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

Cancels: This procedure replaces PR 14-004-160 dated May, 2000, and PR 14-004-110 dated May, 2000. Implement this procedure immediately.

Date:

Application: All riparian areas located within the Olympic Experimental State Forest Planning Unit.

DISCUSSION

The goal of the Habitat Conservation Plan (HCP) riparian strategy in the Olympic Experimental State Forest (OESF) planning unit is to protect, maintain, and restore habitat capable of supporting viable populations of salmonid species and other non-listed and candidate species dependent on in-stream and riparian environments (DNR 1997, p. 107). The stated goals of the OESF riparian conservation strategy are to:

1) maintain and aid restoration of the composition, structure, and function of aquatic, riparian, and associated wetland systems which support aquatic species, populations, and communities;
2) maintain and aid restoration of the physical integrity of stream channels and floodplains;
3) maintain and aid restoration of water to the quantity, quality, and timing with which these stream systems evolved (i.e., the natural disturbance regime of these systems);
4) maintain and aid restoration of the sediment regime in which these systems evolved, and
5) develop, use, and distribute information about aquatic, riparian, and associated wetland-ecosystem processes and on their maintenance and restoration in commercial forests.

The 1997 Habitat Conservation Plan did not state the explicit measures or evaluation criteria and indicators that describe the attainment of these goals. In other words, there is no "desired future condition" of a riparian forest or watershed that tells us when the goals have been met. Rather, the principal underlying these objectives is explained as the need to conserve "*habitat complexity afforded by natural disturbances regimes on the western Olympic Peninsula"* (HCP IV.107.

The 1997 HCP described a structured process for implementing the riparian conservation strategy to be developed as part of landscape planning. This procedure describes the implementation of this structured process.

With these goals as reference, the following landscape analysis process is conducted, using a forest estate model to provide a specific riparian management zone strategy for each Type-3 basin in the OESF.

A) Descriptive criteria and indictors are developed and chosen to represent basin-level conditions consistent with restoration of riparian and watershed structure and function on DNR-managed lands in the OESF

   a. Delineation of potential unstable slopes associated with riparian features

   b. Restoration of the recruitment potential of large woody debris

   c. Restoration of the forest cover to provide shade

   d. Restoration of watershed conditions for hydrologic maturity and regulation of peak flow.

B) Current information and data on riparian forests, and watershed and riparian conditions are collected and input into a forest estate model

C) The riparian indicators are incorporated within a forest estate model that is used to provide information for planning silvicultural harvest activities that will result in the integration of commodity production and ecosystem values across the OESF

   a. Avoidance of all areas that have been identified as deferred from harvest for management reasons, such as unstable slopes.

   b. Non-declining yield of recruitment potential of large woody debris within each Type-3 basin

   c. Non-declining yield of shade potential within each Type-3 basin

   d. Attainment and maintenance of sufficient hydrologically mature forest within each Type-3 basin to avoid detections of changes in peak-flow events

D) Protection of riparian forest from severe endemic windthrow

E) The outputs of the forest estate model scenario runs are then converted into riparian buffers width recommendations for each stream type in each Type-3 basin, published in the Division's Forestry Handbook.

It is anticipated that this landscape analysis process will be updated, re-designed and re-run as new information, techniques and data becomes available. These re-runs may result in an update of the Type-3 basin riparian buffer recommendations

ACTION

A) Verify the water-type information for all waters located within or adjacent to the boundary of the proposed activity. Record the designations and make

any mapping corrections of the stream in the OESF hydro data. Water typing will be conducted using either of the following two methods:

a. Water type may be verified through consultation with fisheries biologists from DNR, tribes, or other agencies or verified by certified and/or trained personnel using the protocol specified in WAC 222-16-030, Washington Forest Practices Board Emergency Rules (stream typing), November 1996 and the Forest Practices Board Manual and reviewed through an approved Forest Practices review system.

b. Water type may be verified through physical parameters and qualities described in DNR State Land Water Typing System (see associated Task).

B) Identify the Type-3 basin(s) in which the management activity is proposed. Look up the latest riparian management zone width recommendations in the Division's Forestry Handbook. For the interior core buffer, choose either:

- Option 1, interior-core buffer with small areas of variable retention harvest OR
- Option 2, adjusted-width interior-core buffer

Buffer streams accordingly in GIS and assess for wind throw.

a. Document whether the potential risk for windthrow is severe using at least one of the following methods:
   i. Employ remote reconnaissance techniques, such as using empirical evidence of recent windthrow events within the Type 3 basin from aerial photographs.
   ii. Conduct field assessments.
   iii. Use a predictive model to identify the wind-throw potential for the Type-3 basin(s) in which the proposed regeneration-type harvest activity is planned.
   iv. Use a site specific predictive model to assess the windthrow potential of a specific timber sale polygon

b. Determine whether there is a five percent or greater probability of severe endemic windthrow in any portion of the interior core buffer. Severe endemic windthrow is defined as 90 percent of the area experiencing 50 percent canopy loss. If the probability is five percent or higher, then either:
   i. Apply an 80 foot exterior buffer to the interior core buffer; **or**
   ii. Modify the timber sale boundary or leave tree pattern to reduce the probability of severe endemic windthrow

Record the interior core buffer recommendation chosen and the exterior buffer, if applicable, in Planning and Tracking.

C) In the field identify and mark on the ground:

a. For regeneration harvests[1] only: the outer edge of the riparian management zone. The interior-core buffer width initiates at the ordinary high water mark (otherwise termed bank-full width). Note the

interior-core buffer will encompass: equipment limitation zone, the 100-year flood plain and the channel migration zone.

b. For thinning harvests. If the upland thinning prescription is applied in the riparian management zone then there is no need to delineate the riparian management zone in the field. Identify and tag in the field all areas that are to be excluded from management activities. If the riparian thinning prescription is different from upland thinning prescription, then the riparian management will be delineated per 3.a.

c. All potentially unstable slope areas within the harvest unit area will be identified-and delineated on the ground per Forest Practices Rules (WAC 222-16-050 (1)(d)(i).

D) Based on the field work in point 3, create a spatial polygon representing the riparian forest management unit (FMU) in the Department's planning and tracking database. Develop the appropriate objectives and prescriptions for this FMU (see Point E).

E) Develop and record the silvicultural prescription for the riparian management zone in the Department's planning and tracking database. The activities that are permitted in the riparian management zone include:

a. Pre-commercial thinning

b. Variable density thinning

c. Variable retention harvest (under Option 1 only)

d. Selective harvest of hardwoods and/or removal of single hardwood trees.

e. Restoration efforts, including habitat-enhancement projects such as the creation of snags, dead down wood and in-stream large woody debris.

f. Research projects designed to improve the integration of revenue and ecological values.

g. Application of herbicides in accordance with WAC 222-38-020, Handling, storage, and application of pesticides.

h. Road crossings over streams. To minimize cumulative impacts associated with roads, DNR will design roads to take the most direct route over streams that is operationally feasible.

i. Road maintenance on existing roads and clearing of the existing road prism

F) Information Management. Check that the following records are updated and completed:

a. Riparian Management Zone FMU, spatial and tabular records

b. Mapped streams and types are entered into Local Shared OESF Hydro

c. Mapped roads into DNR Trans Layer

APPROVED BY: _____ Date:_____

Manager, Forest Resources Division

Washington Forest Practices Board,2011 Watershed Analysis Manual, under Chapter 222-22 WAC, version 5.0, November 2011, Washington Department of Natural Resources, Forest Practices Division, Olympia; looseleaf.
http://www.dnr.wa.gov/ResearchScience/Topics/WatershedAnalysis/Pages/fp_watershed_analysis_manual.aspx

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[1] A regeneration harvest activity is defined as an activity in which less than 20 percent of the pretreatment basal area is planned to be retained over 80 percent of the treatment area. Typical names for these types of activities are variable retention harvest, clear cuts, seed tree initial treatments. Establishment of the next commercial cohort could be attained through natural or planting regeneration techniques.