DRAFT Wetland Procedure for the Olympic Experimental State Forest

Discussion

This procedure defines management of wetlands in the OESF that are in, or are associated with, forest ecosystems. The Policy for Sustainable Forests wetland policy is "*no net loss of acreage and function of wetlands, as defined by state Forest Practices Rules"* (PSF p. 38). The objective is to protect wetland plant and wildlife species, water quality, soils, and plant communities. To accomplish the objective, DNR will identify wetlands and ensure that management activities within and adjacent to them are conducted in a manner that adequately protects the 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 the majority of native wildlife species, either seasonally or for some part of their lifecycle. 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 this remaining wetland acreage and function statewide.

Policy Context

There are three sources of policy guiding the management of wetlands: Policy for Sustainable Forests, the 1997 Habitat Conservation Plan, and Washington Forest Practices Rules.

Policy for Sustainable Forests: The PFSF states that: *"Statewide, the department will allow no net loss of acreage and function of wetlands, as defined by state Forest Practices Rules"* (PSF p. 38).

Trust Lands Habitat Conservation Plan: *The primary conservation objective for wetland protection under the HCP in the OESF is to maintain and aid natural restoration of wetland hydrologic processes and functions. This will be achieved through:*

1. *Retaining plant canopies and root systems that maintain adequate water transpiration and uptake processes;*
2. *Minimizing disturbance to natural surface and subsurface flow regimes; and*
3. *Ensuring stand regeneration.* (HCP IV-119).

Under the HCP, wetlands are protected based on their size, not Forest Practices wetland type.

The HCP allows management of wetlands and their Wetland Management Zones, and requires mitigation for impacts to wetland functions or acreage due to road-building (HCP IV-70).

Washington Forest Practices Rules:
The Forest Practices Rules direct management of Type A, B and Forested Wetlands (WAC 222-30-020, p 30-2 through 30-4). Forest Practices direction includes the use of Wetland Management Zones (areas located around the perimeter of a wetland where trees are left to provide protection from disturbance), equipment and yarding restrictions and leave-tree requirements. In most cases, protection provided by the

Forest Practices rules for wetlands is well exceeded by HCP requirements and the specific guidance provided by this procedure. Follow the Forest Practices Rules if they are not exceeded through this procedure. Chapter 22-16-010 WAC General Definitions p. 16-18 provides the definition of wetlands used by the HCP, the Policy for Sustainable Forests, and for the purposes of this procedure. Refer to the end of this procedure for Forest Practices definitions of wetlands.

PROCEDURE

Wetland Identification

Wetlands are defined by the Forest Practices wetland definition (see Appendix) 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 (e.g. 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).

Office Screening

1. To identify areas for field screening, use the NRCS hydric soils layer and USFWS National Wetland Inventory (on QDL and SUVT) to identify areas with mapped wetlands or hydric soils. Bear in mind that wetlands are often present where there are no mapped hydric soils or wetlands.

2. Use LiDAR where available to identify topography that could concentrate surface water or indicate possible discharge of groundwater. Such areas include old slumps and landslides, depressions, channels and concave slopes.

3. Use color infrared (IR) photos to identify hardwood areas, or areas of different or stunted vegetation.

Field Screening

1. Plan field work in suspected wetland areas for spring, when all wetland criteria are most likely to be visible. If wetland identification must be done in circumstances when all three wetland criteria cannot be confirmed, either request specialist assistance or err on the side of protection of sensitive sites.

2. Walk the sale area, visiting any locations that were identified during field screening as possible wetland areas, including stream channels and headwaters.

3. Delineate any wetlands you discover using Forest Practices Board Manual guidance on wetland delineation (see Appendix, #1, substituting field criteria from the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual for Western Mountains, Valleys and Coast Region (Appendix #2). These field criteria increase ease of wetland identification during the dry season. Obtain specialist help when required.

4. Use the Westside Wetland SharePoint site resources to help with identification of wetland plants, soils and hydrology.http://sharepoint/sites/frc/teams/WestsideWetlands/default.aspx

5. If two criteria are confirmed but you are not sure if the feature is a wetland, consult with a specialist.

6. If only one criterion is observed due to seasonal conditions or site disturbance, consult with a specialist.

Layout of Wetland Management Zones

1. For protection of wetlands (except bogs) under a quarter of an acre in size, see Recommended Practices below.
2. 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 site potential conifer tree height of the adjacent riparian forest. Use the Site Index for site adapted (vigorously growing) species.
3. For wetlands greater than 5 acres apply a buffer that is equal to the site potential conifer tree height of the adjacent riparian forest to all wetlands (including bogs) that are greater than 5 acres. Use the Site Index for site adapted (vigorously growing) species.

Management in Wetland Management Zones and Wetlands

1) Ensure that management activities within Wetland Management Zones are in compliance with any existing commitments.
2) Within forested wetlands and forested Wetland Management Zone areas maintain and perpetuate a stand that is wind-firm and has a minimum basal area of 120 square feet per acre. In most cases, due to mortality and blow down, more than the minimal basal area of 120 square feet per acre should be left.
3) Within forested Wetland Management Zones associated with non-forested wetlands and bogs :
   a) Leave an interior no-harvest buffer around the bogs and non-forested wetlands. Forest Practices states "Tractors, wheeled skidders, or other ground based harvesting systems shall not be used within the minimum Wetland Management Zone width without written approval of the department". Measure the distance from the beginning of the forested area where crown closure changes from 30% or greater to less than 30%. The distance is based on the Forest Practices wetland type. The 1997 *Habitat Conservation Plan* also requires a 50 foot no harvest zone for non-forested wetlands (IV 120). Refer to Table 1 for minimum equipment limitation within interior buffers.
   b) Maintain wind-firm stands. Tools for evaluating windfirmness include evidence of recent windthrow in similar type wetlands and/or wetland buffers or use of a predictive model such as Mitchell and Lanquaye-Opoku 2007, used to estimate the likelihood for severe endemic windthrow.
   c) Leave trees that are representative of the dominant and co-dominant species prior to harvest.
4) Salvage harvesting must adhere to equipment limitation zone (also referred as the Minimum Wetland Management Zone Width within Forest Practices, defined by WAC 222-30-020).

Table 1. Wetland Management with in the OESF

Wetland Type	Wetland Size	Buffer Width and Management	Inner Buffer	Thinning
Forested Wetland	0.25 - 5 acre	2/3 site potential tree height, may be thinned	N/A	≥ 120 ft^2 basal area
Forested Wetland	> 5 acre	site potential tree height, may be thinned	N/A	≥ 120 ft^2 basal area

Non-forested	0.25 - 5 acre	2/3 site potential tree height, may be thinned	50' no harvest	≥ 120 ft^2 basal area
Non-forested	> 5 acre	site potential tree height, may be thinned	50' no harvest	≥ 120 ft^2 basal area
Small bog	0.1 - 5 acre	2/3 site potential tree height, no harvest	N/A	N/A
Bog	> 5 acre	site potential tree height, no harvest	N/A	N/A

Additional Recommendations

While not required by the HCP, the following practices are recommended for use to provide protection for wetland functions where soil conditions warrant, in keeping with DNR's policy of No Net Loss:

1. Keep ground equipment 50 feet from wetland edge (Refer to Table 1).
2. Clump leave-trees around wetlands smaller than ¼ acre, to protect sensitive soils and maintain evapotranspiration capability, paying special attention to headwater areas. *These trees count toward your upland leave-tree total.*
3. Avoid placement of roads within the Wetland Management Zones of bogs. Where road building occurs near bogs, design, install, monitor and maintain sediment barriers to protect the bog from any introduction of nutrients.
4. Series of smaller wetlands will be protected if they function collectively as a larger wetland (HCP IV. 120).

Appendix

1. Forest Practices Board Manual Guidelines for Wetland Delineation
http://www.dnr.wa.gov/Publications/fp_board_manual_section08.pdf

2. 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_finalsupp.pdf

3. Summary of Forest Practices Equipment Limitation Zones:
WAC 222-30-021 (2a Equipment Limitation Zones)