk Assessments<sup>1</sup>**

- SFI® [Herbicide] Standards – Applicable to All Forested State Trust Lands

(re.: <http://www.sfiprogram.org/files/pdf/sfi-standard-2005-2009-sept%2008%20update.pdf>)

The reference in the above link to SFI® states:

*“Program Participant shall minimize chemical use required to achieve management objectives while protecting employees, neighbors, the public, and the forest environment.*

### **“Indicators:**

1. *Minimized* chemical use required to achieve management objectives.
2. Use of *least-toxic* and *narrowest-spectrum pesticides* necessary to achieve management objectives.
3. Use of pesticides registered for the intended use and applied in accordance with label requirements. [re. forested state trust lands this means registered with WSDA and EPA]
4. Use of *integrated pest management* where feasible.
5. Supervision of forest chemical applications by state-trained or certified applicators.
6. Use of *best management practices (BMPs)* appropriate to the situation; for example,
  - a. Notification of adjoining landowners or nearby residents concerning applications and chemicals used;
  - b. appropriate multilingual signs or oral warnings;
  - c. control of public road access during and immediately after applications;
  - d. designation of streamside and other needed buffer strips;
  - e. use of positive shutoff and minimal-drift spray valves;
  - f. aerial application of forest chemicals parallel to buffer zones to *minimize* drift;
  - g. monitoring of water quality or safeguards to ensure proper equipment use and *protection* of streams, lakes, and other water bodies;
  - h. appropriate storage of chemicals;
  - i. filing of required state reports; or
  - j. use of methods to ensure protection of *threatened and endangered* species.

- FSC Approach to the Use of Pesticides – Applicable to Forested State Trust Lands Certified by FSC

(re.: [http://www.fsc.org/fileadmin/web-data/public/document\\_center/international\\_FSC\\_policies/guidance\\_documents/FSC\\_GUI\\_30\\_001\\_V2\\_0\\_EN\\_FSC\\_Pesticides\\_Policy\\_Guidance\\_2007\\_.pdf](http://www.fsc.org/fileadmin/web-data/public/document_center/international_FSC_policies/guidance_documents/FSC_GUI_30_001_V2_0_EN_FSC_Pesticides_Policy_Guidance_2007_.pdf))

The reference in the above link to FSC states:

“FSC’s approach to the implementation of the applicable FSC Criteria was developed through a series of draft proposals and background papers between December 1999 and May 2002, and revised in 2005.

---

<sup>1</sup> This appendix will be updated w/o notification whenever the referenced SFI®, FSC, or USDA-Forest Service links are updated.

"The FSC Criteria include three core elements:

- a) The identification and avoidance of 'highly hazardous' pesticides [see annex II to the link above];
- b) Promotion of 'non-chemical' methods of pest management as an element of an integrated pest management strategy; and,
- c) Appropriate use of the pesticides that are used.

"To date, FSC policy has focused primarily on the first of these elements: the avoidance of 'highly hazardous' pesticides. This guidance document follows this precedent, since it is this element that has attracted most comment. The remaining elements are introduced briefly in Sections 5 and 6 of this paper but are not covered in detail. FSC recognises [sic] that further guidance needs to be developed focussing [sic] on the remaining elements. . . .

"The listing of a pesticide as 'highly hazardous' does not mean that the pesticide cannot be used under any circumstances. Nor does the fact that a pesticide is not on this list mean that it is 'safe'. Inclusion on the list means that FSC considers the pesticide as 'highly hazardous' in relation to one or more of the specified indicators. In order to reduce the risk of negative environmental or social impacts these pesticides shall be avoided, and should only be used in FSC-certified forests and plantations if there is no viable alternative. This implies that less hazardous (or no) pesticides shall be preferred, and that ultimately, if possible, use of the most hazardous pesticides should be eliminated."

The manager of DNR's Land Management Division reserves the option to grant exceptions where compelling reasons to do so apply.

- USDA-Forest Service Human Health and Ecological Risk Assessments (including information on surfactants) may be reviewed at the following link:  
<http://www.fs.fed.us/foresthealth/pesticide/risk.shtml>



# Controlling Invasive Plants and Noxious Weeds

Cancels: New Procedure

**Date: October 2007**

**Application: All forested state trust lands**

## **DISCUSSION**

This procedure describes the department's responsibility for action in controlling invasive plants and noxious weeds on forested state trust lands.

## **Action**

Regions will participate in control efforts directed at invasive plants and noxious weeds in concert with/in support of county and other governmental authorities. As budgets and staffing allow, the department may participate in other types of cooperative partnerships that address invasive species and/or noxious weeds in an integrated manner across ownerships.

**APPROVED BY: Signed October 2007**  
Gretchen Nicholas, Manager  
Land Management Division

*SEE ALSO:* Policy for Sustainable Forests, Policy on Forest Health

# Management of Forest Stand Cohorts (Westside)

**Cancels: [PR 14-006-090](#), Management of Forest Stand Cohorts (Westside) (July 2008)**

**Date: June 2009**

**Application: All forested state trust lands, westside**

## **Discussion**

Forest stand “cohorts” are statistically distinct forest stand components whose management objectives make them important. For example, *legacy cohorts* such as live wildlife reserve trees, snags, and down dead logs, are important because statutes, regulations, and the Department’s HCP require their management and retention beyond a single rotation. These multi-rotational *cohorts* co-exist with one or more rotational, *commercial cohorts* within the same forest management unit (FMU). *Legacy cohorts* are managed to achieve environmental FMU objectives (such as wildlife and mycorrhizal habitats). One or more *commercial cohorts* within the same FMU are managed to achieve economic FMU objectives by generating revenue for the trusts.

The purpose of this procedure is to provide unified direction for management of forest stand cohorts. This procedure will result in a structured silvicultural approach that reaches beyond uniformly applied classical even-aged—clearcut, seed tree, and shelterwood—and uneven-aged silvicultural systems. This approach, cohort management, synchronizes with site-specific silvicultural prescriptions that simultaneously manage distinct cohorts to achieve rotational and multi-rotational social, environmental, and economic FMU objectives. The department will include provisions of this procedure in its training program.

## **Action**

Safety regulations pre-empt all other requirements and should be addressed to maintain worker safety. See also [TK 14-006-090](#), Forest Worker Safety and Operational Considerations for Leave Tree Locations.

Cohort management shall integrate relevant social, environmental, and economic FMU objectives into site-specific, rotational silvicultural prescriptions. Cohorts may serve multiple FMU objectives. Leave trees should detract no more than approximately 25 percent from first decade uninhibited growth potential for species prescribed for reforestation (equivalent to a Curtis’ RD for leave trees less than 7.5 if the reforested cohort is Douglas-fir) and to ensure negligible impact on survival.

At least one commercial cohort shall be managed, generally on a rotational basis, for maximum benefit to trust beneficiaries, consistent with other FMU and landscape objectives. The final harvest system of Variable Retention Harvest is well-suited to managing cohorts.

Multi-rotational (legacy) cohorts shall be managed to levels directed in the table below.

<b>Specifications for Management of Legacy Cohorts*</b>			
<b>Legacy Cohort</b>	<b>Average /Acre</b>	<b>Dimensions</b>	<b>Proximity</b>
Very large diameter, structurally unique conifers (when present, may be used in lieu of wildlife trees, snag recruits, and snags—listed below)	The BNR will be notified if any very large diameter, structurally unique conifers are harvested (see PR 14-004-045, Old Growth Timber Harvest Deferral and Protection)	<ul style="list-style-type: none"> <li>• Native conifer species</li> <li>• Generally <math>\geq 60</math>" DBH</li> <li>• Large strong limbs</li> <li>• Open crown</li> <li>• Hollow trunk</li> <li>• Broken top and limbs</li> <li>• Deeply furrowed bark</li> </ul>	NA
Large, Structurally Unique Green Trees Suited for Wildlife	$\geq 2$ trees	<ul style="list-style-type: none"> <li>• <math>\geq 1</math> tree, from largest diameter class</li> <li>• <math>\geq 1</math> tree, from dominant crown class</li> </ul>	At least 1 clump per 5 acres, and a distance between leave trees/clumps of no more than 400 feet; leave trees should be toward FMU interior, except as needed for ecological objectives;
Snag Recruits	$\geq 3$ trees	<ul style="list-style-type: none"> <li>• Intermediate to dominant crown class</li> <li>• <math>\geq 10</math> inches DBH, <math>\geq 30</math> feet in height, and <math>\geq 33</math> percent live crown ratio</li> <li>• Select larger diameter trees first, preferably those with structural deformities and cavities</li> </ul>	
Snags (standing dead trees suitable for wildlife)	$\geq 3$ snags (safety requirements shall be met)	<ul style="list-style-type: none"> <li>• <math>\geq 15</math> inches DBH, <math>\geq 30</math> feet tall, if available</li> <li>• Select largest diameter class cavity trees first</li> <li>• If snags cannot be left safely, replace with suitable live trees</li> </ul>	Leave snags as consistent with safety requirements
Down dead wood	$\geq 2$ logs	<ul style="list-style-type: none"> <li>• Small end diameter <math>\geq 12</math> inches, length <math>\geq 20</math> feet</li> <li>• Select larger diameter logs first</li> </ul>	None

\*Table Notes:

1. The specifications in the table are for the minimum numbers of legacy cohorts to be left at final harvest only (not to be confused with cohort requirements for specified wildlife habitats).
2. Very large diameter, structurally unique conifers, if present, supersede the requirements for the next three categories (i.e., large structurally unique trees, snag recruits, and snags)
3. The requirements, other than for very large diameter structurally unique conifers, originate from WACs or the HCP for forested state trust lands.
4. All requirements may be modified for safety reasons as specified in TK 14-006-093, Forest Worker Safety and Operational Considerations for Leave Tree Locations.
5. Acre-by-acre densities of legacies are variable, so long as proximity criteria are followed, and FMU averages meet or exceed minimum requirements. FMU-specific objectives may dictate higher—but not lower—retention levels, particularly when managing for habitat objectives and combined effects of social, environmental, and economic objectives. However, growth of the next rotation may not be unduly impeded by overstory densities. Scatter leave trees in clumps or individually, depending on specific habitat objectives for the particular area, throughout the FMU where practicable. For example, trees may be clumped to improve wildlife habitat and/or to protect trees from severe weather conditions. Where practicable, the density of clumps will not be less than one clump per five acres unless done to meet a specific ecological objective.
6. Leave tree clumps may be created of sufficient size to safely incorporate hazardous wildlife trees or snags.
7. Retain additional live trees if fewer than three snags per acre are available prior to harvest, or if fewer than three snags per acre can be left for safety reasons. The average total number of stems per acre retained after final harvest will be at least eight.
8. Priority of retention will be given to tree species with propensity to develop cavities while standing. Choose large trees with structural characteristics important to wildlife (e.g., large limbs, open crowns, runners, broken tops, etc.) and those considered to be old growth remnants (i.e., “very large diameter, structurally unique conifers”).
9. Legacy tree species in the stand after harvest should be generally representative of legacy species diversity prior to harvest.
10. The manager of the Land Management division may approve alternate leave tree levels provided that legal, regulatory, and HCP intents remain.

**APPROVED BY:**           /s/ Gretchen Nicholas            
**Gretchen Nicholas, Manager**  
**Land Management Division**

SEE ALSO:

- [PR 14-004-045](#), Old Growth Timber Harvest Deferral and Protection (Westside)
- [PR 14-001-030](#), Settlement Agreement

# Competing Vegetation Survey For Conifer Stands

**Date: August, 1999**

**Application: All forested lands.**

## **DISCUSSION**

This task defines the method used to conduct a vegetation survey to assess vegetation that may affect the progression of a site to a forested ecosystem. This survey is designed to achieve forested ecosystems dominated by coniferous trees. When forest management unit objectives include higher levels of hardwoods, the suggested thresholds should be modified. The survey essentially compares a conifer seedling to an expected size range for its age. If the seedling's size is not within the expected range, it may be an indication that less desirable vegetation is competing with the seedling to occupy the site. An on-site survey should be done when competition is suspected. The survey results will identify the abundance of species of herbs, brush, and undesired trees, and provide information about the stress level on the coniferous portion of the stand. An informed decision can then be made regarding the appropriate treatment.

## **Action**

- (1) Conduct a field survey according to the Regeneration Survey Protocol (see guideline GL 14-006-010). Systematically distribute plots throughout the unit.
  - (a) Run survey lines across topographic contours to adequately sample differences in vegetation.
  - (b) Take a minimum of ten plots when vegetation is uniform or the goal is to control a single undesirable species.
  - (c) Take two plots per five acres when vegetation is clumpy, scattered, or uneven.
- (2) Measure and collect information as specified on the Vegetation Survey Card for Conifer Release (see Attachment 1 of this task).

- (3) Use Attachment 2 of this task to calculate the competitive interference level.
  
- (4) Select the appropriate treatment options (see PR 14-006-040 and GL 14-006-030).

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 199

**SEE ALSO:**

GL 14-006-010	REGENERATION SURVEY
GL 14-006-030	TREATMENT EFFECTIVENESS
PR14-006-040	CONTROLLING COMPETING VEGETATION

# Pesticide Safety

**Date: August, 1999**

**Application: All forested lands managed under the direction of the Forest Resources Division where herbicides are applied and to all personnel handling herbicides or traversing herbicide treated areas.**

## **DISCUSSION**

This task deals with the safe handling and use of pesticides with an emphasis on herbicide use. The department judiciously applies herbicides to meet its responsibility to keep ecosystems productive and healthy on the land we manage. However, there are occasions when it is necessary to use herbicides to control overly abundant vegetation that slows the development of a desired forested stage, or to control a noxious or exotic species. On rare occasions, DNR may use pesticides other than herbicides (i.e., insecticides).

Federal Worker Protection Standards (WPS) (CFR 40.170) define extensive employer obligations concerning pesticide safety for employees. These standards apply to forestry, greenhouse, and agricultural pesticide users. The WPS do not affect right-of-way, roadside, aquatic, or range herbicide applications or address Right-To-Know hazard communication.

The Worker Protection Standards exist to protect employees from potential health hazards associated with pesticides (which include herbicides) from just prior to, during, and after a pesticide application. Personnel having any possibility of being near a treated location, including equipment maintenance personnel, must comply with the WPS.

### Definitions

**Workers** — all field personnel and others who may be working in the general vicinity of a treated area. Workers include persons passing through a parcel on foot and personnel performing vehicle maintenance. However, this does not include a person traveling through the same area in a vehicle.

**Handler** — an employee who is on site during, and immediately after, a herbicide has been applied or an employee who enters an area while a restricted entry interval is in effect.

**Personal Protective Equipment (PPE)** — refers to clothing, garments, or protective items prescribed by the label or regulations, which protect an individual from the pesticide concentrate during mixing, loading, or application.

Restricted Entry Interval (REI) — the time period specified on the pesticide label that restrains access by unprotected personnel to a pesticide treated area. The time period is specified in hours. Entry is not allowed unless the employee is trained and wearing PPE.

The protective measures in this task were taken from the WPS and are included here for easy access. Refer to CFR 40.170 for the complete standards. Department personnel must comply with WPS by adhering to this task.

### **Action**

(1) Post the “Keep Out” sign and the “Information” sign as indicated below. See attachments 1 and 2 to this task for an example of these signs. Full size signs can be ordered from the warehouse. See Attachment 3 for a sign posting diagram.

- Keep Out — A warning sign with a stern face, raised hand, and stop sign border that informs employees that an area is being treated. The sign lists the REI, date of application, and product applied. Post this sign when application begins and remove the sign within 48 hours after the REI expires.
- Information— An informational sign that identifies that an herbicide application activity is planned, is in progress, or has been applied. Information on the sign includes unit name, product name, Environmental Protection Agency (EPA) product registration number, active ingredient, REI, and contact person. This sign is posted for five days prior to an aerial application or just prior to a ground application and remains posted for 30 days past the last application date.

Post signs at:

- common entry points, and
  - along private property lines at a maximum of 600-foot intervals or within the line-of-sight.
- (2) Ensure Information concerning herbicides, safety, and treatment locations is available to all employees. Some of the required information is for general reference and some is for emergency support. Information shall be available at region offices and field work centers.
- (a) Post an EPA pesticide safety poster at all region offices and all work centers expected to have pesticide applications within their operating zone.



- (b) Post a list of treatment locations five days prior to applying the treatment or five days prior to an REI going into effect. Maintain the list for 30 days after applying the treatment or 30 days after an REI has been in effect. Include the following information with the list:
- product label(s),
  - Material Safety Data Sheet,
  - map of the unit, and
  - name, address, and telephone number of the nearest emergency medical facility.
- (3) Ensure the following safety precautions are strictly followed:
- (a) All DNR employees that are not involved in a pesticide application should avoid working near locations treated with pesticides for 30 days after the REI has expired.
- (b) Contract compliance personnel and other personnel with field assignments will:
- i. be provided with, and encouraged to use, disposable garments when working in a unit that has been treated with an herbicide or has a REI in effect.
  - ii. be trained about herbicide hazards when:
    - working in a unit during application,
    - entering a unit during the time an REI is in effect,
    - entering a unit after an REI has expired, and
    - before the 30 day interval has elapsed.
- (c) Train all personnel who may come in contact with a treated area. Personnel with a pesticide license are considered adequately trained in regard to WPS and may train others.
- (d) Ensure contract compliance personnel, herbicide handlers, and workers entering a unit that is being treated, or has an REI in effect have the following available:



- a vehicle and mobile radio for emergency transportation or assistance.
  - the name, address, and phone number of the nearest medical facility. The information should be in written form for each treatment unit they are involved with.
  - a copy of both the herbicide label and the Material Safety Data Sheet for the products.
- (4) Adhere to the following decontamination measures:
- (a) Contract compliance personnel, pesticide handlers, and workers entering a unit that is being treated or has an REI in effect shall have a decontamination kit available. The vehicle being used by the compliance person can be used as the decontamination site. The decontamination site shall include:
- an emergency eyewash capable of delivering at least 0.4 gallons of water per minute for 15 minutes (i.e., a six gallon minimum),
  - an emergency change of clothing,
  - enough potable water for routine washing and for washing the entire body in an emergency (a minimum 10 gallons for one person and 20 gallons for two or more people), and
  - soap and single-use towels.
- (5) Provide contract compliance personnel, herbicide handlers, and workers entering a unit that is being treated or has an REI in effect with:
- PPE, as prescribed by the label, that is clean and in serviceable condition, and
  - a receptacle for disposing PPE and /or laundry items. Personal protective equipment items should be laundered in a prescribed manner unless they are disposable. Contact a pesticide specialist, safety officer or hygienist about proper laundering procedures.

- (6) Maintain clean, serviceable garments and equipment as follows:
- (a) Store PPE and personal hygiene supplies in a clean, sealable container.
  - (b) Inspect PPE for serviceability prior to use.
  - (c) Dispose of soiled or unusable PPE in a sealed, clearly marked container and discard in the appropriate manner. (See herbicide label.)
  - (d) Ensure that personnel who clean or launder PPE know:
    - that the PPE may be contaminated with pesticides and that there may be potentially hazardous effects from exposure that may occur during handling.
    - how to protect themselves when handling PPE, and how to properly clean contaminated PPE.
  - (e) Keep contaminated garments in a well marked bag.
  - (f) Secure PPE. Personal protective equipment is considered secure if it is properly contained and remains in a DNR field vehicle.
- (7) General application information:
- (a) Contract compliance personnel must read and understand all herbicide label requirements, human health information, and environmental facts.
  - (b) Personnel with field assignments must be informed of treatment locations, and have access to herbicide safety information.
- (8) Additional information:
- Safety information can be found on the product label or the Material Safety Data Sheet, which can be obtained from either the regional silviculturist, chemical distributor, or the product manufacturer.



- Human health information can be obtained from a variety of publications, industrial hygienists (contact through the manufacturer), and the Washington State Department of Health, Office of Toxic Substances in Olympia (see RCW 70.104).
- Environmental facts can be found in the Weed Science Society of America Herbicide Handbook, company literature, and research publications.
- Supplies to meet these WPS requirements are available from the DNR warehouse or safety equipment companies.
- Laundry service for contaminated PPE are available under contract from business.

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

**SEE ALSO:**

CFR 40.170  
PO14-033  
RCW 70.104

FEDERAL WORKER PROTECTION STANDARDS  
CONTROL OF COMPETING VEGETATION  
PESTICIDE INCIDENT REPORTING AND TRACKING



Attachment 1

KEEP OUT SIGN



Post no sooner than 24 hours before  
scheduled application and remove  
within 3 days after the Restricted  
Entry interval has expired.

Pesticide Used \_\_\_\_\_

Application Date/Time \_\_\_\_\_ Re-Entry Date/Time \_\_\_\_\_



Attachment 2

INFORMATION SIGN



**NOTICE: HERBICIDE TREATMENT**

The forest management unit behind this sign is scheduled for herbicide treatment.

The unit name is \_\_\_\_\_  
and it is located \_\_\_\_\_ feet beyond this sign.  
Treatment will take place as soon as \_\_\_\_\_ a.m.

Product to be used in treatment:

Name \_\_\_\_\_

EPA Registration No. \_\_\_\_\_

Active Ingredient \_\_\_\_\_

Restricted Entry Interval \_\_\_\_\_ Hours

For further information concerning this treatment  
or your use of the forest management unit, contact:

Department of Natural Resources, \_\_\_\_\_ Region  
Attention \_\_\_\_\_

1-800-527-3305 or  
\_\_\_\_\_

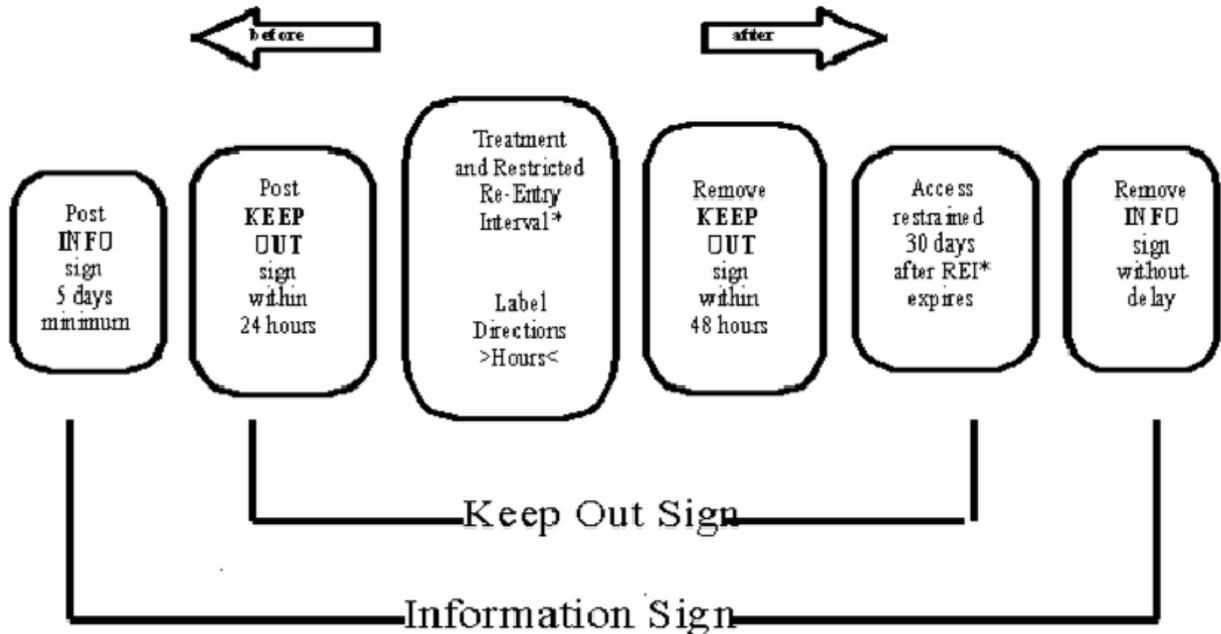




Attachment 3

# Posting Intervals for Worker Protection Standards

---



# ***Wildlife Habitat Procedures***

# Settlement Agreement

Cancels: replaces by New Procedure Oct 2008

**Date: January 2007**

**Application: All forested state trust lands west of the Cascade crest.**

## **DISCUSSION**

The "Settlement Agreement" caused a lawsuit (WEC vs. Sutherland) over the department's sustained harvest calculation of 2004 (westside) to be vacated April 2005. The Settlement Agreement has precise language that pertains to management of forested state trust lands, westside, and is therefore attached in total (hand printed names of signatories are substituted for original signatures for legibility and reference purposes in the attached copy of the document)

## **Action**

See attached below

APPROVED BY: Gretchen Nicholas, Manager  
Land Management Division  
January, 2007

**SEE ALSO:**

## Settlement Agreement

This Agreement is entered into between the Washington Environmental Council, Conservation Northwest, the National Audubon Society, and the Olympic Forest Coalition (collectively the "Plaintiffs"), Douglas Sutherland, Commissioner of Public Lands, the Board of Natural Resources (BNR) and the Department of Natural Resources (DNR) (collectively the "Defendants") and American Forest Resource Council, Pacific County, Skamania County, City of Forks, Quillayute Valley School District No. 402, Toutle Lake School District No. 130, Willapa Valley School District No. 160, Pacific County Hospital District No. 2 d.b.a. Willapa Harbor Hospital, Snohomish County, Skagit County and Castle Rock School District No. 401 (collectively the "Intervenors").

### RECITALS

- A. The Board of Natural Resources adopted Resolution 1134 on September 7, 2004, following a public decision-making process that spanned over four years. Resolution 1134 adopted 597 million board feet as the average annual sustainable harvest level from DNR-managed trust lands in Western Washington for the decade of fiscal year 2005 through fiscal year 2014, as well as amending and adopting certain policies, procedures and tasks for purposes of implementing the sustainable harvest and managing Western Washington state trust forest lands. All of the parties to this Agreement also participated in the Board's public decision-making process that led up to Resolution 1134.
- B. On October 4, 2004 Plaintiffs brought suit in King County Superior Court, entitled Washington Environmental Council, et al v. Sutherland, et al (King County Superior Court No. 04-2-26461-8SEA) (hereafter "WEC v. Sutherland") seeking a declaration that Resolution 1134 was invalid on the grounds that it was adopted without proper compliance with the State Environmental Policy Act ("SEPA"), RCW Ch. 43.21C, and seeking injunctive relief precluding DNR from conducting forest management practices under the policies, procedures or tasks that were amended or adopted by Resolution 1134. The Defendants in that action were as named above.
- C. On March 16, 2005, the Intervenors named above and Jefferson County were granted leave to intervene as parties defendant. Jefferson County subsequently withdrew as a party.
- D. Following briefing and oral argument on September 12, 2005, the Honorable Sharon Armstrong rendered a memorandum opinion on October 20, 2005, finding the Final Environmental Impact Statement on Alternatives for Sustainable Forest Management of State Trust Lands in Western Washington and for Determining the Sustainable Harvest Level, which provided the basis for SEPA compliance for

Resolution 1134, to be inadequate as to impacts on the northern spotted owl, riparian management and the alternatives analyzed, but adequate as to the cumulative effects analysis, and determining that because of the failure to comply with SEPA Resolution 1134 must be vacated. Judge Armstrong's memorandum opinion was not reduced to a final judgment.

E. The Plaintiffs, Defendants and Intervenors have negotiated this Settlement Agreement with the intent of better achieving their respective core objectives in this matter than those objectives may be achieved by the further litigation in *WEC v. Sutherland*.

F. The Plaintiffs believe that particularly due to unexpectedly steep declines in northern spotted owl populations, additional short-term protections of northern spotted owl habitat are necessary to insure viability of the owl until new habitat has been established under the Northwest Forest Plan and DNR's Habitat Conservation Plan ("HCP"). Their core objectives are:

1. To provide no net loss of northern spotted owl habitat during the term of this Agreement in order to provide greater short-term protection for the northern spotted owl beyond what was provided by Resolution 1134 during the demographic transition period;

2. To increase public knowledge and understanding of how various forms of innovative silviculture, including what is characterized in a 1996 paper by Carey, et al as the "biodiversity pathways approach," may be applied over a wider portion of the forest so as to better reconcile environmental and economic objectives; and

3. To foster effective landscape planning in the Olympic Experimental State Forest (OESF) as a tool for the management of DNR-administered forest lands.

G. For the Defendants, their core objectives are to further principles established by the Board of Natural Resources. DNR stated these principles as follows:

- 1) DNR must act in the best interest of the trust beneficiaries, as established by law and articulated by Board of Natural Resources resolutions;

- 2) DNR must comply with and will act to maintain the integrity of its Habitat Conservation Plan and the landscape approach to conservation which that plan lays out;

- 3) DNR's actions must be demonstrably guided by best available science;

- 4) DNR seeks legal predictability to efficiently guide its trust land management;



- 5) DNR will work to provide the greatest feasible sustainable revenue to trust beneficiaries in the short and long term, while living within expenditure limits;
- 6) DNR seeks outcomes that will receive Board of Natural Resources approval that can be clearly explained to the public in a non-polarizing manner and which lead to consistent and prompt implementation;
- 7) DNR seeks outcomes that provide for active stewardship of as much of the land base as allowable by law. Active stewardship includes the use of innovative and intensive silviculture to develop sustainable, productive, and structurally diverse forest stands and a mosaic of forest structure across landscapes;
- 8) DNR seeks efficiency, effectiveness, and prudence in the application of planning and analysis to guide on-the-ground operations;
- 9) DNR will actively monitor and report on its activities and promote adaptive management; and
- 10) DNR will work actively to protect sensitive lands, including old growth stands not already protected by legal and contractual requirements, with compensation to the trusts.

The Defendants are required by statute to periodically adjust acreages designated for inclusion in the sustained yield management program, and calculate a sustainable harvest level. The "sustainable harvest level" means the volume of timber to be scheduled for sale from state-owned lands during a planning decade. The Defendants view their calculation and implementation of the sustainable harvest level as an integral step in meeting their fiduciary duties to the institutional beneficiaries for whom they manage the lands. In particular, the Defendants believe the sustainable harvest calculation process enables them to meet their duty to make the trusts productive over time, and their duty to administer the trusts impartially for the benefit of both present and future beneficiaries.

H. For the Intervenor, while they recognize the other core objectives of both Plaintiffs and Defendants, their core objective is to obtain the greatest feasible sustainable revenue to trust beneficiaries in the short and long term, within the limits of DNR's financial resources.

I. This Settlement Agreement is to be interpreted and applied to achieve the core objectives of all of the parties, to the extent possible.

J. This Settlement Agreement follows a period of meetings and discussions that began in November 2005. The parties' settlement negotiations included two days of site visits to various forest stands, one day in Elbe Forest near Mt. Rainier, and the second day in the Olympic Experimental State Forest (OESF), near Forks. It was also accompanied by an exchange of technical data. A mediator helped the parties during four of their negotiation sessions, and also accompanied the parties on their site visits in the OESF. Throughout their settlement discussions, the parties

cooperated in good faith to explore suitable options that meet all parties' core objectives to the maximum extent possible.

AGREEMENT

**I. Northern Spotted Owl Conservation Measures.**

A. NRF & Dispersal Management Areas :

1) Subject to HCP Implementation Memorandum No. 1 (January 12, 1998), no "owl circle" management restrictions are superimposed on the Nesting, Roosting and Foraging (NRF) and Dispersal Management Areas designated in the HCP. DNR will manage the NRF and Dispersal Management Areas in accordance with DNR Procedure 14-004-120 (revised September 2004) and the supplemental spotted owl conservation measures provided for in this Agreement.

2) As provided in DNR Procedure 14-004-120 (revised September 2004), at least 50 percent of Watershed Administrative Units (WAUs) in designated NRF & Dispersal Management Areas will be managed to develop or maintain habitat conditions (as defined in the HCP at IV.11-12). DNR will identify the forest land comprising the 50 percent threshold habitat target guided by the priorities established in DNR Procedure 14-004-120 (revised September 2004).

3) DNR will not authorize or conduct any harvest of existing higher quality (Type A and B) habitat in designated NRF and Dispersal Management Areas. In sub-mature habitat (as defined in the HCP), within the 50 percent habitat target areas of NRF or Dispersal Management Areas, any harvest or other management activity must maintain habitat conditions and retain or enhance the trajectory of habitat improvement. Within the 50 percent habitat target areas of Dispersal Management Areas, any harvest or other management activity in Dispersal Habitat that does not meet the criteria for at least sub-mature habitat must maintain habitat conditions or enhance the trajectory of habitat improvement. In WAUs that are above the 50 percent threshold, these restrictions do not apply to habitat in excess of the threshold.

4) "Next best stands" are stands that are not habitat, but are considered by DNR to be closest to meeting the specific criteria for NRF or Dispersal habitat in the HCP and are identified as part of the 50 percent threshold habitat target as described in Section I.A.2 above. In the "next best stands" enhancement activities may be conducted only if the enhancement activities do not increase the amount of time required for the target amount of NRF or Dispersal habitat to be attained if all the stands in that WAU were left unmanaged.

5) Consistent with economic and operational constraints, DNR will concentrate enhancement activities in areas where they will have the greatest habitat benefit, and will make substantial progress towards the habitat enhancement goals presented to the Board of Natural Resources (See Figure 4.2-3 on page 4-16 of the FEIS). DNR will prioritize the "best" stands for enhancement based on the anticipated response to treatment, as determined by DNR. DNR will base stand prioritization

decisions primarily on whether volume (biomass) is increasing more than mortality, as measured by, for example, live crown and height to diameter ratios, and ring count per inch. The Department will also consider the number of legacy trees present in the stand, the diversity of tree species in the stand, potential mass wasting areas, access for roads, market conditions, and the locations of suitable habitat and other prioritized stands within the landscape. DNR will also consider opportunities for decadence creation within stands that are deficient in down woody debris or snags.

6) Regeneration harvests may be used as a means of promoting long-term development of habitat in “next-best stands” that will not reach Niche Diversification or Fully Functional stand development stages over the life of the HCP, and where variable density thinnings are not likely to be successful (due to risk of blowdown or other factors) in enhancing the quality of the habitat. Where DNR comes across such a stand, it will document why it believes regeneration harvest is appropriate. Sites managed in this way may be monitored in their development stages by plaintiff groups. Any regeneration harvest occurring as an enhancement activity will follow a variable retention harvest approach including higher levels of retention of legacies including green trees, snags and down woody debris. The following guidelines will be used as a reference in planning variable retention harvests as an enhancement activity:

1) The objective of a variable retention harvest is to retain the key structural elements of the existing stand while reinitiating the major forest stand cohort. Regeneration is often through planting in openings and matching opening size and orientation to the silvics of planted seedlings; site preparation is practiced as needed.

2) Variable retention harvest is extremely flexible in application since it utilizes a continuum of structural retention in creating silvicultural prescriptions to meet specific objectives – in this case, the objective is high quality northern spotted owl habitat (high-quality nesting, Type A and B habitats). It is utilized in cases where a forest stand’s response to thinning (partial harvest or thinning) is likely to be poor or risky due to forest health and or wind damage. Decisions regarding (1) what structures to retain on the harvested site, (2) how much of each of the structures to retain, and (3) the spatial pattern for the retention is, of course, highly dependent upon the specific management objectives and current stand conditions.

3) While a standard prescription is unlikely to be sufficient in all cases, these listed standards provide a point of reference: (1) dispersed and clumped retention of between 10-40 percent (by basal area) of the live trees with preference for structural unique live trees (the threshold target is have a multiple canopied, multiple species stand with at least 15-75 large (30 inches or greater) trees per acre; (2) retention of large (>20 inches diameter) snags in various states of decay (the threshold target is between 3 and 12 snags per acre); (3) retention of large down wood (>20 inches diameter) with a minimum of 5 percent coverage of down woody debris of large logs (the threshold target is to have more than 10 percent coverage of down woody debris); and (4) at least 5 percent of the proposed activity area should be retained in an undisturbed state.

4) In addition, for an activity to qualify as a Variable Retention Harvest at least three major purposes must be addressed in the silvicultural prescription objectives:

- (1) "life-boating" of species and processes immediately after harvesting and before forest cover is reestablished;
- (2) "enriching" the reestablished forest stands with structural features that would otherwise be absent; and
- (3) "enhancing connectivity" in the managed landscape.

5) The guidelines above will consider all of the conditions in the management area, including the riparian and wetlands management zones, and other leave trees. However, while the variable retention harvest concept considers the management area as a whole, documentation for proposed timber sales employing these techniques shall describe the site-specific retention elements in the management area, using the above guidelines.

7) It is DNR's good faith intention to actively pursue enhancement in "next best stands," consistent with market conditions and budget appropriations. As a goal and for reference only, the Department plans to target the same number of acres for enhancement activities in NRF and Dispersal Management Areas as was modeled during the sustainable harvest calculation process for the BNR's adopted alternative (i.e., roughly one acre of enhancement for each acre of regeneration harvest). Habitat enhancement may include practices such as pre-commercial thinning, variable-density commercial thinning, partial harvest, variable retention harvest (as described in Section I.A.6, above), and decadence management or enhancement.

8) The remaining 50 percent of WAUs in designated NRF & Dispersal Management Areas that are considered non-habitat are available for the full range of DNR silvicultural activities permitted under the HCP.

B. Olympic Experimental State Forest (OESF)

1) Subject to HCP Implementation Memorandum No. 1 (January 12, 1998), no "owl circle" management restrictions are superimposed on the OESF HCP planning unit. DNR will manage the OESF in accordance with the OESF conservation strategy in the HCP and the supplemental northern spotted owl conservation measures provided for in this Agreement.

2) For the term of this Agreement, DNR will not authorize or conduct any harvest in "old forest" stands as those stands have been mapped and field verified, and are identified in the maps attached as Appendix A to this Agreement, in the color

3) DNR has identified from its inventory those stands that are not "old forest," but that have the structural characteristics of sub-mature or young-forest marginal habitat (hereafter referred to as "Structural Habitat"). Stands of "Structural Habitat" are depicted on the maps set out in Appendix A to this Agreement, in the color

4) The Department will proceed with forest land planning for the OESF Planning Unit, second in line behind the South Puget Planning Unit. The Sustainable Harvest Implementation Plan ("SHIP") for the OESF will include all elements of the

landscape planning process required by the HCP. Plaintiffs and Intervenors will be invited to participate in the forest land planning process for the OESF along with other interested parties.

5) DNR will impose a planning goal in the forest land planning process, along with other planning goals, to retain all old forest and Structural Habitat for the duration of this Agreement.

6) Prior to adoption of the SHIP for the OESF by the Lands Steward, DNR will not conduct any regeneration harvest in Structural Habitat. Any regeneration harvest will be confined to stands that are not Structural Habitat. Any other management activity in Structural Habitat will sustain or improve habitat quality. Pending adoption of the SHIP for the OESF, the amount of regeneration harvest in stands over age 50 that are not Structural Habitat will be subject to the acreage limits in the OESF's interim HCP implementation procedure for northern spotted owls (PR-HCP-021(e), June 1997).

7) Following adoption of the SHIP for the OESF, except for "old forest" as mapped in on Appendix A, stands that are over age 50 will be managed subject to the SHIP and the OESF conservation strategy in the HCP, but are otherwise available for the full range of DNR silvicultural activities.

8) Stands that are younger than age 50 that are not Structural Habitat will be managed subject to the OESF conservation strategy in the HCP, but are otherwise available for the full range of DNR silvicultural activities.

9) In Structural Habitat and non-habitat, enhancement activities will be performed to meet OESF landscape level habitat targets. DNR agrees to perform at least the same number of acres of enhancement activities as regeneration harvests, measured across the entire OESF during the entire period of the Agreement. For purposes of this provision, "enhancement activities" include commercial thinning, variable density thinning, variable retention harvests (as described in Section I.A.6, above), and partial harvests.

10) Consistent with economic and operational constraints, DNR will concentrate enhancement activities in areas where they will have the greatest habitat benefit, and will make substantial progress towards the habitat enhancement goals presented to the Board of Natural Resources. DNR will prioritize the "best" stands for enhancement based on the anticipated response to treatment, as determined by DNR. DNR will base stand prioritization decisions primarily on whether volume (biomass) is increasing more than mortality, as measured by, for example, live crown and height to diameter ratios, and ring count per inch. The Department will also consider the number of legacy trees present in the stand, the diversity of tree species in the stand, potential mass wasting areas, access for roads, market conditions, and the locations of suitable habitat and other prioritized stands within the landscape. DNR will also consider opportunities for decadence creation within stands that are deficient in down woody debris or snags.

C. Owl Areas Outside of NRF, Dispersal and OESF

1) "Owl Areas" refers to those areas which were (a) designated in HCP Implementation Memorandum No. 1 (January 12, 1998), (b) within Washington

Department of Fish and Wildlife (WDFW) Status 1-R (reproductive) owl circles, and (c) within the four areas identified in Standard Practice Memorandum SPM 03-07 (Management of Northern Spotted Owl Circles And The Identification Of Northern Spotted Owl Habitat In Southwest Washington). It does not include any areas within NRF or Dispersal Management Areas or the OESF.

2) Within Owl Areas, DNR will not harvest in the highest quality (Type A & B) habitat. Management activities in Sub-Mature or Young Forest Marginal habitat will retain habitat function (i.e. may be degraded but will remain as habitat). DNR will avoid or minimize thinning activities in owl habitat in Owl Areas where a nesting pair of northern spotted owls has been observed by DNR or the Washington Department of Fish and Wildlife (WDFW) in the previous year. Non-habitat lands within Owl Areas are available for the full range of DNR silvicultural activities permitted under the HCP. Until January 2007, harvest in Owl Areas shall remain subject to HCP Implementation Memorandum No. 1 (January 12, 1998).

3) Subject to other provisions of the HCP, no harvest restrictions will apply on state forest lands (formerly Forest Board Lands) in Owl Areas in Wahkiakum or Pacific Counties. As mitigation for the loss of habitat in these Owl Areas, by June 30, 2014, DNR will conduct an acre of enhancement activities (defined to include only variable density thinning and decadence creation) in "next best stands" within NRF Management Areas in Western Washington for each acre of habitat harvested in the Owl Areas released under this paragraph. These enhancement activities may be conducted over the life of the Agreement, but should be reasonably spread over the agreement period. The acres of enhancement required by this section will not count toward the enhancement target provided for in Section I(A)(7) and will only be required if the legislature re-authorizes a 30 percent deduction from money received from management activities on federally granted lands for the Resource Management Cost Account as described in RCW 79.64.040(3) and (5) (2005).

D. Spotted Owl Habitat Delineation .

1. Habitat Types within NRF and Dispersal Management Areas and Owl Areas will be defined in accordance with DNR's inventory data as of the effective date of this Agreement, and will be the determining factor in habitat delineations. In NRF and Dispersal Management Areas, the maps in Appendix B identify high quality spotted owl habitat (Types A & B) in color, what is Sub-Mature habitat in color, and what is dispersal habitat in color. Appendix B also includes areas that are "unknown," which might or might not be habitat, in color. In Owl Areas, the maps in Appendix C identify high quality spotted owl habitat (Types A & B) in color, Sub-Mature or Young-Forest Marginal habitat in color, and areas that are "unknown," which might or might not be habitat, in color. In the OESF, the maps in Appendix A identify "old forest" habitat in color (discussed in Section I(B)(2) above), "Structural Habitat" in color (discussed in Section I(B)(3) above) and areas that are "unknown," which might or might not be habitat, in color. Habitat typing during the term of the Agreement will be subject to change only based on the express written agreement of the parties.

2. If Plaintiffs are later concerned that a timber sale is being planned in Sub-Mature or Young-Forest Marginal habitat that DNR should have categorized as higher quality Type A or B habitat in its inventory data, they will notify DNR in

writing and DNR will promptly arrange a site visit with Plaintiffs. DNR may treat the site as higher quality habitat if the parties agree that the site meets the criteria for Types A or B habitat.

3. Prior to harvest of any areas classified as “unknown” in NRF and Dispersal Management Areas, the OESF, or the Owl Areas covered by this Agreement, DNR will conduct an inventory survey according to DNR’s standard inventory procedures to determine the actual classification of the habitat type and will manage the area in accordance with the terms of this Agreement.

4. The parties disagree on the appropriate way to apply the Down Woody Debris (DWD) component of the definition of Sub-Mature and Young Forest Marginal habitat. The area of disagreement concerns whether DNR’s method for converting the percent of DWD by area to volume is appropriate. The different definitions involve approximately 26,700 acres of “disputed stands.” The “disputed stands” will be identified in color on the maps in Appendices A, B, and C. To resolve this disagreement the following will occur:

a. For the next 12 months, DNR will not conduct regeneration harvests in the “disputed stands,” after which period management in these stands will follow this Agreement and the HCP.

b. During the 12 month period, a technical work group of the Parties, the U.S. Fish and Wildlife Service, and WDFW will convene to examine the method for implementing the DWD component of the definitions of Sub-Mature habitat (HCP at IV.12) and Young Forest Marginal habitat (as found in the HCP, Glossary, page 17, and WAC 222-16-085(1)(b)(i)), with particular focus on the conversion between volume and percent surface area by acre. This process will review the existing methodology and, as necessary, develop the methodology which most faithfully applies the definitions of Sub-Mature and Young Forest Marginal as found in the HCP and WAC 222-16-085(1)(b)(i). Upon the completion of this process, and approval of any new methodology by DNR and USFWS, DNR will adjust the maps in Appendices A, B and C accordingly, if needed.

5. Confidentiality of Appendix C : Appendix C may include sensitive wildlife data, as that term is defined in RCW 42.17.310(1)(yy) (to be recodified on July 1, 2006 at 42.56.430(2)). In order to protect this potentially sensitive data, the parties agree not to provide to third persons copies of the maps in Appendix C at any scale that shows more detail than 1” to 30 miles (i.e., all of Western Washington on a single, 8½” by 11” sheet of paper), except that they may provide Appendix C at whatever scale necessary to qualified experts they have retained to assist them with technical issues. Before sharing Appendix C with qualified experts, the expert must sign the Data Sharing Notice and Acknowledgement attached as Appendix D and send a copy of the signed form to: Office of the Attorney General, Attn: Division Chief, Fish, Wildlife, and Parks Division, PO Box 40100, Olympia, WA, 99504-0100.

Parties to this agreement subject to the Public Disclosure Act will treat any request for more detailed Appendix C map information than 1” to 30 miles as exempt from public disclosure, and will withhold the same, to the extent allowed by law or regulation. If any party subject to the Public Disclosure Act receives a request for more detailed map information and concludes that applicable law or regulation does not allow withholding of the information from public disclosure, the party will provide

to the WDFW at least thirty days advance notice of release of the information, so that the WDFW may pursue a protective order under RCW 42.17.330 (to be recodified on July 1, 2006 at RCW 42.56.540). Notice to the WDFW shall be provided in two ways: (1) to the attention of the WDFW Public Records Officer at the following address: 600 Capitol Way N., Olympia, WA 98501-1091, and (2) to the Division Chief of the Fish, Wildlife, and Parks Division of the Attorney General's Office, at PO Box 40100, Olympia, WA, 99504-0100.

## **II. Innovative Silviculture**

A. DNR will set up demonstration projects in the OESF testing Dr. Andrew Carey's biodiversity pathways treatment principles, which are replicated in several areas and demonstrate the application of different scales of openings, scale of variation and overstory retention on forest management units at a stand level. The demonstration projects will be established with a peer reviewed scientific design intended to replicate the same two or three variations on the same types of stands. These demonstration projects will be developed and implemented as part of the OESF SHIP during the term of this Agreement.

B. Modeling Exercise: DNR will initiate a modeling exercise to examine alternative innovative silvicultural techniques, including those proposed by Dr. Andrew Carey, across the OESF. This modeling exercise will likely provide information useful to the design of research projects in the OESF. This 100-year modeling exercise will examine various key variables in relation to existing DNR objectives, such as but not limited to: varying rotation lengths, patch (opening) sizes, retention amounts, environmental impacts at various geographic scales (for example, stand, sub-basin, watershed, landscape, and WRIA), and economic feasibility. DNR will invite a qualified representative of the Plaintiffs and Intervenor to participate on a technical review committee which will be limited to the parties. The technical review committee will provide input on modeling assumptions and assist in the design of the modeling scenarios. Independent peer review by a mutually accepted peer review committee will be sought. The modeling exercise will be limited by reasonable technical, time and cost constraints. The parties will attempt to reach consensus on the design of the modeling exercise under this section. If consensus cannot be reached, the modeling exercise will not occur as a part of this Agreement. It is anticipated that it may take a year or more to complete the modeling design and to run the model once the process has been initiated. DNR will initiate the process within the next twelve months. In addition, DNR will seek to publish the modeling work in a peer-reviewed journal.

### **III. Other Land Management Policy**

- A. Upon the effective date of this Agreement, the 50/25 rule set forth in Task 14-001-010 will no longer apply to DNR management of forest lands in Western Washington.
- B. The Department will manage leave trees in stands that are regenerated in accordance with the HCP and Procedure 14-006-090 (revised September, 2004) such that it will leave eight or more trees per acre, in addition to those left in riparian or wetland management zones.
- C. The Riparian Forest Restoration Strategy which received concurrence from the U.S. Fish and Wildlife Service and NOAA-Fisheries Service (the "Federal Services") in 2005 ("RFRS") will become effective within two months following the effective date of this Agreement.
- D. The Department will run the sustainable harvest model to reflect the commitments of this Agreement and the RFRS, and present the results to the Board of Natural Resources. DNR will make every reasonable effort to complete this modeling as soon as feasible in the context of its total workload. The BNR will make a decision on an adjustment to the sustainable harvest level based upon the modeling results and additional SEPA documentation no later than the end of the 2007 calendar year.
- E. The Policy for Sustainable Forests (PSF) will be brought to the Board of Natural Resources for its approval within three months following the effective date of this Agreement.
- F. Within one year of the effective date of this Agreement, DNR will have discussions with Plaintiffs about the development of an old growth identification process for Eastern Washington.

### **IV. Implementation**

- A. The forest land planning process will continue. The SHIP for the OESF Planning Unit will be second in line (after the South Puget Planning Unit), and will include all elements of the landscape level planning process required by the HCP.
- B. Timber harvest schedules for planned sales will be developed by each region and county, each year. DNR will invite Plaintiffs to review and discuss these schedules, as DNR does for other interested groups.
- C. All of the DNR's silvicultural activities will be recorded into its Planning and Tracking database. This will show the silvicultural objectives and threshold targets envisioned to achieve the objectives.

D. DNR has an active HCP implementation monitoring program, and the reports DNR generates for the Federal Services will be shared with the Plaintiffs.

E. The parties will hold annual meetings in the fall of each year to discuss issues pertinent to the implementation of this Agreement including projected harvest activities in spotted owl habitat. At this meeting, DNR will present its annual harvest plans for spotted owl habitat in NRF and Dispersal Management Areas, the OESF, and the Owl Areas covered by this Agreement, including proposed enhancement activities, and the parties will attempt to resolve any disagreements over proposed harvest and enhancement in owl habitat. The harvest plans presented at this annual meeting will include at a minimum the location of proposed timber sales, the habitat type of the stands involved, and the type of harvest or treatment proposed. Additional follow up meetings may be scheduled if requested by any party. DNR will give the parties notice of any new forest management projects not discussed at the annual meeting or major changes to harvest activities that were discussed at the annual meeting, and will provide the parties with a reasonable opportunity to initiate the dispute resolution process prior to commencing ground-disturbing forest practice activities.

F. DNR will support reasonable requests of the Plaintiffs for private, third-party funding for the purposes of implementing this Agreement.

## **V. Legal Resolution**

A. Within 5 days of the effective date of this Agreement, WEC v. Sutherland will be dismissed voluntarily with prejudice or by stipulation of the parties (or if judgment has already been entered, the parties will submit a joint motion to the superior or appellate court seeking a vacation of the judgment and dismissal).

B. Plaintiffs waive any challenge to a recalculation of the sustainable harvest level and accompanying State Environmental Policy Act (SEPA) document that implements Section III.D of this Agreement.

C. Plaintiffs waive any challenge to the RFRS and any accompanying SEPA document.

D. During the term of this Agreement, Plaintiffs waive challenges to future DNR timber sales on the basis of impacts to northern spotted owls provided that such sales are in accordance with this Agreement.

E. Plaintiffs waive any challenges to the forthcoming Policy for Sustainable Forests Environmental Impact Statement (EIS) that are based upon the adequacy of the June 2004 Final EIS for the Sustainable Harvest Calculation. If Plaintiffs intend to challenge the Policy for Sustainable Forests or the EIS for any other reason, Plaintiffs shall follow the dispute resolution process outlined in Section VII.A of this Agreement (below). Failure to follow the dispute resolution process with respect to a challenge to the Policy for Sustainable Forests will result in a waiver of the claim.

F. Plaintiffs will not challenge the SHIP for the OESF, or any timber sale implementing the SHIP for the OESF, based on impacts to the spotted owl, provided

that the SHIP attains the spotted owl planning goal of preserving all old forest and Structural Habitat in each landscape planning unit under Section I(B)(5) of this Agreement for the duration of this Agreement. During the term of this Agreement, any future challenge to the OESF SHIP, or a timber sale implementing the SHIP, based on impacts to the spotted owl will be limited to the non-attainment of the goal of retention of all old forest and Structural Habitat.

G. Plaintiffs and their legal counsel have a duty of good faith and fair dealing not to encourage other groups or individuals to raise legal claims they have agreed to waive in this settlement.

H. The parties recognize and understand that unforeseen circumstances may arise under this Agreement. The parties agree to use the dispute resolution process to raise such issues to the attention of the other parties. The parties shall work cooperatively to try to find a mutually agreeable solution for any unforeseen circumstances. Any amendments to this Agreement shall be in writing, and shall be signed by the parties' principals.

#### **VI. Management Fee for Resource Management Cost Account.**

Prior to and during the 2007 legislative session, all of the parties will actively support the legislative re-authorization of a 30 percent deduction off money received from management activities on federally granted lands, for the Resource Management Cost Account. This deduction is described in RCW 79.64.040(3) and (5) (2005).

#### **VII. Communications and Dispute Resolution**

A. Dispute Resolution Process: If any party to this Agreement believes that another is in violation of their commitments under the Agreement, they have a duty to ask for a meeting with the party alleged to be out of compliance before taking any other action (i.e., filing a legal challenge in any forum; or taking the issue to outside parties such as the press, legislators, the Federal Services, or publishing critiques in newsletters to their members). The DNR shall be represented at such meetings by its Lands Steward or equivalent, and other participating parties shall be represented through personnel with decision-making authority in their organizations. The meeting will occur within two weeks from the time the request is received by the other parties, unless otherwise agreed. Such agreement will not be unreasonably withheld. The purpose of the meeting is to have all parties mutually understand the issue and resolve it if possible. Future meetings may also occur. All parties shall cooperate in good faith to make the process work. Once the parties begin the dispute resolution process, if a party wishes to communicate with non-parties about compliance issues, they may do so after informing the other parties of their intention. The dispute resolution process will conclude 30 days after the non-initiating party has delivered a written description of the result of the process to the other parties. Where the dispute involves a proposed timber management activity, DNR will not allow ground-disturbing forest practice activities to occur until the dispute resolution process is complete.

B. No legal dispute between the parties relating to compliance with this Agreement will be ripe unless the parties have followed the dispute resolution process under this Agreement; however, if the dispute involves an administrative or judicial appeal and that appeal cannot be timely filed before the dispute resolution process has been concluded as provided in Section VII(A) above, the appeal may be filed and, unless directed otherwise by a court or administrative tribunal, all litigation under that appeal shall be put in abeyance until the dispute resolution process is concluded.

C. The parties intend to build a relationship of collaboration and trust during the term of this Agreement. Building trust requires that parties acknowledge the legitimacy of the goals and interests of the other parties to this Agreement and conduct themselves in a transparent and respectful manner in working to reconcile these competing goals and interests. During the term of this Agreement, the parties will commit themselves to open, truthful, serious, and constructive dialog when meeting with each other in private and engaging in public communications.

1) DNR and the other parties to this Agreement recognize it is in their best interest to resolve issues and concerns outside of the courts whenever possible. Cooperation between DNR and the other parties is emphasized. The parties in good faith will pursue reasonable discussions before pursuing judicial resolution. In these discussions, DNR and the other parties will seek mutually beneficial outcomes.

### **VIII. Miscellaneous.**

A. The effective date of this Agreement is the date upon which the Defendants and all of the Plaintiffs have executed this Agreement. This Agreement terminates when the BNR approves a sustainable harvest calculation extending beyond FY 2014, but no earlier than June 30, 2014, the end of the present planning decade, and all commitments terminate on that date unless otherwise specifically noted. Nothing herein affects the longevity of the DNR's HCP commitments.

B. This Agreement may be executed by facsimile and in counterparts.

WASHINGTON ENVIRONMENTAL COUNCIL

By \_\_\_\_\_  
Joan Crooks, Executive Director



NATIONAL AUDUBON SOCIETY

By \_\_\_\_\_  
Nina Carter, Executive Director  
Audubon Washington

NORTHWEST ECOSYSTEM ALLIANCE

By \_\_\_\_\_  
Mitch Friedman, Executive Director  
NWEA (now Conservation Northwest)

OLYMPIC FOREST COALITION

By \_\_\_\_\_  
Bonnie Phillips, Executive Director

DOUG SUTHERLAND

By \_\_\_\_\_  
Commissioner of Public Lands

BOARD OF NATURAL RESOURCES

By \_\_\_\_\_  
Doug Sutherland, Chair

DEPARTMENT OF NATURAL RESOURCES

By \_\_\_\_\_  
Doug Sutherland  
Commissioner of Public Lands

AMERICAN FOREST RESOURCE COUNCIL

By \_\_\_\_\_  
Its \_\_\_\_\_

PACIFIC COUNTY

By \_\_\_\_\_  
Its \_\_\_\_\_

SNOHOMISH COUNTY

By \_\_\_\_\_  
Its \_\_\_\_\_

SKAGIT COUNTY

By \_\_\_\_\_  
Its \_\_\_\_\_

SKAMANIA COUNTY

By \_\_\_\_\_  
Its \_\_\_\_\_

CITY OF FORKS

By \_\_\_\_\_  
Its \_\_\_\_\_



QUILLAYUTE VALLEY SCHOOL DISTRICT NO. 402

By \_\_\_\_\_  
Its \_\_\_\_\_

TOUTLE LAKE SCHOOL DISTRICT NO. 130

By \_\_\_\_\_  
Its \_\_\_\_\_

CASTLE ROCK SCHOOL DISTRICT NO. 401

By \_\_\_\_\_  
Its \_\_\_\_\_

WILLAPA VALLEY SCHOOL DISTRICT NO. 160

By \_\_\_\_\_  
Its \_\_\_\_\_

PACIFIC COUNTY HOSPITAL DISTRICT NO. 2 d.b.a. WILLAPA HARBOR HOSPITAL

By \_\_\_\_\_  
Its \_\_\_\_\_

# Interim Direction for Addressing Blowdown in Northern Spotted Owl Habitat<sup>1</sup> (Westside)

## Relating to the Implementation of the Settlement Agreement<sup>2</sup>

**Date: January 2009**

**Application: Designated Westside NRF and Dispersal Management Areas, Owl Areas and the OESF for the term of the Settlement Agreement**

### **Discussion**

Significant natural events in forests (e.g., windstorms, fire, insect outbreaks and disease epidemics) often require rapid action consistent with policy, landscape, and stand rotational objectives. This need is accentuated when such events occur in designated northern spotted owl (NSO) habitat, particularly the habitat addressed in the Settlement Agreement. The December 2007 storms and their ensuing blowdown is one such event.

Specifics for how to deal with blowdown in stands identified as northern spotted owl habitat within Nesting, Roosting, and Foraging (NRF) & Dispersal management areas, the OESF, and Owl Areas were not addressed in the Settlement Agreement. This interim direction is the first step in developing direction and guidance for managing forests in such situations. Where not inconsistent with this interim direction, all current procedures and guidelines apply.

The Plaintiffs, Defendants, and Intervenors negotiated the Settlement Agreement with the intent that it meets the core objectives of all parties. Some of those core objectives outlined in the Settlement Agreement that relate to addressing blowdown in spotted owl habitat were:

1. No net loss of northern spotted owl habitat during the term of this Agreement.
2. Increase public knowledge and understanding of how various forms of innovative silviculture may be applied over a wider portion of the forest so as to better reconcile environmental and economic objectives.
3. Act in the best interest of the trust beneficiaries as established by law.

---

<sup>1</sup> In this document, any reference to northern spotted owl habitat is defined and designated per the maps referenced in the Settlement Agreement, page 8, Section I.D.1.

<sup>2</sup> Settlement Agreement refers to the agreement established resolving the *Washington Environmental Council, et al v. Sutherland, et al* (King County Superior Court No. 04-2-26461-8SEA), vacated April 7, 2006.

The 1997 HCP addressed the issue of blowdown "salvage operations" on page IV.10. It states:

*"DNR's HCP conservation strategies include commitments to develop and maintain wildlife habitat (in this case, NRF habitat and dispersal habitat for the northern spotted owl) over time in designated amounts and areas. In general, such conservation commitments made in the HCP will take priority over other DNR management considerations. However, these conservation commitments may, in some cases, be inconsistent with activities DNR must consider under state statutes pertaining to salvage and forest health."*

*"For example, salvage operations might be considered by DNR for reasons such as windthrow, fire, disease, or insect infestation. In conducting salvage activities, DNR shall, to the extent practicable:*

- 1. minimize the harvest of live trees to those necessary to access and complete salvage activities;*
- 2. maximize and clump the retention of large, safe, standing trees to provide future snags; and*
- 3. consider opportunities to retain concentration of snags and/or coarse woody debris which may benefit species..."*

### **Variable Retention Harvest**

Variable retention harvest (VRH), as referenced in Dr. Jerry Franklin's 1997 book titled *Creating a Forestry for the 21<sup>st</sup> Century, the Science of Ecosystem Management*, is based upon the concept of retaining structural elements of the stand for at least the next rotation or longer in order to achieve specific management objectives. VRH is quite flexible in application. The primary objective of VRH and structural retention is to provide *refugia* for elements of biological diversity that might otherwise be lost from the harvested area. Therefore, the design of the VRH harvest activity is of great importance if it is being used for habitat restoration, maintenance, or enhancement after a blowdown event. Much spotted owl habitat occurs as a fine-grained mosaic in which abundant small blowdown patches are interspersed within a broader context of mature forest cover. Here spotted owls may find local concentrations of coarse woody debris and snags (important habitat components for several of their prey species) interspersed among abundant perches from which to hunt as well as hiding cover that reduces their risk of predation.

### **Coarse Woody Debris Retention**

The 1997 HCP discusses the need for down woody debris retention for northern spotted owl habitat. On page IV.16, it states:

*"Down wood is essential for small mammal communities (Maser and Trappe 1984; Harmon et al. 1986). Carey and Johnson (1995) found that the abundance of small mammal species was related to the amount of dead and down wood in both managed and naturally regenerated stands. From their empirical observations, they recommend that retention of 15 to 20 percent cover of coarse woody debris would allow most small mammal species to reach their potential abundances. Coverage of less than 10 percent probably would not allow these communities to reach their potential abundances (Carey and Johnson 1995 p.347). Attaining an adequate level of large woody debris for small mammal communities is an important consideration for spotted owl nesting habitat. However, it is not clear whether providing for full potential abundance of small mammal*

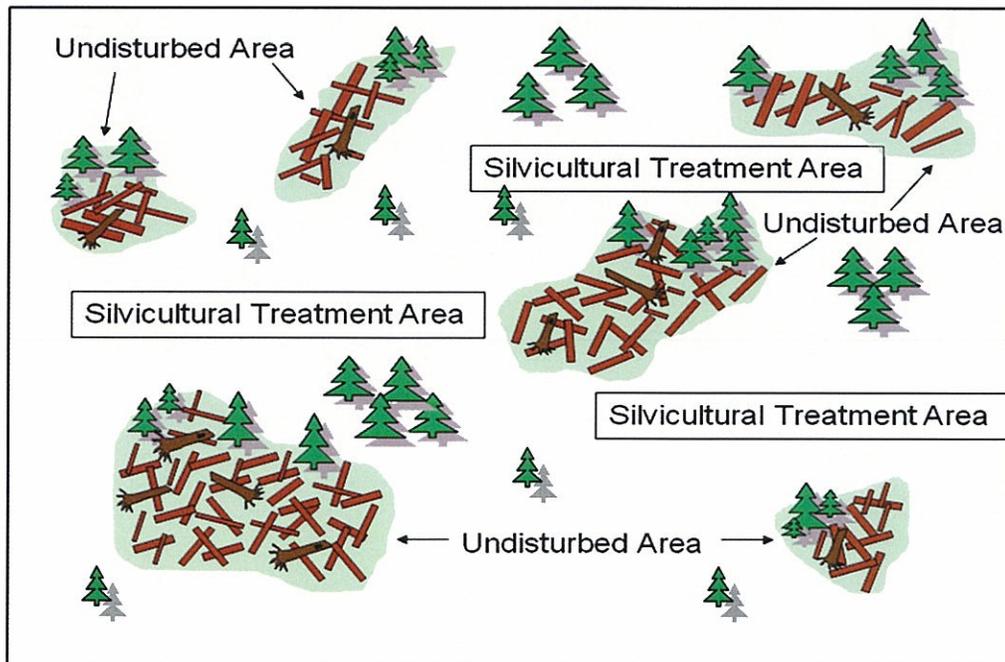
*communities is necessary given that the spotted owl's primary prey is the northern flying squirrel, which is an arboreal rodent. Down woody debris is also associated with species of fungi that are the primary food source for flying squirrels (Carey 1995). Again, the amount of woody debris cover needed to adequately provide this function is not known. A 5 to 10 percent range was chosen as the amount of down woody debris cover based on the reasoning that if 15 percent cover supported small mammal populations at their full potential abundance, the middle two-thirds of a range between 0 and 15 percent would likely provide for adequate spotted owl prey populations..."*

Necessary structural requirements could serve a useful function if retained for a collective stand structural condition such as undisturbed litter layers, vegetation retention, or maintenance of microclimate conditions. Such conditions could sometimes be achieved through the retention of small patches as part of the management activity – that is, by aggregating all or part of the retained structures in small patches throughout the management activity.

Below are illustrations depicting methods of aggregated structural elements in a management activity.

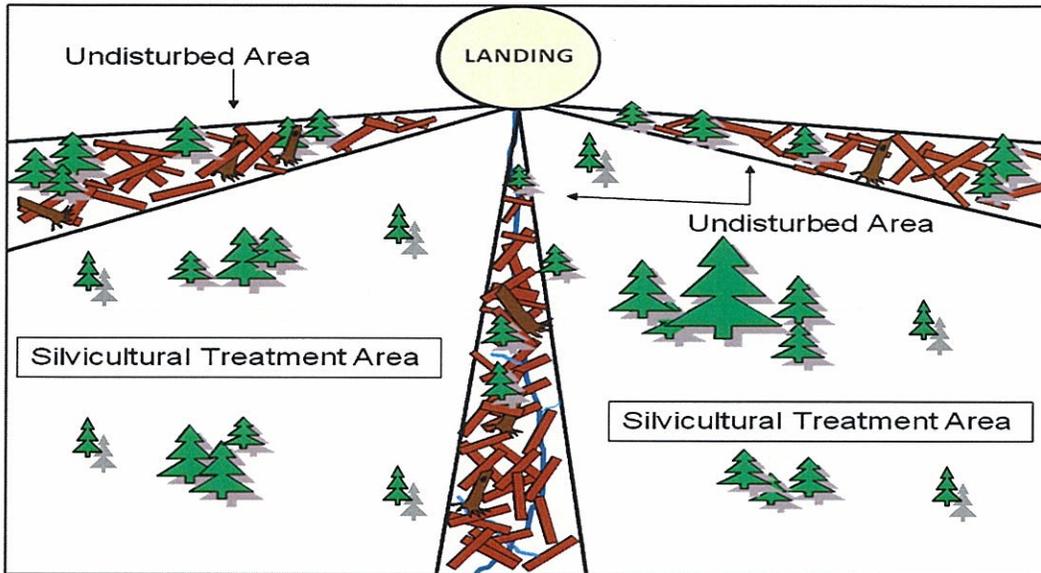
### Aggregated Structural Retention Examples:

**Illustration: Aggregated structural retention in a management unit (ground based yarding system)**

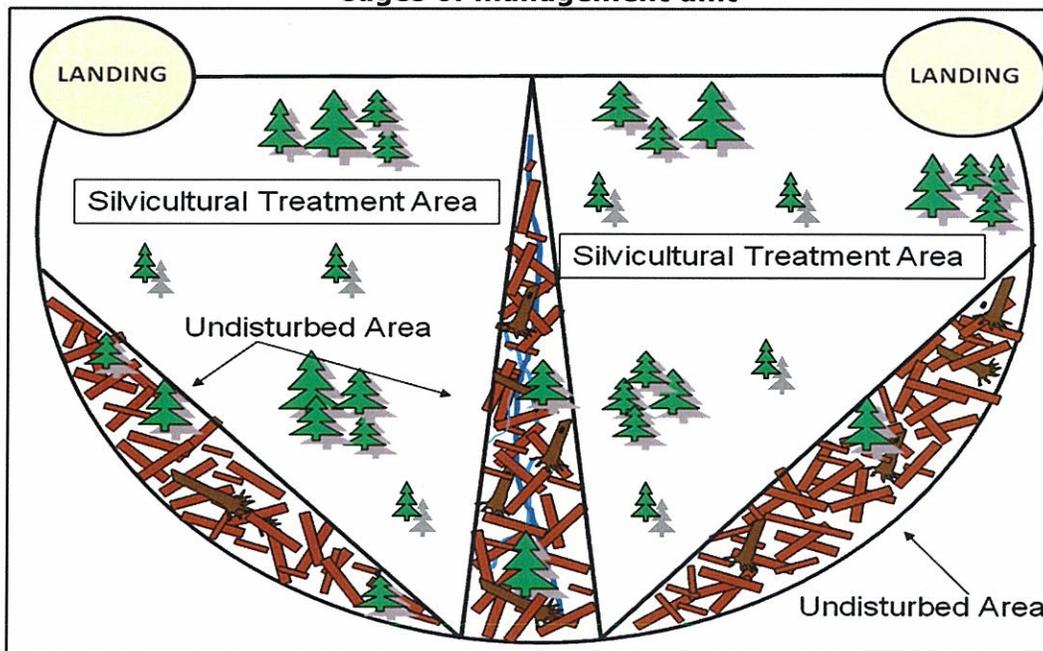




**Illustration: Aggregated structural retention in a management unit  
(cable yarding system)**



**Illustration: Aggregated structural retention along  
edges of management unit**



### **Action**

If blowdown occurs in identified northern spotted owl habitat inside NRF or Dispersal Management Areas, Owl Areas, or the OESF and are located in Spotted Owl Management Units (SOMUs) or specific habitat types otherwise restricted from harvest within the Settlement Agreement; the following process will be conducted:

Notification to Settlement Agreement Partners of activities within blowdown in designated northern spotted owl habitat addressed in the Settlement Agreement will be done via the processes stated in the Settlement Agreement.

1. A DNR biologist together with a state lands forester or an intensive management forester (IMF) will provide a written assessment, based on a stand exam (of sufficient intensity for the situation), of whether or not the stand still contains all habitat components for the designated spotted owl habitat (*see Forestry Handbook Procedure PR 14-004-120 "Northern Spotted Owl Management (Westside)"*) for habitat types and their respective habitat components)). The assessment will include a description of habitat components that are lacking after the event.
2. After the assessment has been conducted, one of the following courses of action will be taken:
  - a. If the stand condition, after the blowdown event occurs, ***continues to satisfy all habitat components*** required to meet the mapped habitat type, the DNR biologist and state lands forester/IMF will recommend a rotational silvicultural prescription that retains all habitat components within designated habitat until rotation's end.
    - i. Document the finding in planning & tracking (P&T) through a rotational silvicultural prescription that demonstrates the stand is meeting rotational forest management unit (FMU) objectives.
    - ii. Only harvest activities that sustain and/or improve habitat quality are permitted, depending on the area. Refer to Forestry Handbook Procedure PR 14-001-030 "Settlement Agreement" for specific permitted actions in habitat.
  - b. If the stand condition, after the blowdown event occurs ***fails to satisfy one or more habitat components*** required to meet the mapped habitat condition or better (*defined in Forestry Handbook Procedure PR-14-004-120 and the Settlement Agreement, Section I.A.6.*), the biologist and state lands forester/IMF will recommend a rotational silvicultural prescription that places the stand on an optimal trajectory towards meeting rotational forest management unit (FMU) objectives.

In the case of blowdown in northern spotted owl habitat, retention of legacy cohorts and habitat objectives are the highest priority. However, because all green tree and snag retention (see items 2biii-2bv below) are subject to the safety standards of the Department of Labor and Industries (Chapter 296-54

WAC), the harvest unit should be designed to conserve legacy cohorts and meet habitat targets without jeopardizing forest worker safety once on the ground activity commences. When harvest activity commences, forest worker safety is the paramount priority.

For any management activity recommended in item 2b, the following apply:

- i. If the prescription specifies regeneration of new cohorts in openings, species selected will match opening size and orientation to the silvics of naturally regenerated or planted seedlings.
  - ii. Conduct site preparation and vegetation management as plant association and local experience indicate are for optimal stand progression consistent with rotational objectives.
  - iii. Retain all live standing trees.
  - iv. If present, retain large ( $\geq 20$  inches diameter) snags in various stages of decay.
  - v. If present, retain large coarse wood ( $\geq 20$  inches diameter) with a threshold target of more than 10 percent coverage, preferably 15-20 percent coverage, or more coverage where conditions dictate.
  - vi. The timber harvest activity threshold target is at least 15 percent of the gross area of the blowdown to remain in an undisturbed state.
- c. If the above guidance can not be accomplished due to worker safety or the facilitation of harvest techniques, an **exception** must be submitted to the Ecosystem Services Section for written approval by the Ecosystem Services Section Manager. Before approval is granted, the Ecosystem Services Manager will send the Settlement Partners all of the pertinent information regarding this exception. The Settlement Partners will then have 14 days to review the exception and respond with concerns, if any. If there are no concerns raised after the 14 day review period, and if appropriate, the Ecosystem Services Manager may give written approval for the exception and the activity may proceed. If concerns are raised, the Ecosystem Services Manager will convene a meeting of the parties to attempt to resolve the issue.

For exceptions, submit to the Land Management Division (the Ecosystem Services Section Manager will review for content and the Silviculture and Regeneration Section Manager for format and silvicultural soundness), for review, approval, and notification to the Settlement Partners:

- i. The stand's silvicultural rotational and current activity prescriptions. Refer to Forestry Handbook Procedure PR 14-005-060 "*Silvicultural Rotational Prescriptions.*"
- ii. A legal description of the area in question.
- iii. A copy of the biologist and state lands forester/IMF stand exam and written assessment of the area – including photographs.



3. Until the process for updating/re-typing of the Settlement Agreement maps has been finalized and approved by all parties to the Settlement Agreement, all stands will remain designated as habitat on the Settlement Agreement maps. All activities within these stands will be designed to maintain or move the stand back on an optimal trajectory toward quality spotted owl habitat.

APPROVED BY: *Gretchen Nicholas* 1/13/09  
**Gretchen Nicholas, Manager**  
**Land Management Division**



March 7, 2013

**TO:** Sue Trettevik, Olympic Region Manager  
**FROM:** Julie Sackett, Forest Resources Division Manager  
**SUBJECT:** Marbled Murrelet Management within the Olympic Experimental State Forest

This Memorandum supersedes a November 1999 Procedure titled "Protecting Marbled Murrelet Habitat" as it relates to the Olympic Experimental State Forest (OESF). This Memorandum applies to HCP permitted activities within the OESF and directs implementation of the HCP Marbled Murrelet Interim Conservation Strategy (MMICS).

**DISCUSSION**

Development of the HCP Marbled Murrelet Long-Term Conservation Strategy (MMLTCS) is progressing. Until the MMLTCS is completed, DNR's management activities must follow the MMICS. This Memorandum provides detailed information for implementation of the MMICS. When the MMLTCS is completed and approved by U.S. Fish & Wildlife Service, guidance on implementing the MMLTCS will replace this Memorandum.

In September 2008, a report titled *Recommendations and Supporting Analysis of Conservation Opportunities for the Marbled Murrelet Long-Term Conservation Strategy* (Science Team Report) was prepared for DNR. The term and concept, "Science Team Additional Habitat" is derived from this report where marbled murrelet habitat is discussed.

Boundaries of Reclassified Habitat, Old Forest, Science Team Additional Habitat and Occupied Marbled Murrelet Sites (Occupied MM Sites) needed to implement this Memorandum are available spatially in ArcGIS and the State Uplands Viewing Tool under the main heading "State Lands - Marbled Murrelet - HCP Policy" with the layer titles; "Murrelet Habitat- OESF" (Source: SHARED\_LM.MM\_HABITAT\_OESF).

**IMPLEMENTATION**

<b>Action By:</b>	<b>Action:</b>
Olympic Region	A. Defer from harvest <u>all</u> occupied MM sites, reclassified habitat, old forest and science team additional habitat within the OESF. These habitat types are delineated spatially in DNR's GIS (see above) and the occupied sites reflect delineation as identified by the Science Team Report.



- B. Occupied sites and unsurveyed old forest will be evaluated for the application of buffers and timing restrictions from adjacent management activities when appropriate. Survey status of old forest is available spatially on the *Murrelet Habitat - OESF* GIS layer by querying MM\_SURVEYED\_FLG equals "Y" or "N" ("N" means it has not been surveyed). Evaluate the application of a buffer for any proposed harvest activities within 328' of and timing restrictions for noise disturbing management activities within 0.25 miles of an occupied site or unsurveyed old forest. As an example, buffers may be in the form of a 328' managed buffer (thinned buffer as per WAC 222.16-080 (1)(h)(v) residual stand stem density levels) or a 165' no touch buffer. Examples of noise disturbing activities include but are not limited to: felling and bucking, cable and helicopter yarding, operation of heavy equipment and slash disposal or prescribed burning; this does not include log hauling. One factor (but not limited to) that may influence the need for a buffer is the role topography can play and its relation to the proposed management activity and location of the occupied site. All proposed management activities within 0.25 mile of an occupied site and unsurveyed old forest will be evaluated with input from the region biologist. All regeneration harvests within 328' of an occupied site or unsurveyed old forest will be reviewed by the HCP and Scientific Consultation Section of Forest Resources Division. All management activities within 0.25 miles of an occupied site or unsurveyed old forest that doesn't have a timing restriction will be reviewed by the HCP and Scientific Consultation Section. For all management activity proposals within 0.25 miles of an occupied site or unsurveyed old forest it is important to provide adequate information within SEPA to support buffer decisions.
- C. Within occupied sites, new road construction is not permitted. If road reconstruction or road abandonment is deemed necessary (safety related or to address adverse environmental conditions) and involves felling of trees (i.e. tree >6" dbh), review by the HCP and Scientific Consultation Section of FRCD is required. Provided no tree felling occurs (including day-lighting), road maintenance, road reconstruction or road abandonment may occur without Division review as long as all other aspects of this Memorandum are adhered to.
- D. Within old forest, reclassified habitat or Science Team Additional Habitat; new road construction, reconstruction or maintenance will be reviewed by the HCP and Scientific Consultation Section of FRCD prior to commencing these activities. Provided no tree (i.e. tree >6" dbh) felling occurs (including day-lighting), road maintenance, road reconstruction or road abandonment may occur without Division review as long as all other aspects of this Memorandum are adhered to.

	E. Reviews by the HCP and Scientific Consultation Section will require documentation by the region describing the proposal including background, the proposal itself, alternatives to the proposal considered; accompanied by maps and photos as appropriate. This documentation will be submitted to the HCP and Scientific Consultation section of the Forest Resources Division for review and concurrence and may involve consultation with the USFWS.
Olympic Region and Asset & Property Management Division	Activities related to non-timber resources (as defined within the HCP) must be compliant with the HCP, including the Interim MM Conservation Strategy and this Memorandum.

cc: Lenny Young, Department Supervisor, State Uplands  
 Kyle Blum, Deputy Supervisor, State Uplands  
 Darin Cramer, Division Manager, Marketing & Leasing Division  
 Jed Herman, Division Manager, Asset Management & Public Use Division  
 Clay Sprague, Assistant Division Manager, HCP & Scientific Consultation Section



## Current Bald Eagle Protection on Forest Land in Washington State

**April 12, 2012**

*Regulatory authority for protecting bald eagle habitat recently changed in Washington State, and eagle protection now resides solely with the U.S. Fish and Wildlife Service (USFWS). Responding to the recovery of the bald eagle, the Washington Fish and Wildlife Commission and the Forest Practices Board have modified their respective habitat protection rules. Bald and golden eagles remain protected under the Federal Bald and Golden Eagle Protection Act, and forest practices applicants need to be aware of the steps necessary to protect bald eagles and be in compliance with this federal law.*

### Federal Bald Eagle Protection

To avoid impacting eagles, landowners and managers must comply with the **Federal Bald and Golden Eagle Protection Act** at

[www.fws.gov/migratorybirds/mbpermits/regulations/BGEPA.PDF](http://www.fws.gov/migratorybirds/mbpermits/regulations/BGEPA.PDF)

Prior to submitting forest practices applications (FPAs) to the Washington State Department of Natural Resources (DNR), landowners and managers who wish to carry out forest practices activities (timber harvest, road construction, etc.) within 660 feet of a nest or roost site need to consult the **Federal management guidelines for bald eagles** to determine if they can self-certify or whether a Federal permit may be required ([www.fws.gov/pacific/eagle/guidelines/disturbnestingbaea1.html](http://www.fws.gov/pacific/eagle/guidelines/disturbnestingbaea1.html)).

These guidelines describe timing and distance recommendations to avoid take (disturbance) of nesting and roosting bald eagles from forest practices activities. If you cannot self-certify that the activity will avoid disturbance and/or take by following the guidelines, contact the USFWS. Key contacts are Colleen Stinson, 360-753-9536, [Colleen\\_Stinson@fws.gov](mailto:Colleen_Stinson@fws.gov), or Lindsay Wright, 360-753-6037, [Lindsay\\_Wright@fws.gov](mailto:Lindsay_Wright@fws.gov).

**The USFWS requests applicants submit self-certification forms to the USFWS along with a copy of the FPA (see contacts above).**



### IMPORTANT!

Are you proposing to conduct any forest practices activities within 660 feet of a bald eagle nest or communal roost site? Are you planning to use explosives within one mile of a communal roost site? If so, you should review the recommended Federal distance and timing restrictions for forest practices activities at [www.fws.gov/pacific/eagle/guidelines/disturbnestingbaea1.html](http://www.fws.gov/pacific/eagle/guidelines/disturbnestingbaea1.html)

If you would like to report information about an eagle nest or breeding territory, WDFW is interested in the following types of information:

- The location of a new eagle nest or breeding territory,
- A new nest location within a known territory,
- A more accurate location for an existing nest structure,
- Loss of a nest structure or a nest tree,
- Information about occupancy of the site by eagles between January and August, and
- The number of young eagles observed in a nest.

Before submitting information to WDFW please consult '**PHS on the Web**' (<http://wdfw.wa.gov/mapping/phs/>) to determine the location and name of the bald eagle territory in question, and then visit our **Bald Eagle Territory History** database ([http://wdfw.wa.gov/conservation/bald\\_eagle/territory/](http://wdfw.wa.gov/conservation/bald_eagle/territory/)) to determine whether the nest tree location or particular territory history information is already in our database. To share your information with WDFW, please contact Gretchen Blatz at 360-902-2484; [Gretchen.Blatz@dfw.wa.gov](mailto:Gretchen.Blatz@dfw.wa.gov)

(over)

## Bald Eagle Recovery

Until recently, bald eagles in Washington have been protected under the Federal Endangered Species Act and the Washington State threatened species list. From a low of 104 breeding bald eagle pairs in 1980, Washington's eagle population has increased dramatically, due in part to the protection of nesting and roosting habitat. By 2005, an estimated 840 occupied territories were documented throughout the state. In 2007, the bald eagle was removed from the Federal Endangered Species list, and was down-listed in Washington State from Threatened to Sensitive. They remain under the protection of the Federal Bald and Golden Eagle Protection Act.

## State Regulatory Changes

In 2011, the Washington Fish and Wildlife Commission amended the Washington Department of Fish and Wildlife (WDFW) bald eagle habitat protection rules to remove the need for Bald Eagle Management Plans. However, nest trees and the eagles themselves remain protected by state (and Federal) law.

Effective March 18, 2012, the Washington Forest Practices Board removed the Forest Practices Rules that required environmental review (SEPA) for forest practices activities near bald eagle nests and roosts, as well as the need for a Bald Eagle Management Plan as part of a complete forest practices application (FPA). **Landowners conducting forest practices activities still need to ensure that they meet Federal requirements for the protection of eagles.**

## Current Bald Eagle Protection Process and Information

### State Forest Practices Application Process

Through the state Forest Practice Application (FPA) process, DNR, WDFW and USFWS can assist forest landowners in following the federal bald eagle protection process:

- DNR will screen FPAs to determine whether proposed activities are within 660 feet of a bald eagle site. If the FPA is within 660 feet, DNR will indicate that on the FPA Office Checklist, which gets scanned into the Forest Practices Application Review System (FPARS). Notifications of these FPAs are emailed to individuals with an FPARS profile for that geographic area.
- WDFW will notify the applicant and USFWS of these FPAs, and will refer applicants to the **USFWS bald eagle protection website** at [www.fws.gov/pacific/eagle/guidelines/disturbnestingbaea1.html](http://www.fws.gov/pacific/eagle/guidelines/disturbnestingbaea1.html).
- USFWS requests applicants submit self-certification forms to the USFWS with a copy of the FPA (see contacts above). If the applicants cannot self-certify, the USFWS will work with them to seek appropriate alternatives or apply for a bald eagle take permit. USFWS will contact applicants operating within 660 feet of a nest or roost, whose forest practices activities have the potential to disturb nesting or roosting bald eagles if:
  - Applicants have not submitted a Self-Certification, or
  - Applicants have not contacted USFWS if their project cannot meet the Self-Certification recommendations for avoiding disturbance.
- DNR will mail this bald eagle fact sheet to the applicant with the FPA Decision sheet.

### Available Bald Eagle Location Data

- To determine if proposed forest practices activities are within 660 feet of a bald eagle nest or roost site, consult WDFW's interactive mapping tool found at 'PHS on the Web' at <http://wdfw.wa.gov/mapping/phs>.
- Landowners, tribes, agencies, or the public may request wildlife location information for their use in making planning and land use decisions. For ordering information please go to WDFW's Priority Habitats and Species web site at [www.wdfw.wa.gov/conservation/phs](http://www.wdfw.wa.gov/conservation/phs). If you have questions, please call (360) 902-2543 or e-mail [phsproducts@dfw.wa.gov](mailto:phsproducts@dfw.wa.gov). Please allow a minimum of two weeks for data request processing time.
- To help access information, the DNR Forest Practices website at [www.dnr.wa.gov/BusinessPermits/ForestPractices/Pages/Home.aspx](http://www.dnr.wa.gov/BusinessPermits/ForestPractices/Pages/Home.aspx) contains links to the **USFWS Bald Eagle protection website**, as well as WDFW's **PHS on the Web**.

# Protecting Talus Fields

**Date: August, 1999**

**Application: All west-side forest ecosystems managed under the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.**

## **DISCUSSION**

This procedure defines protection strategies for natural talus field ecosystems when management activities are conducted adjacent to or around talus fields. The Habitat Conservation Plan (HCP) defines talus as a homogenous area of rock rubble ranging in size from 1 inch to 6.5 feet in size. Talus fields usually develop at the base of cliffs or steep hill slopes as the forces of gravity act upon disintegrating rock. Talus fields provide essential habitat for some wildlife species, such as the Dunn's, Van Dyke's, and Larch Mountain salamanders and pika, and are preferentially used by other species of vertebrate and invertebrate wildlife. While protecting these ecosystems is important, it is also important to recognize that some management activities, such as road building, might have relatively less impact (as compared to other ecosystem types) when located on the more stable slopes of talus fields. Therefore, careful thought must be given to the overall long-term benefits of alternative road or management activity location options.

The main objectives for protecting talus fields include minimizing disturbance and changes in microclimate. The talus protection strategy will incorporate an evaluation of each talus slope's contribution to the landscape's habitat objectives and a site-specific plan of all management activities in or around the talus fields. Subsequent management activities will then be designed and conducted to minimize disturbance and microclimate changes.

The HCP requires protecting non-forested talus fields that are greater than or equal to one acre in size in most of the west-side planning units. However, in the Columbia Planning Unit, protection is required for talus fields that are greater than or equal to 0.25 acre in size, except for the western half of the Siouxon Block and two isolated parcels near Highway 12 where the one acre size is in effect. Additionally, the HCP permits limited timber removal on forested talus.

Prior to full implementation of the HCP, protect known talus fields during management activities.



**Action**

- (1) Avoid road construction through talus field and buffers. (The Engineering Division is developing road management procedures.)
- (2) Obtain region manager approval for road construction and design when routing through talus fields or buffers can not be avoided.
- (3) Avoid rock mining from talus fields and associated buffers when mining in alternate locations can be accomplished in a practicable manner that is consistent with other objectives of the comprehensive landscape-based road network planning process.
- (4) If the proposed management activity includes forested talus (greater than 30 percent canopy closure) retain at least 60 percent canopy closure when harvesting within the buffer.
- (5) If the proposed management activity is within 100 feet of non-forested talus fields (exposed talus with canopy closure less than or equal to 30 percent) incorporate the following conservation measures into the management activity:
  - Do not harvest timber in talus fields greater than or equal to 1 acre in size.
  - Do not harvest timber in talus fields greater than 0.25 acre in size in designated spotted owl nesting, roosting, and foraging and dispersal habitat management areas in the Columbia Planning Unit, except for the western half of the Siouxon Block and 2 isolated sections near Highway 12 where no timber harvest will occur in talus fields greater than 1 acre.
  - Establish a 100-foot wide timber buffer, measured from the edge of the non-forested talus field (i.e., where canopy closure first exceeds 30 percent).
  - Protect the integrity of the talus field when yarding within the buffer.
  - Retain at least two-thirds of the standing timber volume during each harvest rotation on forested talus not located in the talus buffers.

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Caves

**Date: August, 1999**

**Application: All west-side forested ecosystems managed under the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.**

## **DISCUSSION**

Caves provide important habitat necessary for the complete life cycle of many species of plants and animals, including several species of bats. This procedure describes strategies for management activities that are adjacent to or around cave ecosystems. The main objectives of cave protection include maintaining the microclimate at the cave entrance and the physical integrity of the cave passages, and minimizing human disturbances to bat hibernacula and maternity colonies especially during the summer and winter. While there are few known caves on DNR-managed lands, their contribution and the potential contribution of unknown sites may be important to the various bat species. Since naturally occurring caves are rare within the HCP planning units, care will be taken to protect the existing sites.

The strategy for cave protection will incorporate discovery, exploration, mapping, confidentiality, and minimizing the impacts from management activities near caves, to protect the integrity of the cave environment.

## **Action**

- (1) Determine if the proposed management activity occurs within 0.25 mile of a cave recorded in the region species and habitat database or a cave identified during normal activity. If not, end the procedure. If so, go to Step 2.
- (2) Field-locate the recorded cave and record those caves identified through field activity into the data base.
- (3) Report recorded caves that cannot be found to the region database manager and, with the approval of the region manager, end the procedure.
- (4) Incorporate the following conservation measures into the management activity if the cave occurs within 250 feet of the proposed management activity:



- (a) Establish a 250-foot-wide buffer around the cave entrance. Do not disturb soil or vegetation within the buffer.
  
  - (b) Establish a 100-foot-wide buffer on both sides of the cave passage where surface activity may disturb a cave passage. Do not disturb soils or vegetation within the buffer.
  
  - (c) Do not construct roads within 0.25 mile of a cave entrance, when roads can be routed around caves in a practicable manner that is consistent with other objectives of a comprehensive landscape-based road network planning process.
  
  - (d) Do not construct roads within 300 feet of a cave passage where surface activities may disturb the passage, and when roads can be routed around caves in a practicable manner, consistent with other objectives of a comprehensive landscape-based road network planning process.
  
  - (e) Explore and map newly discovered caves in cooperation with the U.S. Fish and Wildlife Service before any management activities commence in the vicinity of those caves. Notify the state lands assistant to coordinate exploration. Explorations will be timed to avoid active bat maternity colonies or hibernacula.
  
  - (f) Keep cave locations confidential to the extent permitted by law.
- (5) Obtain region manager approval for all road construction that the region determines to be necessary and that can not be routed around a cave or cave passage in a practicable manner.

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Cliffs

**Date: August, 1999**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.**

## **DISCUSSION**

This procedure describes the management strategies for activities that are next to or around a cliff ecosystem. Cliffs greater than 25 feet high and below 5,000 feet in elevation are potentially sensitive habitats. Cliffs are necessary for the life cycle of many species of plants and animals. A cliff is defined as a steep, vertical, or overhanging rock face. Specifically, cliffs provide unique geomorphic features for nesting and roosting opportunities for some bat species, peregrine falcons, and other raptors. The main objective for protecting cliffs and the associated wildlife species is to minimize disturbance.

The cliff protection strategy will incorporate an evaluation of each cliff's contribution to the landscape's habitat objectives and a site-specific plan for all management activities, including rock mining, if appropriate, in or around a cliff. Management activities will be designed and conducted to minimize disturbance and microclimate changes.

## **Action**

1. If cliffs are present within the boundaries of any proposed management activity, incorporate the following conservation measures into the management activity:
  - (a) Consult with region or division biologists to evaluate cliffs that are greater than 25 feet tall and below 5,000 feet in elevation, during the planning for harvest activities to determine if the cliff is likely used by wildlife (i.e., Are fissures/overhangs present that would be suitable for bats? Are ledges present that might be suitable for nesting raptors? Are perch trees present adjacent to or above the cliff?). If use is likely, provide adequate protection measures that include, but are not limited to, the following:
    - i. Protect the integrity of cliffs (e.g., during felling and yarding, logs should not be allowed to disturb the cliff face).
    - ii. Retain trees on cliff benches and along the base and top of cliffs judged suitable for nesting raptors, especially potential perch trees along the top of cliffs.



- iii. Avoid damage to significant cavities, fissures and ledges.
- iv. Evaluate all cliffs that are in excess of 80 feet in height and below 5,000 feet in elevation for peregrine falcon use (see PR 14-004-340).
- v. Protect all cliffs with known peregrine falcon aeries according to Forest Practices regulations and the commitments contained in PR 14-004-340.
- vi. Avoid rock mining from cliffs for road construction, provided construction material can be acquired from alternate locations in a practicable manner, and is consistent with other objectives of a comprehensive landscape-based road network planning process. When mining is not avoidable, obtain region manager approval.
- vii. Do not mine rock from cliffs with peregrine falcon aeries.

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Oak Woodlands

**Date: May 2000**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.**

## **DISCUSSION**

This procedure describes the management strategies for activities that are next to or around an oak woodland ecosystem. Oak woodlands are an important habitat, rarely found in western Washington that provide important habitat for a variety of wildlife species including Lewis' woodpecker and the western gray squirrel. The main objectives for protecting oak woodlands include maintaining and restoring, where possible, the quality and distribution of oak habitat. Currently, there are approximately 500 acres of known oak woodland in the five west-side planning units combined; the department will take measures to protect them.

The protection strategy for oak woodlands will incorporate using partial harvest techniques that retain large oaks and canopy cover, removing encroaching conifers, performing prescribed underburns, and avoiding new road construction.

## **Action**

1. Incorporate the following conservation measures into the management activity if oak woodlands occur within the proposed management activity:
  - Retain all very large (greater than 20 inches diameter at breast height) dominant oaks.
  - Maintain 25 percent to 50 percent oak canopy cover.
  - Remove encroaching conifers (except western white pine) within the boundary of a management activity that involves timber harvest.
  - Avoid using herbicides or any silvicultural techniques that would select against oak germination and growth.
  - Retain standing dead and dying oak trees.



- Avoid road construction through oak woodlands, when roads can be routed around oak woodlands in a practicable manner that is consistent with other objectives of a comprehensive landscape-based planning process.
- Perform prescribed under-burns where and when appropriate.
- Alert the Natural Heritage Program to oak stands with particularly good ecological qualities so that those stands may be considered for the trust land transfer program.

APPROVED BY: Michael Perez Gibson, Manager

Forest Resources Division

August, 1999

# Protecting Balds

**Date: August, 1999**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.**

## **DISCUSSION**

This procedure describes the management strategies for activities that are next to or around a bald ecosystem. Balds are openings in the forest, usually on a hilltop or hillside. Balds are usually small, less than 10 acres. Sites are dry, and soil is often shallow. Fires within balds may be far more common than in the surrounding forest. Balds are found throughout the area covered by the Habitat Conservation Plan (HCP). Ground cover is dominated by grasses or moss. Forbs may be present and are sometimes abundant. Shrub patches and seedlings, saplings, and large trees may be present, but the site is open and park-like, unlike the surrounding forest. Balds are necessary for the life cycle of many species of plants and wildlife. In western Washington, balds are sometimes fringed by Oregon white oak. Forest development is prevented in these areas by extreme ecological conditions such as shallow or poor soil, harsh microclimate, high frequency of disturbance, or a combination of these conditions.

Shallow soils are often associated with topographic features such as hilltops, ridges, rock outcrops, or steep hillslopes. Some of these factors may occur together (i.e., a bald may be on a hilltop, have shallow soil, and be subject to frequent summer lightning strikes which ignite fires).

Conserving balds is important because balds are an uncommon plant community and significant habitat for plant and animal species. The availability of sunlight at ground level makes them attractive to elk, deer, reptiles, and amphibians — species which are found elsewhere in a forested landscape. The presence of grassland plant species, which are not otherwise present in a forested landscape, makes balds a significant habitat for numerous species, including several butterfly species, unique host plant taxa, and certain rare butterfly species. Additionally, protecting balds maintains landscape diversity.

The protection strategy for balds is directed at restricting disturbance of this habitat type. Management of balds will be integrated with a landscape's habitat objective.



**Action**

1. Incorporate the following conservation measure if the bald occurs in or near the management activity:
  - Avoid road construction through balds when roads can be routed around the bald in a practicable manner that is consistent with other objectives of a comprehensive landscape-based road network planning process.
  - Avoid yarding through balds and operating ground based equipment on balds.
  - Avoid other activities that cause ground or vegetation disturbance and that might alter natural plant succession.

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

## Protecting Mineral Springs

Date: August, 1999

Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.

### **DISCUSSION**

This procedure describes the management strategies to protect the mineral spring ecosystems that are located on or near proposed management activities. A mineral spring is defined as a spring whose water contains enough mineral matter to give it a definite taste in comparison to ordinary drinking water (Bates and Jackson, 1987). Staining of the channel bed or channel banks can be evidence of water with concentrations of mineral matter. The *Table of Thermal and Mineral Spring Locations in Washington* (Korosec, 1980) lists the locations of all mineral springs within Washington State known to DNR's Geology and Earth Resources Division as of April 1980.

Mineral springs provide important resources to certain animal species such as the band-tailed pigeon. The protection strategy for mineral springs will incorporate identifying mineral springs, retaining adequate perch trees, and maintaining berry, fruit, and perch trees around the springs. Since mineral springs would be difficult, if not impossible, to restore or create, emphasis will be placed on protecting existing sites.

Comply with this procedure to retain the unique features associated with mineral springs.

### **Action**

- (1) Incorporate the following conservation measures into the management activity if the mineral springs occur in, or within 200 feet of, the management activity:
  - Retain berry, fruit, and mast producing shrubs and trees where practicable, particularly in openings near the springs.
  - Retain large green trees and snags within 25 feet of mineral springs for perching. These trees/snags will count toward any green tree and snag retention requirements for the proposed activity (see PR 14-004-210).
  - Fall trees away from the spring.



- Avoid crossing mineral springs with yarding equipment or ground-based logging equipment.
- Continue to minimize herbicide use as directed by Forest Resource Plan.

APPROVED BY: Michael Perez Gibson, Manager

Forest Resources Division

August, 1999



# Protecting Common Loon Nests

**Date: August, 1999**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.**

## **DISCUSSION**

One of the department's overall objectives is to help maintain the geographic distribution of unlisted species that have small home ranges, which applies to the common loon. This procedure describes the management strategies for activities that are next to or around a known common loon nest. The common loon is an unlisted species of concern. The protection strategy for the common loon is to minimize disturbance to known loon nest sites. Protection will be achieved through implementing the riparian buffer strategy and by providing additional protection for identified nest sites.

The riparian strategy as well as the landscape's habitat objectives, are expected to provide the measures necessary to protect the common loon's nest sites. However, this procedure identifies additional requirements for protecting known active loon nests.

## **Action**

1. If a common loon nest is found within 500 feet of the proposed management activity, obtain assistance from a region or division wildlife biologist to determine if the nest is active (i.e., currently in use or likely used in the most recent breeding season).
  - (a) If the nest is inactive, end the procedure.
  - (b) If the nest is active, restrict any part of a proposed activity that would disturb resting habitat. Restricted activities would include, but are not limited to, tree removal, herbicide application, broadcast burning, and road construction within 500 feet of a known active nest between April 1 and September 1.

APPROVED BY: Michael Perez Gibson, Manager

Forest Resources Division

August, 1999

# Protecting Harlequin Duck Nests

**Date: August, 1999**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning.**

## **DISCUSSION**

One of the department's overall objectives is to help maintain the geographic distribution of unlisted species that have small home ranges, which applies to the harlequin duck. This procedure describes the management strategies for activities that are next to or around a known harlequin duck nest. The harlequin duck is an unlisted species of concern. The department's objective is to protect the duck's breeding, foraging, and nesting habitat by minimizing disturbance. The objective will be achieved through implementing the riparian strategy with additional protection provided to known nest sites.

The riparian protection strategy, as well as the landscape's habitat objectives will provide the necessary measures to protect the harlequin duck's nesting habitat. However, this procedure identifies additional requirements for protecting known active harlequin duck nests.

## **Action**

1. If the harlequin duck nest is found within 165 feet of the proposed activity, obtain assistance from a region or division wildlife biologist to determine if the nest is active (i.e., is in use or was likely used in the most recent breeding season).
  - (a) If the nest is inactive, end the procedure.
  - (b) If the nest is active, restrict any part of a proposed activity that would disturb nesting habitat. Restricted activities would include, but not limited to, tree removal, herbicide application, broadcast burning, and road construction within 165 feet of the nest site between May 1 and September 1.

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Northern Goshawk Nests West of the Cascades

**Date: August, 1999**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest that are within designated northern spotted owl nesting, roosting, and foraging management areas.**

## **DISCUSSION**

One of the department's overall objectives is to contribute to the demographic support of populations of unlisted species with large home ranges on federal reserves, and to facilitate the dispersal of these wide-ranging species among federal reserves. This procedure describes the management strategies for activities that are next to or around a known northern goshawk nest.

The northern goshawk is an unlisted species of concern. The department's intent is to protect the goshawk's nesting habitat by minimizing disturbance of that nesting habitat. The protection will be achieved through implementing the spotted owl, marbled murrelet, and riparian conservation strategies and by providing additional protection to known goshawk nest sites.

The protection strategies for protecting the spotted owl, marbled murrelet, and riparian areas, as well as the landscape's habitat objectives are expected to provide the measures needed to protect the goshawks nesting habitat. However, this procedure identifies additional protection requirements for known active northern goshawk nest sites.

Prior to full Habitat Conservation Plan implementation, comply with this procedure to ensure known northern goshawk nest sites are protected.

## **Action**

- (1) Determine if a northern goshawk nest occurs within 0.55 mile of a proposed management activity.

- (2) Obtain the assistance of a region or division wildlife biologist to determine if a northern goshawk nest, occurring within 0.55 mile of the proposed management activity, is active (i.e., is in use or was used in the most recent breeding season).
  - (a) If the nest is inactive, search the area for an alternate nest. Goshawks use several nests within their territory, usually within one mile of each other.
  - (b) If the nest is active, restrict any portion of the proposed management activity that within 0.55 mile of the active nest between April 1 and August 31. Restricted activities include, but are not limited to, tree removal, herbicide application, broadcast burning, and road construction.

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting California Wolverine Dens

**Date: August, 1999**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest, that are located within designated northern spotted owl nesting, roosting, and foraging management areas.**

## **DISCUSSION**

The California wolverine is an unlisted species of concern. One of the department's overall objectives is to contribute to demographic support of populations of unlisted species with large home ranges on federal reserves. This objective will be accomplished for wolverines by implementing the spotted owl, marbled murrelet, and riparian conservation strategies, and by minimizing disturbance to known den sites.

The spotted owl, marbled murrelet, and riparian strategies, and the landscape's habitat objectives are expected to ensure the development of large landscapes of mature and old-growth forests. Additionally, road use management measures which will limit human disturbance increase the likelihood of wolverine denning success.

Comply with this procedure to ensure that known California wolverine den sites are protected

## **Action**

Obtain the assistance of a region or division wildlife biologist to determine if a California wolverine den that occurs within 0.5 mile of the management activity is active (i.e., is in use or was likely used in the most recent breeding season).

- (a) If it is inactive, end the procedure.
- (b) If it is active, restrict any part of a proposed management activity that includes timber harvest or road construction within 0.5 mile of a known active California wolverine den between January 1 and July 31 where such activity would appreciably reduce the likelihood of denning success. Examine road access to denning areas and consider seasonal road closures around denning areas.

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Pacific Fisher Dens

**Date: August, 1999**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit, that are within designated northern spotted owl nesting, roosting, and foraging management areas.**

## **DISCUSSION**

One of the department's overall objectives is to contribute to the demographic support of populations of unlisted species with large home ranges on federal reserves, and to facilitate the dispersal of these wide-ranging species among federal reserves. This procedure describes management strategies for activities that are next to or around a pacific fisher den.

The Pacific fisher is currently considered an unlisted species of concern by the federal government. However, Washington State has proposed that the Pacific fisher be listed by the state as an endangered species. The department's objective is to protect the fisher's breeding habitat by minimizing disturbance. The objective will be achieved through implementing the spotted owl, marbled murrelet, and riparian strategies, and by providing additional protection to known fisher den sites.

The spotted owl, marbled murrelet, and riparian strategies, and specific landscape planning objectives are expected to provide forest conditions suitable for fisher breeding, foraging, and resting habitat. Additionally, road use management directed at limiting human disturbance and reducing accidental trapping will likely increase denning success.

Comply with this procedure to ensure known Pacific fisher den sites are protected.

## **Action**

1. Obtain the assistance of a region/division wildlife biologist to determine if a known Pacific fisher den that occurs within 0.5 mile of the proposed management activity is active (i.e., is in use or was likely used in the most recent breeding season).



- (a) If the den is inactive, end the procedure.
  
- (b) If the den is active, restrict any part of a proposed activity that would disturb resting habitat. Restricted activities would include, but are not limited to, tree removal, herbicide application, broadcast burning, and road construction within 0.5 mile of an active den between February 1 and July 31.

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Pileated Woodpecker Nests

**Date: August, 1999**

**Application: All west-side forested lands covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.**

## **DISCUSSION**

One of the department's overall objectives is to help maintain the geographic distribution of unlisted species that have small home ranges, such as the pileated woodpecker. This procedure describes the management strategies for activities that are next to or around a known pileated woodpecker nest. The pileated woodpecker is an unlisted species of concern. The department will accomplish its objective through implementing the spotted owl, marbled murrelet, and riparian management strategies, snag and green tree retention strategies, and by providing additional protection to nests, trees, and snags known to be used by the pileated woodpecker.

Comply with this procedure to ensure the pileated woodpecker's nesting habitat is protected.

## **Action**

- (1) Identify pileated woodpecker nests with assistance from a region or division wildlife biologist.
- (2) Mark and retain trees and snags that have active or inactive pileated woodpecker nests. *Note: All green tree and snag retention is subject to the safety standards of the Department of Labor and Industries (Chapter 296-54 WAC).*

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Vaux's Swift Nests and Night Roosts

**Date: August, 1999**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.**

## **DISCUSSION**

One of the department's overall objectives is to help maintain the geographic distribution of unlisted species that have small home ranges, such as Vaux's swift. This procedure describes the management strategies for activities that are next to or around a known Vaux's swift nest or night roost. The Vaux's swift is an unlisted species of concern. The department will accomplish its objective through implementing the spotted owl, marbled murrelet, and riparian strategies management strategies, and by providing additional protection for trees known to be used by Vaux's swifts.

## **Action**

- (1) Identify Vaux's swift nests and night roosts with assistance from a region/division wildlife biologist.
  
- (2) Mark trees or snags containing active or inactive Vaux's swift night roosts or nests to ensure they will not be removed during the management activity. *Note: All green tree and snag retention is subject to the safety standards of the Department of Labor and Industries (Chapter 296-54 WAC).*

APPROVED BY: Michael Perez Gibson, Manager

Forest Resources Division

August, 1999

# Protecting Myotis Bat Communal Roosts and Maternal Colonies

**Date: August, 1999**

**Application: All west-side forested ecosystems covered by the Habitat Conservation Plan, including the Olympic Experimental State Forest Planning Unit.**

## **DISCUSSION**

This procedure describes the management strategies for activities that are next to or around a known myotis bat communal roost or maternal colony. Myotis bats are an unlisted species of concern. The department's objective is to protect the myotis bats' breeding and resting habitats by minimizing disturbance. The objective will be achieved by implementing the spotted owl, marbled murrelet, riparian, talus, cliff, and cave strategies, and by providing additional protection for trees known to be used by these bats.

Prior to full Habitat Conservation Plan implementation, comply with this procedure to ensure that the myotis bats' breeding and resting habitats are protected.

## **Action**

- (1) Identify active and inactive myotis bat communal roosts or maternal colonies. See procedure PR 14-004-070, Identifying Critical Wildlife Habitat and Where to Find Management Strategies.
- (2) Mark trees or snags identified as having active or inactive myotis bat communal roosts or maternal colonies, to ensure they will not be removed during the management activity. Note: All green tree and snag retention is subject to the safety standards of the Department of Labor and Industries (Chapter 296-54 WAC).

APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Gray Wolf Habitat

**Date: August, 1999**

**Application: All forested ecosystems covered by the Habitat Conservation Plan.**

## **DISCUSSION**

The gray wolf is federally listed as an endangered species. This procedure describes the management strategies for activities that are within eight miles of a known class 1 gray wolf sighting. A class 1 sighting is defined as a gray wolf observation confirmed by a biologist and/or by photograph, carcass, vocalizations (howling), track, hair, or food cache. All management activities in the area covered by the Habitat Conservation Plan will adhere to state Forest Practices Rules and state wildlife regulations regarding activities in proximity to a known active gray wolf den site.

Additional conservation for the gray wolf will be provided by the improved wildlife habitat that will result from implementing the spotted owl, marbled murrelet, riparian, and road management strategies in the west-side planning units, including the Olympic Experimental State Forest, and by implementing the spotted owl and road management strategies in the east-side planning units.

## **Action**

- (1) Determine if the proposed management activity is within eight miles of a class 1 gray wolf sighting. If it is, proceed to Step 2. If not, end this procedure.
- (2) Ensure the proposed management activity is in compliance with any existing gray wolf site-management plan. Contact region/division wildlife biologists if the plan requires modification because of additional information or changing conditions.
- (3) Develop a gray wolf site-management plan, if no such plan exists, with the assistance of region/division wildlife biologist. Involve biologists from the U.S. Fish and Wildlife Service (USFWS) early in the process. Submit the management plan to the USFWS for concurrence.
- (4) The region manager will convene/coordinate a multi-agency science team in the event the USFWS does not concur that the management plan is adequate. The science team will determine whether the plan is adequate, and recommend modifications if the plan is determined to be inadequate.



APPROVED BY: Michael Perez Gibson, Manager  
Forest Resources Division  
August, 1999

# Protecting Oregon Silverspot Butterfly Habitat

**Date: August, 1999**

**Application: All forested ecosystems covered by the Habitat Conservation Plan.**

## **DISCUSSION**

This procedure describes the management strategies for activities that are next to or around known Oregon silverspot butterfly habitat. All management activities in the area covered by the Habitat Conservation Plan will adhere to state Forest Practices Rules and state wildlife regulations for activities in proximity to a documented occurrence of an Oregon silverspot butterfly.

## **Action**

- (1) Ensure the proposed activity is in compliance with the Oregon silverspot butterfly site- management plan, if one exists. Consult region/division wildlife biologists if the plan requires modification because of additional information or changing conditions.
- (2) Develop a site-management plan with the assistance of region/division wildlife biologists if no Oregon silverspot butterfly site-management plan exists for the area and submit to the U.S. Fish and Wildlife Service (USFWS) for concurrence.
- (3) The region manager assistant will convene/coordinate a multi-agency science team in the event the USFWS does not concur that the management plan is adequate. The science team will determine whether the plan is adequate, and recommend modifications if the plan is determined to be inadequate.

APPROVED BY: Rick Cooper, Manager  
Forest Resources Division

# ***Cultural Resources Procedures***



# Identifying and Protecting Cultural Resources

Cancels: [PR 14-004-030](#), IDENTIFYING HISTORIC SITES (July 1992).

**Date: April, 2007**

**Application: All forested state trust lands**

## **DISCUSSION**

The Policy for Sustainable Forests mandates identification and protection of significant cultural resources. Department policy is to:

- Identify historic and archaeological sites and protect those that are significant, consistent with state and federal law
- Proactively collaborate with Tribes and interested stakeholders to address culturally significant areas
- Consider transferring historic, archaeological, and cultural sites out of trust status when consistent with best interest of the trusts and adequate compensation is secured

“Cultural resources” is therefore divided into traditional places, historic sites, and archaeological resources.

*Traditional places* are landscapes, sites, places, legendary areas, and objects identified by affected tribes in Washington State as being important for the maintenance and perpetuation of their traditional values and practices.

*Historic sites* are locations, generally 50 years old or older, where native or non-native events and activities have taken place since the arrival of Euro-Americans. Historic sites often have written records that document the events and activities that occurred at a particular location.

*Archaeological resources* are the material remains of cultures in context or in place, including artifacts and features left on the landscape. Artifacts are the physical tools and implements of a culture (i.e., manufactured, human-altered items). Features are physical alterations in the natural environment. An archaeological site is a geographic location in which archaeological resources are present. These sites may reflect spatial and/or temporal land use.

The department intends to give special consideration to historical and cultural concerns of the Tribes. The department recognizes that Native Americans have a special interest in forested state trust lands. Where possible, DNR intends to work with the tribes to protect their heritage.

The department intends to pursue a long-range cultural resources strategy, consistent with budget and fiscal responsibilities. Cultural resources will be identified and protected as appropriate.

### **Action**

#### **1. Identification**

##### Training

Selected field personnel will receive training to identify, recognize, and report cultural resources. Training will be consistent with applicable laws, regulations/rules, policies, and other imperatives as determined by the Land management Division manage and will be updated as laws, regulations/rules, policies, and other imperatives change.

##### Pre-Field Research for Ground Disturbance Activities

Pre-field research by selected field personnel will include but not be limited to:

1. Checking the Department of Archaeology and Historic Preservation (DAHP) database or TRAX for *Known State Recorded* sites.
2. Contacting, as appropriate, tribal Cultural Resource personnel to identify any *Known Tribally Recorded* sites.
3. Checking the Cultural Resource layer in the State Uplands Viewing Tool and the Government Land Office Maps for *Known Not Recorded* sites
4. For *Unknown Unrecorded* sites, checking USGS or DNR hydrological and topographical layers for high probability areas such as flat areas near permanent water, ridges, saddles, springs, and artificial landscape alterations (buildings, cemeteries, fields, roads, etc.)
5. Checking the State Uplands Viewing Tool or other readily available sources for predictive models for the project area.

## **2. Field Evaluation and Protection**

If Cultural Resources are indicated above, the District Cultural Resource Technician or the State Lands Archaeologist will investigate the area. Survey methodology and reporting should meet standards established by DAHP.

These personnel will design evaluation methodology and protection measures that should meet professional standards established by DAHP. Field staff will conduct forest management and related activities in accordance with these protection measures.

APPROVED BY: Gretchen Nicholas, Manager  
Land Management Division  
April, 2007

# Cultural Resources Inadvertent Discovery Guidance

**Date:** March, 2010

**Application:** All DNR managed lands where ground disturbance may occur.

## **DISCUSSION**

The Inadvertent/Unanticipated Discovery Guidance relates to Timber Sales (TBS) contract clause G-250 and the unexpected unearthing of skeletal material of human or unknown origin, or unearthing cultural artifacts, features or evidence of cultural materials during road or landing construction, harvest activities, or any soil disturbance in the sale area. It may also relate to and provide relevant guidance to any other ground disturbing activity including leases, capital projects, maintenance or other DNR sponsored and authorized activities on DNR managed lands. This guidance contains direction that is to be implemented when an inadvertent discovery of a cultural resource occurs.

Cultural resources that may be inadvertently discovered include; archaeological resources and historic sites.

*Archaeological resources* are the material remains of cultures in context or in place, including artifacts and features left on the landscape. Artifacts are the physical tools and implements of a culture (i.e., manufactured, human-altered items). Features are physical alterations in the natural environment. An archaeological site is a geographic location in which archaeological resources are present. These sites may reflect spatial and/or temporal land use.

*Historic sites* are locations, generally 50 years old or older, where native or non-native events and activities have taken place since the arrival of Euro-Americans.

Historic sites often have written records that document the events and activities that occurred at a particular location.

### **ACTION**

**Pre-field Actions:** Prior to ground disturbance, the DNR contract administrator (CA) will notify work crews/machine operators that they are obligated to cease work in the immediate area upon discovery of any bones or objects of human manufacture, particularly suspected Native American artifacts and notify supervisory personnel. This notification will occur during the TBS pre-work conference and during field compliance reviews.

**Field Actions:** In the event that project personnel encounter any definite or possible artifacts, archaeological deposits or human remains during ground disturbance, work will immediately stop and the DNR CA will be notified. The project personnel and/or CA will make a reasonable effort to protect and secure the discovery, including providing an appropriate buffer and restricting access for evaluation to occur. The CA will immediately contact DNR archaeologist(s). Work may resume outside the buffer. Evaluation and final protection measures will vary according to the nature of the discovery. See specific procedures in order of priority below.

#### Specific Procedures for Discovery Of Human Remains

If project personnel discover human remains or suspected human remains, all work within a 100' radius will be immediately stopped and the DNR Contract Administrator (CA) will be advised as soon as possible. The project supervisor will cover the remains with a tarp or other fabric when available, notify workers that work is not allowed in the area, and will maintain a watch to ensure that the area is not disturbed. The remains will be treated respectfully at all times.

The DNR CA shall immediately cease any activity which may cause further disturbance, make a reasonable effort to protect the area from further disturbance and notify the county coroner and/or local law enforcement, and DNR archaeologists in the most expeditious manner possible. DNR archaeologists will serve as DNR's

lead for Tribal and Department of Archaeology and Historic Preservation (DAHP) consultation process should the remains be determined non-forensic.

If the coroner and/or local law enforcement determines that the remains are non-forensic, then consultation will go forward under the statutory process defined under RCW 27.44.055. The DNR archaeologist will initiate consultation with the aid of the DNR Tribal Relations Manager, and all interested parties to create a burial treatment plan acceptable to affected Tribes, lineal descendants (if any), and MOA signatories. Parties defined in the burial treatment plan will implement its provisions.

#### Specific Procedures for Prehistoric Cultural Materials (archaeological resources)

If project personnel discover suspected or likely prehistoric cultural materials (not including human remains), all work within the discovery area and an adequate and sufficient buffer around the discovery (to protect from further disturbance) will cease until an evaluation is conducted. DNR's archaeologists and Tribal Relations Manager will serve as DNR's lead for Tribal and DAHP consultation processes.

If the DNR archaeologist determines that intact prehistoric deposits remain, he/she will instruct the project supervisor regarding interim protective measures, and will supervise the implementation of a treatment plan acceptable to consulting parties including DAHP and the affected Tribe(s).

#### Specific Procedures for Isolates or Historic Cultural Materials (historic sites)

If project personnel discover an area consisting of an isolated artifact, or consists entirely of historic artifacts (no human remains or prehistoric cultural materials), all work within the discovery area will cease until an evaluation is conducted. The DNR archaeologist may go directly to documenting the find as a form of mitigation depending on site composition.

#### **CONTACTS:**

DNR Archaeologists:

Lee Stilson

Office Phone                      360-902-1281



Cell Phone 360-280-4604

Email [lee.stilson@dnr.wa.gov](mailto:lee.stilson@dnr.wa.gov)

Maurice Major

Office Phone 360-902-1298

Cell Phone 360-878-5216

Email [maurice.major@dnr.wa.gov](mailto:maurice.major@dnr.wa.gov)

Cultural Resources Manager:

Allen Estep

Office Phone 360-902-2898

Cell Phone 360-280-9948

Email [allen.estep@dnr.wa.gov](mailto:allen.estep@dnr.wa.gov)

Tribal Relations Manager:

Rodney Cawston

Office Phone 360-902-1012

Cell Phone 360-701-3482

Email [rodney.cawston@dnr.wa.gov](mailto:rodney.cawston@dnr.wa.gov)

**APPROVED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**Jed Herman, Manager**

**Forest Resources and Conservation Division**