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Comments to Oregon Board of Forestry

Ecological Information: Large Wood Recruitment - Agenda Item 7, Attachment 1, Page 9 of 16. Citations: Agenda Item 7, Attachment 1, Appendix, Page 13 of 16.

McDade, M. H., F. J. Swanson, W. A. McKee, J. F. Franklin, J. Van Sickle. 1990. Source distance for coarse woody debris entering small streams in western Oregon and Washington. Canadian Journal of Forest Research 20:326–330.

Meleason, M.A., S. V. Gregory, J. P. Bolte. 2002. Simulation of Stream Wood Source Distance for Small Streams in the Western Cascades, Oregon. USDA Forest Service Gen. Tech. Rep.PSW-GTR-181.

"*Recruitment of large wood increases non-linearly with buffer distance (Figure 2). For the prescriptions analyzed, the range of recruitment of large wood from a mature conifer forest, expressed as a function of an unharvested scenario, ranges from 40% to 100% and 62% to 100% for small and medium streams, respectively (these bookends are the FPA and FMP, both of which are variable retention prescriptions; Attachment 2). Large wood recruitment ranged from 65% to 91% for No-Cut prescriptions.*"

The large wood recruitment modeling conducted by the ODF references only two studies; McDade et al. 1990 and Meleason et al. 2002, the former relying on site potential tree height as a key assumption for modeling. The technical appendices provided in the State's analysis lacks sufficient information to evaluate exactly how a site potential tree height was determined (assumed 100 yr. not 250 yr.) in a State that does not use Site Class (i.e., potential tree growing conditions at the site level) as a requirement for determining the width of riparian management zones on fish-bearing waters.

The State's modeling of LW recruitment claims that a 100 ft. not cut RMZ will result in a cumulative LW recruitment rate of 91% (Attachment 1, Table 2, Page 10). This finding is inconsistent with the use of McDade's mature conifer curve for LW recruitment potential in other LW recruitment analysis including the FEMAT report of the USFS Northwest Forest Plan (2003), and the Washington State Forest Practices HCP on both private (2005) and state lands (1996).

As an example: The WA State FP HCP for private timberlands uses the McDade curve to model riparian buffer widths on small and large fish bearing streams using "Site Class" to determine the Site Potential Tree height of Douglas fir at 100 years of age – with Site

Class I representing the most favorable tree growing conditions, and Site Class V the least favorable growing conditions. Based on the McDade Large Wood cumulative frequency curve (1990) using a 100 year site potential tree height the buffer widths for fish-bearing streams are 200 ft., 170 ft., 140 ft., 110 ft., and 90 ft, for Site Classes I, II, III, IV and V, respectively.

Based on WA State Site Class maps derived from county soil and climate data, the WA FP HCP estimates that the majority of private forestlands consist of predominantly Site Class II and III, requiring riparian buffer widths of 170 and 140 ft., respectively. The FPHCP averages these two most common Site Class buffer widths yielding a 155 ft. riparian management zone required to reach a 100 yr. site potential tree height. When taking the remaining Site Classes into account proportionate to their total acreage (SC I, IV,V) the McDade cumulative frequency curve for large wood recruitment estimates that implementing a 155 ft. riparian buffer provides 92.5% of full LW recruitment potential for a buffer width equal to 100 yr. SPTH.

Again this is inconsistent with the State's finding that 100 ft. wide buffer provides 91% of the full LW recruitment potential for Oregon small and medium fish bearing stream. Based on information from USFS forest inventory data plots (FIA) located in Oregon and WA, tree growing conditions are not dissimilar to the extent that Oregon forestlands would yield some of the least favorable growing conditions when compared to Washington. Based on the FP HCP 100 year site class estimate for Douglas fir (McArtle 1949, USFS 1984), and the McDade curve, Oregon forestlands would need to consist of predominantly Site Class IV growing conditions, the second to least favorable. Based on the similarities between WA and OR concerning local geology, geologic history, and soil maps, that is simply not possible (USFS FIA data).

We respectfully request ODF to supply more detailed information regarding their LW recruitment analysis, specifically the data, including forest inventory plots, used to estimate site potential tree height across Oregon forestlands. Without such information, it is impossible for us, or anyone, to provide a more comprehensive review of the methods the State used to estimate LW recruitment rates using the McDade curve, which heavily relies on Site Potential tree height for estimating steam buffer widths needed to provide long-term Large Wood recruitment.

Additional concerns to be addressed once ODF data / information is attained:

The potential impacts of wind-throw is not addressed in the LW modeling, which managed buffers are know to experience based on the "edge effect" that exposes trees to damaging winds that were not exposed prior to clearcutting practices.

More recent literature on LW recruitment indicates that greater quantities of wood can be recruited from the outer portion of riparian buffers based on the "edge effect" and stream orientation relative to wind direction (Grizzell et al. 2000)

Thank you for your time and consideration.