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Abstract

Coarse woody debris: Inventory, decay modelling, and management implications in three biogeoclimatic zones

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To assess recent management practices, post-harvest levels of coarse woody debris (CWD) were measured in the Southern Interior and Northern Interior forest regions of British Columbia. A simple input and decay model was used to estimate the volumes of CWD that might be present at the end of managed forest rotations. In four ecosystems (Sub-Boreal Spruce [SBS] mk1 variant, Interior Douglas-fir [IDF] dm2 variant, Interior Cedar–Hemlock [ICH] dw variant, and ICHvk2/wk3 variants) that were sampled a few years after harvest, between 58 and 80% of the CWD volume came from pieces less than 6 m in length. Modelling of CWD decay and net new CWD input from the developing stand indicated that by rotation end (after 90 years), CWD volumes would have decreased to about 15% (SBSmk1) and 1% (IDFdm2) of the CWD volumes found in mature unmanaged stands.

In the ecosystems studied, this research suggests that specific management guidance for deadwood will be required to maintain CWD (outside of reserves) in managed stands. Various techniques could be employed to manage the CWD resource. The purpose of this paper is not to present such techniques; however, the sampling and modelling methodology outlined here will help to formulate management approaches by allowing an assessment of CWD presence throughout a managed forest rotation.

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