



General Bulletin

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Coarse woody debris in relation to residue and waste assessment, and cut control

Purpose

To clarify the application of the short term strategy for coarse woody debris (CWD) in relation to residue and waste assessment, and cut control.

Background

CWD management is a legislative requirement under the *Forest Practices Code of British Columbia Act*. For operational purposes CWD is defined as downed woody material greater than 10 cm in diameter. CWD can be in all stages of decay and consists of above ground logs, bucking waste, tops, exposed roots and large fallen branches. CWD provides ecological, structural and functional roles for a forest stand. This includes provision of habitat for many vertebrates and invertebrates, a source of shade and moisture, and ultimately additions to the soil in terms of nutrients and organic matter. These CWD functions can not be fulfilled unless there is appropriate distribution of piece sizes and decay classes throughout the cutblock. Wood piled at the landing does not contribute significant ecological benefit.

In March 2000, the Ministries of Forests and Environment, Lands and Parks, announced a short term strategy for CWD that would maximize the ecological value of the CWD left on site considering the timber utilization standards and the avoidable waste benchmarks. The strategy allows for either qualitative or quantitative objectives for CWD in forest development plans, silviculture prescriptions (SPs) or woodlot licence site plans. Qualitative objectives focus on the appropriate distribution of debris throughout the cutblock. Quantitative objectives define the amount of CWD that should be left on a cutblock, either in terms of volume and/or number of pieces of appropriate size, as well as discussion of appropriate distribution. The short-term strategy will be assessed within three years and modified as required.

Definitions:

Coarse woody debris left on site post harvest is made up of:

Residue - the wood for which utilization is optional under a timber harvesting agreement (licence or permit). No monetary charges apply to this volume of wood. The volume of residue wood (avoidable and unavoidable) is charged to cut control.

Waste - the wood for which utilization is mandatory under a timber harvesting agreement (licence or permit). Waste wood that is avoidable is subject to monetary charges. Currently, this wood is also subject to avoidable waste benchmarks contained in a

temporary policy amendment, that provides some relief to the volume of avoidable waste that is subject to monetary charges. All waste wood volume (avoidable and unavoidable) is charged to cut control.

Unavoidable residue and or waste are volumes which cannot be removed because of physical impediments, for safety considerations, for environmental reasons, or for other reasons beyond the control of the licensee. All other volumes are avoidable.

Debris - the wood not covered by residue and waste. It is not measured in a residue and waste survey, and, is below mandatory and optional utilization. No monetary charges apply to this volume of wood and it is not charged to cut control.

CWD Objective

The SP or site plan defines objectives for CWD pertinent to a cutblock. Objectives can be either qualitative or quantitative. Qualitative objectives, describing the desired distribution of CWD throughout a cutblock, are expected to be most common.

Compliance with a qualitative SP or site plan objective, may be considered during residue and waste assessments. Qualitative objectives will describe the desired distribution of CWD throughout a cutblock including the minimization of landing or roadside piles. With a qualitative CWD objective, there will be monetary charges for waste wood above benchmark levels.

Quantitative CWD objectives are not expected to be commonly written into SPs at the present time. A quantitative objective for CWD volume should target residue and debris wood over waste wood. A CWD volume listed as a quantitative SP objective represents the minimum volume that should be left on the cutblock to be in compliance with the SP. CWD coming from waste wood should not exceed the waste benchmark volumes unless additional volume is clearly required (see below). Avoidable waste wood left in landing or roadside piles is not considered CWD. However, for specific sites, the CWD SP objective may require that small piles be left for habitat purposes. Residue and waste assessments are not designed to determine CWD volumes, however an estimate of CWD quantity can be made based on dispersed volumes of residue and waste.

The CWD volumes that comes from optional or mandatory utilization wood will be charged to cut control as parts of the residue and waste volumes.

Examples:

Coastal old growth forest

Conditions

- Avoidable waste benchmark level: 35 m³/ha of avoidable waste
- Amounts of CWD to be retained on the cutblock following harvesting were not specified in the SP.

Survey results

- Actual volume of CWD scattered on site classified as residue: 10m³/ha
- Actual volume of CWD scattered on site classified as avoidable waste: 20m³/ha
- Actual volume of waste in roadside piles: 5.5m³/ha
- Actual volume of residue in roadside piles: 10.0m³/ha
- Debris – not necessary to estimate

Actions

- No Monetary Charges applicable ie $20\text{m}^3 + 5.5\text{m}^3 = 25.5\text{m}^3$ which is less than the $35\text{m}^3/\text{ha}$ benchmark
- $45.5\text{m}^3/\text{ha}$ of waste and residue, including CWD – all charged against cut control

Interior Dry Belt

Conditions

- Waste Benchmark level $4\text{m}^3/\text{ha}$
- Amounts of CWD to be retained on the cutblock following harvesting were not specified in the SP.

Survey results

- Actual volume of CWD scattered on site from residue wood: $3\text{m}^3/\text{ha}$
- Actual volume of CWD scattered on site from waste wood: $4\text{m}^3/\text{ha}$
- Actual volume of waste in landing piles: $1\text{m}^3/\text{ha}$
- Actual volume of residue in landing piles: $1\text{m}^3/\text{ha}$
- Debris not estimated

Actions

- Monetary charges applicable to $1\text{m}^3/\text{ha}$ of waste. The Waste Benchmark accounts for $4\text{m}^3/\text{ha}$ of the waste.
- $9\text{m}^3/\text{ha}$ of waste and residue (including CWD) charged against cut control
- SP in compliance for CWD objective

CWD Objective Requiring Mandatory Utilization Logs >3m

In specific cases there may be a requirement for CWD to be left on site beyond the waste benchmark levels. For example areas with:

- low waste benchmark levels and insufficient opt
- ional utilization logs and debris expected after logging.
- ecological requirement for larger pieces of above utilization wood.

In such cases, to fulfill a related FDP objective, the SP, or site plan for woodlots, should state objectives for CWD in terms of volume or, piece size and numbers of required CWD, as well as desired distribution. Mandatory utilization logs > 3m in length required as CWD should be marked in the field to differentiate them as unavoidable waste.

The residue and waste survey is completed as normal. The total residue and waste tally, both in landing piles and distributed throughout the cutblock, should be assessed to determine if the CWD objective is met, and if any monetary charges apply. Cut control is applicable to all waste and residue wood as normal.

Example:
Interior Dry Belt

Conditions

- Waste Benchmark level 4 m³/ha
- A section of the CWD objective of the silviculture prescription specified that 10m³/ha are to be retained as CWD scattered on the cutblock and landing piles will be minimized.

Survey results

- Actual volume of CWD scattered on site from residue wood: 3m³/ha
- Actual volume of CWD scattered on site from waste wood: 4m³/ha
- Actual volume of CWD logs > 3m. marked as unavoidable waste: 1m³/ha
- Actual volume of waste in landing piles: 0 m³/ha
- Actual volume of residue in landing piles: 1.5 m³/ha
- Estimated volume of debris >10cm dbh: 2m³/ha

Actions

- No Monetary Charges applicable to CWD 5m³ (CWD from waste wood plus marked unavoidable waste). The Waste Benchmark accounts for 4 m³/ha, and the SP objectives allows for the remainder.
- 9.5 m³/ha of waste and residue (including CWD) charged against cut control
- SP in compliance for CWD objective

References:

Operational Planning Regulation Sections 18(1)(u) and 38(3)(m)

Coarse Woody Debris Short Term Strategy

File: 112330-21/Coarse Woody Debris, memo from Greg Koyl, May 03, 2000

<http://www.for.gov.bc.ca/research/deadwood/Dtgui.htm>

Avoidable Waste Benchmarks

File 19900-01, memo from Jim Gowriluk, January 22, 1999

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