

Analysis of the 2005-2006 Field Season Stand-Level Biodiversity Resource Stewardship Monitoring Data by Biogeoclimatic Zone

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FREP

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FREP report #17, *Resource Stewardship Monitoring: Stand-level Biodiversity Analysis of 2005/2006 Field Season Data by Biogeoclimatic Zone* (2008), presents an analysis of resource stewardship monitoring (RSM) results for stand-level biodiversity done within the forest and range evaluation program (FREP).

Results are presented for stand-level biodiversity monitoring in 643 cutblocks from eight biogeoclimatic (BEC) zones. The monitoring was done during the 2005 and 2006 field seasons. The sampled cutblocks were harvested during the years 1998 to 2004. The legislation in effect to guide forestry practices during that period was the *Forest Practices Code of British Columbia Act*.



Photo: Andrea Lyall

The sampling methodology used is described in the *Protocol for Stand-level Biodiversity Monitoring: Steps for Field Data Collection and Administration* (Province of British Columbia 2007). Data collected with this methodology includes information on tree and coarse woody debris (CWD) retention, plus general information on retention patch size and location, ecological anchors (e.g. hollow trees and cavity nests), windthrow and invasive plants. Tree indicators from the sampled cutblocks were compared against baseline data derived from British Columbia Timber Sales timber cruise data from the same BEC zones. CWD indicators in the harvested areas of the RSM sampled cutblocks are compared against the CWD indicators measured in retention patches. Data from cutblocks within each BEC zone are presented together.

Average block area retention of trees by zone ranged from 11.5% (Boreal White and Black Spruce zone) to 26.6% (Interior Douglas-fir zone). On average, 23% (Sub-Boreal Pine–Spruce zone) to 64% (Coastal Western Hemlock zone) of the patch retention found in these sampled cutblocks was considered constrained for reasons such as riparian retention or poor timber merchantability.

***“DOES THE PRESENT POLICY OF RETAINING
WILDLIFE TREE PATCHES AND RIPARIAN
RESERVES ACHIEVE THE DESIRED LEVELS
AND TYPES OF STRUCTURES NECESSARY
TO MAINTAIN SPECIES DIVERSITY?”***

Of all the sampled BEC zones, the cutblocks from the Sub-Boreal Pine–Spruce zone showed the best representation of large trees (> 50 cm diameter at breast height (dbh)) and large snags (dead trees > 30 cm dbh and > 10 m height) compared to representative baseline data obtained from recent timber cruise data in the same subzones. The Coastal Western Hemlock zone recorded fewer large trees (> 70 cm dbh) and large snags compared to the cruise baseline. For all zones, a common strength was the amount of coarse woody debris volume left on site after harvesting. However, the quality of this debris may be improved by leaving a higher density of long pieces (>10 m long).

It is important that discussions about best practices for biodiversity be held between government and forest licensees to identify site-specific means to continually improve practices for long-term economic and ecological stewardship.

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