



**Forest
Practices
Board**

Audit of Forest Planning and Practices

*South Island District Woodlot
Woodlot Licence W0033*

FPB/ARC/163

March 2014

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Board Commentary

This audit examined forest planning and practices on woodlot licence W0033, held by Penelakut First Nation (Penelakut), in the South Island District, near Duncan, BC. While most planning and practices complied with requirements of the *Forest and Range Practices Act* and the *Wildfire Act*, the auditors found two significant non-compliances.

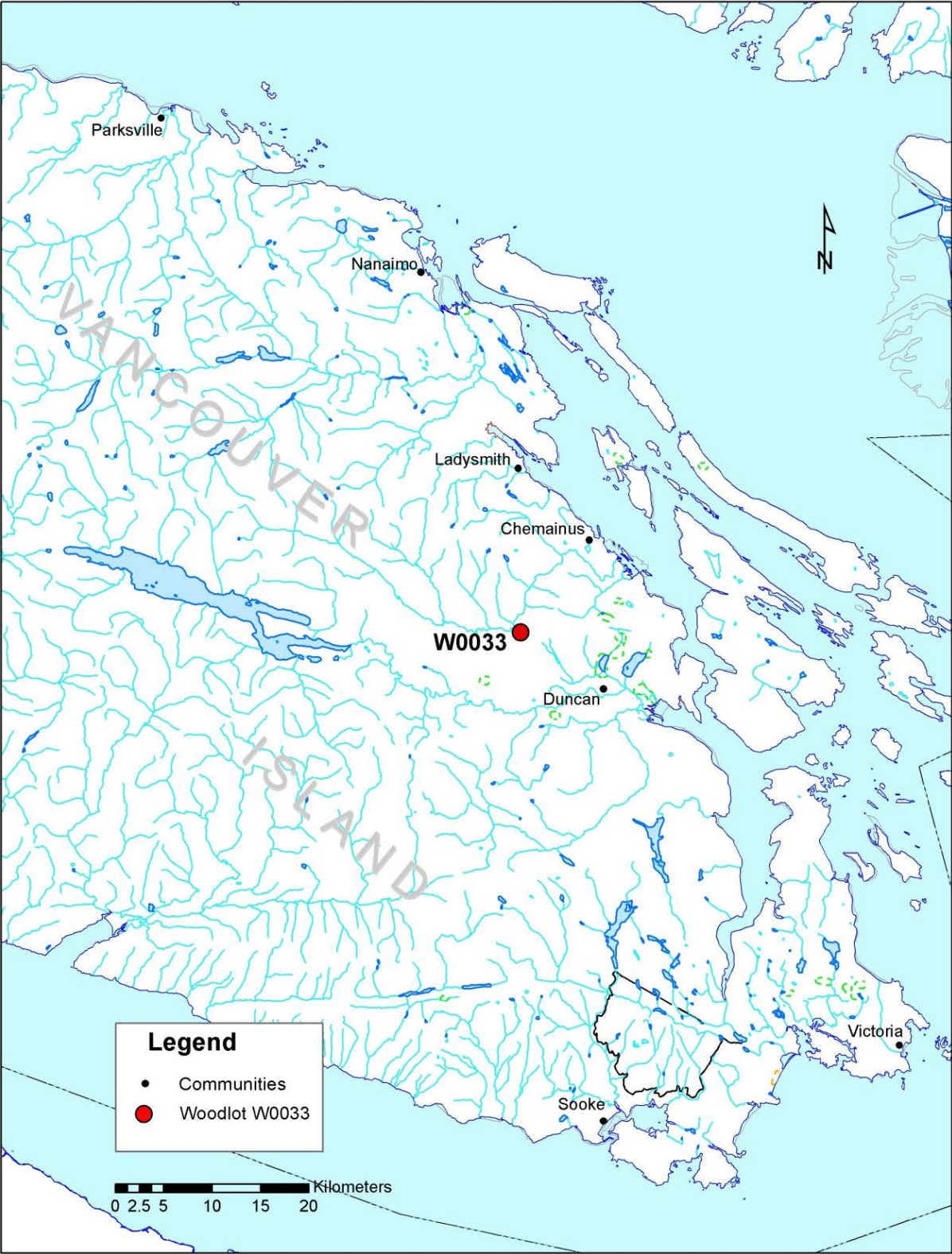
First, Penelakut failed to meet requirements to report its activities to government on an annual basis. Annual reporting is important because it informs government of the woodlot activities on Crown land and facilitates tracking of reforestation obligations. This has been a fairly common non-compliance in board audits of woodlots across the province. The Board wishes to draw the licence holder's attention to its bulletin #10 entitled *Woodlot Licences – What's a Woodlot Licensee Required to Do?* as a convenient reminder of key woodlot licence forest practice requirements. The Board also requests that Penelakut notify it by April 30, 2014, of the progress made in reporting the required information on current and past activities to government.

Second, and of greater concern to the Board is a significant non-compliance involving construction of a bridge. Penelakut constructed a log culvert that was not properly lashed and had no guard rails, so it was not structurally sound or safe for industrial users. Also, the structure was greater than six metres in length and, therefore, a bridge was actually required, not a culvert. As a result, the legal obligations for construction of a bridge should have been followed, but were not.

The Board is concerned with the growing number of non-compliances showing up in recent audit reports,¹ and is very concerned about how many of those non-compliances involve unsafe crossings. This audit is one of two 2013 audits, out of a total of nine, with such a finding. The Board's *Special Investigation of Bridge Planning, Design and Construction* examined 216 bridges in 5 districts built since 2010 and also found a very high rate of non-compliance. This is a very disturbing trend that the forest industry, government and professional associations need to review and respond to.

¹ Forest Practices Board, *Road and Bridges Special Report*, February 2013, http://www.fpb.gov.bc.ca/SR43_Road_and_Bridge_Practices_Audit_Findings_2005-2011.htm.

Location Map for Woodlot Licence W0033



Audit Results

Background

As part of the Forest Practices Board's 2013 compliance audit program, the Board selected the South Island District as the location for a full scope compliance audit. Within the district, the Board selected 10 woodlot licences for audit. This is the audit report for woodlot licence W0033, held by Penelakut First Nation (Penelakut). Results for the other nine woodlot licences are reported separately.

The Board randomly selected the South Island District for audit and, from the population of forest licences within the district, noted that woodlot licences had not been audited in recent years. The individual woodlot licences were selected for audit based on the level of harvest activity, and not on past performance or geographic location. The Board selected all woodlot licences with a cut of greater than 5000 cubic metres within the audit period, which was February 2011 to May 2013.

Woodlot licence W0033, near Duncan, was awarded to Penelakut in 2007. It is 800 hectares in area, all of which is Crown land. The licence is located west of Mount Prevost and south of the Chemainus River. It has an allowable annual cut of 4 200 cubic metres per year. During the two-year audit period, Penelakut harvested about 32 000 cubic metres of timber.² Auditors were aware that the licence was in an overcut position and the Ministry of Forests, Lands and Natural Resource Operations is addressing this situation directly with the licensee.

Two forestry professionals and a chartered accountant made up the audit team. The Board's audit field work took place on May 20, 2013.

Additional information about the Board's compliance audit process is provided in Appendix 1.



An overview of single-tree retention in a harvested cutblock.

² Although most woodlots have a relatively small allowable annual cut, it is possible for woodlot holders to harvest up to 120 percent of their five-year cut control cycle in just one or two years, creating the appearance of a larger than actual allowable annual cut.

Audit Approach and Scope

The audit examined Penelakut's planning, field activities and obligations related to:

- operational planning (including woodlot licence plansⁱ and pre-harvest mapsⁱⁱ)
- timber harvesting
- road construction, maintenance and deactivation
- silviculture activities and obligations
- fire fuel hazard management
- fire prevention practices

Auditors assessed these activities for compliance with the *Forest and Range Practices Act* (FRPA), the *Wildfire Act* (WA), and related regulations, in particular, the *Woodlot Licence Planning and Practices Regulation* (WLPPR). All activities, planning and obligations for the period February 1, 2011, to May 20, 2013, were included in the scope of the audit.

The audit work for each woodlot included an evaluation of records and plans, and ground-based inspections of roads and cutblocks.

The Board's audit reference manual, *Compliance Audit Reference Manual, Version 7.0, September 2012*, set out the standards and procedures that were used to carry out this audit.

Planning and Practices Examined

Operational Planning

The 2008-2018 woodlot licence plan (WLP) identified Penelakut's activities in W0033. Pre-harvest maps apply to the 12 cutblocks harvested during the audit period.

Timber Harvesting

Penelakut harvested 12 cutblocks covering 111.5 hectares, totalling 32 000 cubic metres, during the audit period. The auditors examined all 12 cutblocks as part of the audit.

Road Construction, Maintenance and Deactivation

The road population for W0033 included 7.1 kilometres of construction or reconstruction and 8.9 kilometres of maintenance. The auditors examined all of the construction and maintenance activities.

One bridge was constructed during the audit period and therefore was examined. This structure was installed over a non-fish-bearing stream.

There was no bridge maintenance or road deactivation done in the audit period.



Silviculture Activities and Obligations

Silviculture activities during the audit period included planting in six cutblocks. Auditors examined all planting activities.

Fire Protection

Auditors examined hazard assessment and abatement activities on 12 cutblocks in conjunction with harvest auditing. Fire tool inspections were not conducted, since there were no active operations. No concerns were identified with respect to hazard assessment or abatement. Fire hazard was assessed at the completion of harvesting and slash was either piled, or piled and burned, on all blocks.

Findings

The audit found that, with two exceptions, the planning and field activities undertaken by the Penelakut First Nation on woodlot licence W0033 complied in all significant respects, with the requirements of FRPA, WA and related regulations, as of May 2013.

The audit identified two situations of significant non-compliance relating to bridge construction and annual reporting requirements, as discussed in the Structure Installation and Post-harvest Obligations sections below.

Structure Installation

Penelakut constructed a road to access a cutblock. The construction included the installation of a structure to cross a non fish-bearing stream. As the original stream crossing structure was proposed as a log culvert, no design specifications would have been required.

Section 61ⁱⁱⁱ of the WLPPR requires that a person who constructs a road must ensure that the bridges or culverts associated with the road are structurally sound and safe for use by industrial users. Auditors inspected the log structure and found that the stringers were not properly lashed or pinned to the substructure, thereby not spreading the anticipated loads evenly across the superstructure, which is crucial to the overall performance of the structure. In addition, there were no guard rails,^{iv} and given the location of the structure (at the bottom of a hill and on a curve in the road), it is not considered safe for industrial users.

The *Revised Engineering Manual* (May 16, 2012)^v presents standards for planning and practices to ensure the safe use of forest roads. Because there may be a higher level of risk associated with a bridge, the manual distinguishes a culvert from a bridge by setting the maximum span for a log culvert at six metres, and applies a more stringent set of standards to bridges. In this case, the structure span exceeded six metres, so it met the definition of a bridge.

As such, the structure was subject to the bridge construction standards in the manual and the requirements of sections 62^{vi} and 66^{vii} of the WLPPR. These sections of the WLPPR require that a person who builds a bridge, while constructing a road, must ensure that the design and fabrication of the bridge meets or exceeds safety standards, and must also prepare 'as-built' drawings of the bridge and retain them until they are no longer required to maintain the road. The manual also requires that a person constructing a bridge complete a professional design for structures with a span longer than six metres. Because Penelakut was planning to install a culvert, they did not attempt to comply with sections 62 and 66 of the WLPPR, nor did they attempt to conform to the manual.

These practices are considered a significant non-compliance with WLPPR sections 61, 62 and 66, as the licensee did not ensure the structure was safe for industrial users.

Post-harvest Obligations

Under FRPA and the WA, woodlot licence holders are responsible for a number of post-harvest obligations. These obligations include:

- timely completion of fire hazard assessments and abatement.
- ensuring that harvested areas are re-stocked with a sufficient number of well-spaced and desirable seedlings within the specified timelines.
- maintenance of roads and bridges.
- ensuring that harvested areas with reforestation obligations meet free-growing specifications.
- annual submission of information specifying the nature of forest management activities that have been undertaken.

On woodlot W0033, auditors found that the Penelakut did not comply with legislated requirements to submit information annually. The information they are required to submit includes data regarding the area harvested, as well as statistics about their silviculture activities. When this information is not submitted and tracked, there is a risk that reforestation obligations will not be met. This is considered a significant non-compliance with forest practices obligations, specifically with the WLPPR section 76^{viii} requirements to annually report to government the forest cover information for areas where silviculture treatments have occurred.

Operational Planning

Planning at the stand level was consistent with the WLP and legal requirements.

Pre-harvest maps were provided for all harvest population blocks. The maps contained all required content and also accurately showed stream locations, wildlife tree patches and proposed road locations.

Timber Harvesting

Harvesting practices were consistent with the WLP and pre-harvest maps. Wildlife tree retention consisted of patches, was reserved as planned, and natural drainage patterns were maintained.

Auditors did note a small portion of one block with excessive disturbance as a result of using ground-based harvesting systems on steeper slopes. Auditors also noted a small trespass outside of block boundaries in the vicinity of the timber buffer. These issues were one-off situations and were not considered significant.

Road Construction, Maintenance and Deactivation

Other than the structure issue discussed above, no concerns were identified with road construction. Roads were generally well maintained except in a few instances where drainage structures were installed improperly and metal culverts were too short, which allowed movement of some material from the road prism. These issues were not pervasive and were not considered significant.

No roads were deactivated.

Silviculture Activities and Obligations

All blocks were reforested promptly. All seedlings met the Chief Foresters Standards for Seed Use^{ix} and there were no concerns noted with planting.

Fire Protection

No concerns were identified with respect to hazard assessment and abatement. Fire hazard was assessed at the completion of harvesting and slash was either piled, or piled and burned, on all blocks.

Audit Opinion

In my opinion, with two exceptions, the operational planning; timber harvesting, road construction, silviculture and fire protection activities carried out by the Penelakut First Nation on woodlot licence W0033 between February 1, 2011, and May 20, 2013, complied in all significant respects with the requirements of the *Forest and Range Practices Act*, the *Wildfire Act* and related regulations, as of May 2013. No opinion is provided regarding fire tools and road deactivation.

In reference to compliance, the term “in all significant respects” recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

As described in the Structure Installation section of this report, the audit identified a significant non-compliance related to an unsafe bridge.

As described in the Post-harvest Obligations section of this report, the audit identified significant non-compliance related to not submitting required annual reports.

The Audit Approach and Scope and the Planning and Practices Examined sections of this report describe the basis of the audit work performed in reaching the above conclusion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient forest planning and practices to support an overall evaluation of compliance with FRPA, and WA.



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Director, Audits

Victoria, British Columbia
January 28, 2014

Appendix 1: Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government and agreement-holders under the *Forest and Range Practices Act* (FRPA), section 122 and the *Wildfire Act* (WA). Compliance audits examine forest or range planning and practices to determine whether or not they meet FRPA and/or WA requirements.

Selection of auditees

The Board conducts about eight or nine compliance audits annually. Most of these are audits of agreement holders. The Board also audits the government's BC Timber Sales Program (BCTS). This section describes the process for selecting agreement holders to audit.

To begin with, auditors randomly select an area of the Province, such as a district. Then the auditors review the forest resources, geographic features, operating conditions and other factors in the area selected. These are considered in conjunction with Board strategic priorities (updated annually), and the type of audit is determined. At this stage, we choose the auditee(s) that best suits the selected risk and priorities. The audit selections are not based on past performance.

For example, in 2010, the Board randomly selected the Mackenzie district as a location for an audit. After assessing the activities within that area, we discovered that a large licensee had recently closed operations due to financial problems. As the Board has expressed concern in the past about financially strapped companies failing to meet outstanding obligations, such as reforestation and road maintenance, and we knew that some of the licence area is very remote, the new licence holder was selected for audit.

For BCTS audits, a district within 1 of the 12 business areas within the province is selected randomly for audit.

Audit Standards

Audits by the Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with Canadian generally accepted auditing standards. The standards for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting the Audit

Once the Board randomly selects an area or district and determines the scope of audit to be conducted and the licensee(s) to be audited, all activities carried out during the period subject to audit are identified (such as harvesting or replanting, and road construction or deactivation activities). Items that make up each forest activity are referred to as a population. For example, all sites harvested form the timber harvesting population and all road sections constructed form the road construction population.

A separate sample is then selected for each population (e.g., the cutblocks selected for auditing timber harvesting). Within each population, more audit effort (i.e., more audit sampling) is allocated to areas where the risk of non-compliance is greater.

Audit fieldwork includes assessments of features using helicopters and ground procedures, such as measuring specific features like riparian reserve zone width. The audit teams generally spend one week in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of FRPA and WA is more a matter of degree than absolute adherence. Determining compliance, and assessing the significance of non-compliance, requires the exercise of professional judgment within the direction provided by the Board.

The audit team, composed of professionals and technical experts, first determines whether forest practices comply with legislated requirements. For those practices considered to not be in compliance, the audit team then evaluates the significance of the non-compliance, based on a number of criteria, including the magnitude of the event, the frequency of its occurrence and the severity of the consequences.

Auditors categorize their findings into the following levels of compliance:

Compliance – where the auditor finds that practices meet FRPA and WA requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that one or more non-compliance event(s) is not significant and not generally worthy of reporting. However, in certain circumstances, events that are considered not significant non-compliance may be reported as an area requiring improvement.

Significant non-compliance – where the auditor determines a non-compliance event(s) or condition(s) is or has the potential to be significant, and is considered worthy of reporting.

Significant breach – where the auditor finds that significant harm has occurred, or is beginning to occur, to persons or the environment as a result of one or many non-compliance events.

If it is determined that a significant breach has occurred, the auditor is required by the *Forest Practices Board Regulation* to immediately advise the Board, the party being audited, and the Minister of Forests, Lands and Natural Resource Operations.

Reporting

Based on the above evaluation, the auditor then prepares a draft audit report. The party being audited is given a draft of the report for review and comment before it is submitted to the Board.

Once the auditor submits the draft report, the Board reviews it and determines if the audit findings may adversely affect any party or person. If so, the party or person must be given an opportunity to make representations before the Board decides the matter and issues a final report. The representations allow parties that may potentially be adversely affected to present their views to the Board.

The Board then reviews the draft report from the auditor and the representations from parties that may potentially be adversely affected before preparing its final report. Once the representations have been completed, the report is finalized and released: first to the auditee and then to the public and government.

ENDNOTES

ⁱ Under the *Forest and Range Practices Act* (FRPA), a woodlot licence plan replaces the woodlot forest development plan and site plans. The woodlot licence plan must be consistent with government's objectives for values such as water, soils and cultural heritage resources. The woodlot licence plan must address the entire woodlot licence area and performance requirements such as the obligation to reforest a site after logging, and the requirements set out in the *Woodlot Licence Planning and Practices Regulation* 21/2004 (WLPPR). The term of a woodlot licence plan is ten years.

ⁱⁱ Under the *Woodlot Licence Planning and Practices Regulation*, Pre-harvest mapping, Section 33(2) Before a woodlot licence holder harvests timber from an area where the holder is required to establish a free growing stand, the holder must prepare a map for the area according to the standards set under subsection (1), showing (a) the biogeoclimatic ecosystem classification, including the site series listed within that classification, for the area, and (b) the stocking standards that apply to the area.

ⁱⁱⁱ Section 61 of the *Woodlot Licence Planning and Practices Regulation*:

Roads and associated structures

61 Unless exempted under section 78 (1) [minister may grant exemptions], a woodlot licence holder who constructs or maintains a road must ensure that the road and the bridges, culverts, fords and other structures associated with the road are structurally sound and safe for use by industrial users.

^{iv} Guard rails are technically referred to as "bull rails".

^v The Revised Engineering Manual can be found at:

http://www.for.gov.bc.ca/hth/engineering/documents/publications_guidebooks/manuals_standards/Eng-Manual.pdf

^{vi} Section 62 of the *Woodlot Licence Planning and Practices Regulation*:

Design of bridges

62 Unless exempted under section 78 (1) [minister may grant exemptions], a woodlot licence holder who builds a bridge for the purpose of constructing or maintaining a road must ensure that the design and fabrication of the bridge

(a) meets or exceeds standards applicable to roads at the time the design or fabrication is done, in respect of

(i) bridge design, established by the Canadian Standards Association, Canadian Highway Bridge Design Code, CAN/CSA-S6, and

(ii) soil properties, as they apply to bridge piers and abutments, established by the Canadian Foundation of Engineering Manual, and

(b) takes into account the effect of logging trucks with unbalanced loads and off-centre driving.

^{vii} Section 66 of the *Woodlot Licence Planning and Practices Regulation*:

Retaining information

66 (1) A woodlot licence holder who builds a bridge or major culvert for the purpose of constructing or maintaining a road must do all of the following:

(a) prepare or obtain

(i) pile driving records,

(ii) for new materials used to build the bridge or major culvert, mill test certificates, in-plant steel fabrication drawings, and concrete test results,

(iii) soil compaction results, and

(iv) other relevant field and construction data;

(b) prepare as-built drawings of the bridge or major culvert;

(c) retain the information referred to in paragraphs (a) and (b) until the earlier of the date that

(i) the bridge or major culvert is removed, and

(ii) the holder is no longer required to maintain the road.

(2) Subject to subsection (3), a woodlot licence holder responsible for maintaining a road must retain a copy of inspection records for a bridge or major culvert associated with the road for at least one year after the bridge or major culvert is removed from the site.

(3) Unless the road has been deactivated, a woodlot licence holder must submit to the district manager the documents, drawings and records described in subsections (1) and (2) in respect of a road if the woodlot licence holder is no longer required to maintain the road because the district manager

(a) cancels a road permit, road use permit or special use permit for a road, and

(b) does not require the road to be deactivated.

viii Section 76 of the *Woodlot Licence Planning and Practices Regulation*:

Annual reports

76 (1) The chief forester may specify

- (a) the form of an annual report required under this section, and
- (b) the information that is to be included in an annual report under this section.

(2) A woodlot licence holder must submit to the minister, on or before April 30 each year, an annual report in accordance with the requirements of subsection (1).

(3) In addition to the information required under subsection (1) (b), a woodlot licence holder must include with the annual report information respecting the following matters that occurred during the period to which the annual report applies:

- (a) a copy of any amendment that was made under section 20 (1) of the Act, unless the holder had previously provided a copy of the amendment to the minister;
- (b) a copy of any amendment to the wildlife tree retention strategy made under section 11;
- (c) a map describing the location of any area that has been the subject of one or more of the following:
 - (i) a transfer under section 29.1 (3) of the Act;
 - (ii) an exemption under section 78 or 79;
 - (iii) a declaration under section 107 of the Act that an obligation has been completed;
 - (iv) relief being granted under section 108 of the Act;
- (d) the approximate location of any resource feature or wildlife habitat feature contiguous to a cutblock or road that the holder became aware of, if
 - (i) the holder has not previously reported the resource feature or wildlife habitat feature, and
 - (ii) the order establishing the resource feature or wildlife habitat feature requires the location of the resource feature or wildlife habitat feature to be reported under this section.

ix The Chief Forester's Standards for Seed Use can be found at:

<http://www.for.gov.bc.ca/code/cfstandards/CFstds03Jun2010.pdf>



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