



## **Audit of Forest Planning and Practices**

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*Canada Resurgence Developments Ltd.  
Forest Licence A16884*

**FPB/ARC/202**

March 2017

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# Audit Results

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## Introduction

The Forest Practices Board is the public's watchdog for sound forest and range practices in British Columbia. One of the Board's roles is to audit the practices of the forest industry to ensure compliance with the *Forest and Range Practices Act* (FRPA) and the *Wildfire Act*.

As part of its 2016 compliance audit program, the Board randomly selected the Coast Mountain Resource District for the location of a full scope compliance audit. Within the district, the Board selected Forest Licence (FL) A16884, held by Canada Resurgence Developments Ltd. (CRD) for audit.

This report explains what the Board audited and the results. Detailed information about the Board's compliance audit process is provided in *Appendix 1*.



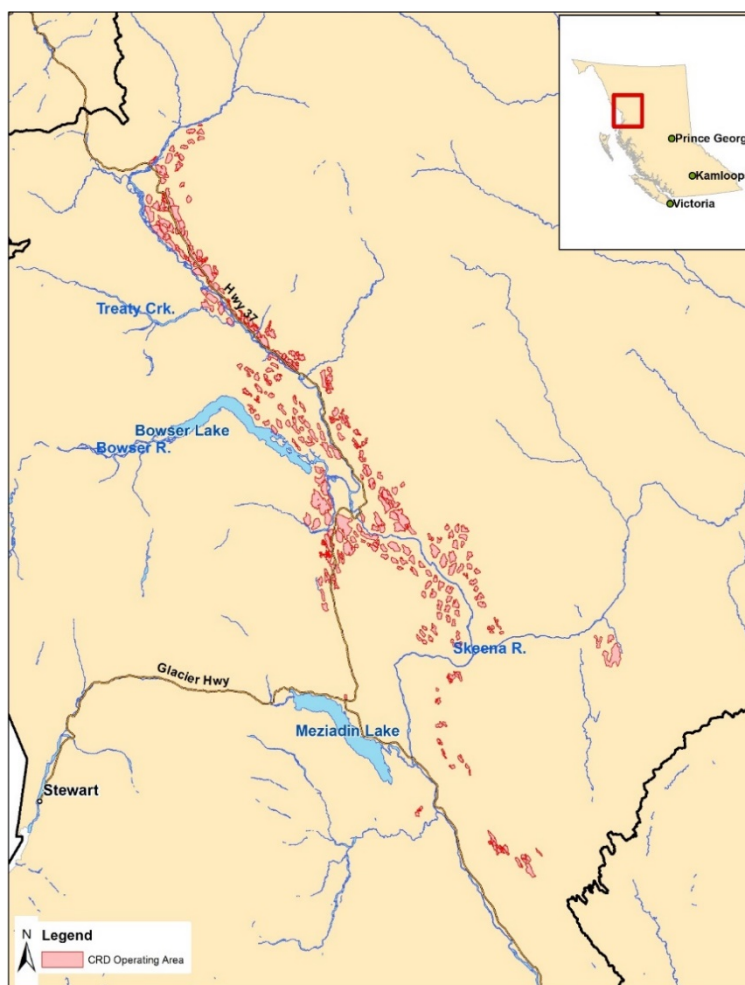
*Example of terrain in audit area.*

## Background

CRD is a privately held company that purchased FL A16884 in 2006. The operating area for the licence lies within the Nass Timber Supply Area (TSA). The TSA is located in the northwestern part of British Columbia and covers approximately 1.6 million hectares. It is administered by the Coast Mountains Resource District office in Terrace. The TSA ranges from the Cranberry River in the south to the headwaters of the Nass River to the north and east, and includes the Nass and Bell Irving Rivers, and Bowser and Meziadin Lakes. The current allowable annual cut for the Nass TSA is 865 000 cubic metres.

CRD's operations under FL A16884 are near Bowser Lake and north in the Bell Irving watershed. Most of the operations are adjacent to Highway 37N (the Stewart–Cassiar Highway) and the Bell- Irving River, north of Meziadin Junction. Operations are primarily on gentle ground. FL A16884 has an allowable annual cut of 291 712 cubic metres. CRD harvested approximately 142 930 cubic metres during the two-year audit period.

**Map of Canada Resurgence Developments Ltd. Operations**



## Audit Approach and Scope

This was a full scope compliance audit with a two-year timeframe. All activities carried out between September 1, 2014, and September 8, 2016, were subject to audit.

Auditors assessed these activities for compliance with FRPA, the *Wildfire Act* and applicable regulations. Auditors' work involved interviewing staff, reviewing the forest stewardship plan (FSP), and site plans, assessing silviculture records, and assessing sites in the field. Field sites were accessed by helicopter.

The standards and procedures used to carry out this audit are set out in the Board's *Compliance Audit Reference Manual, Version 7.1, July 2016*.

A forest professional, a professional engineer, and a chartered professional accountant made up the audit team. The audit team was in the field on September 7 and 8, 2016.

## Planning and Practices Examined

### Operational Planning

CRD planned its activities under two approved FSPs. One FSP is for operations in the Nass South Sustainable Resource Management Plan area in the southern portion of the Nass TSA. The other FSP is for operations outside the Nass South Sustainable Resource Management Plan area. Both FSPs expire in 2019. Auditors examined the FSPs and stand-level site plans for consistency with legislative requirements. Auditors also considered the site plans during harvesting, road and silviculture field visits to ensure that the plans accurately identified site conditions.

### Timber Harvesting

CRD harvested 10 cutblocks during the audit period, covering 1855 hectares.

Auditors examined 6 of the 10 cutblocks, covering 534 hectares.

### Road Construction, Maintenance and Deactivation

CRD constructed 27 kilometres, maintained 386 kilometres and deactivated 8 kilometres of road during the audit period. All deactivation was on roads constructed during the audit period. CRD maintained 50 bridges and did not install or deactivate any bridges.

Auditors examined 10 kilometres of constructed road, 209 kilometres of maintained road, 8 kilometres of deactivated road and 20 bridges.

### Silviculture Obligations and Activities

During the audit period, CRD planted 10 cutblocks, regeneration delay was due or declared on 6 cutblocks and free growing was due or declared on 21 cutblocks. No other silviculture activities were conducted within the audit period.

Auditors examined 5 planted cutblocks, 3 cutblocks with regeneration obligations due or declared, and 12 cutblocks with free-growing obligations due or declared.

## Fire Protection

Auditors encountered one active work site and eight cutblocks where harvesting was complete and fire hazard assessments were required. Abatement of fire hazards was not yet due on any of the cutblocks at the time of the audit field work.

Auditors examined the one active site for compliance with the *Wildfire Act* requirements for fire preparedness and five cutblocks for compliance with the *Wildfire Act* requirements for fire hazard assessment.

## Findings

The audit found that CRD's activities, except for structure installation and silviculture obligations, complied with FRPA and the *Wildfire Act*. The structure installation and silviculture obligations issues are discussed below.

### Structure Installation

CRD constructed a road through a cutblock that required the installation of two structures across two fish-bearing streams. The original stream-crossing structures were proposed as log culverts with a 4-metre span, so no design specifications were required. However, field measurements indicated that both structures are actually 7.3 metres in length and are therefore considered log stringer bridges,<sup>1</sup> which are subject to various requirements of the *Forest Planning and Practices Regulation* (FPPR). Hauling across these bridges was complete before the audit field work started.

Section 72<sup>ii</sup> of the FPPR 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 structures and found that the stringers were not properly lashed and did not appear to be pinned to the substructure. This did not ensure anticipated loads were spread evenly across the superstructure, which is crucial to the overall performance of the structure. In addition, sills were placed on un-compacted soil and there were no guardrails, thereby making the structure unsafe for industrial users.

Sections 73<sup>iii</sup> and 77<sup>iv</sup> of the FPPR 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 the licensee is no longer required to maintain the road. The *Revised Engineering Manual* also requires that a person constructing a bridge complete a professional design for structures with a span longer than 6 metres. Because CRD was planning to install a log culvert, it did not attempt to comply with sections 73 and 77 of the FPPR, nor did it attempt to conform to the manual.

The licensee did not ensure the road was safe for industrial users, and these practices are considered a significant non-compliance with sections 72, 73 and 77 of the FPPR.

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<sup>1</sup> The *Revised Engineering Manual* (May 16, 2012) distinguishes a culvert from a bridge by setting the maximum span for a log culvert at six metres. Anything over six metres is designated as a bridge.

## **Silviculture Obligations**

Sections 44<sup>v</sup> and 88<sup>vi</sup> of the FPPR require that records of silviculture treatments be maintained, and that free growing be achieved before the late free-growing date has passed. Five of the sampled free-growing blocks were past their late free-growing date. The silviculture files for the free-growing blocks are missing and there is no documentation to confirm that the free-growing obligations had been met.

Section 86<sup>vii</sup> of the FPPR requires that the licensee update forest cover information on or before the regeneration delay and late free-growing dates have passed. CRD did not update forest cover information on five free-growing blocks and one regeneration-delay block, even though the regeneration-delay block had a survey on file that indicated the block was adequately stocked.

These silviculture information issues are considered a significant non-compliance with sections 44, 86(3)(d) and 88 of the FPPR.

## **Operational Planning**

Planning was consistent with legislative requirements and commitments in the FSP. The FSP also addressed the legal orders that apply to forest practices in the audit area.

CRD addressed site-specific resources in the site plans by accurately identifying and prescribing practices for resource features, including streams and wetlands.

There were no issues with operational planning.

## **Harvesting**

CRD conducted harvesting in accordance with the requirements of legislation and site plans. Overall, soil disturbance was well managed and within limits. CRD maintained natural drainage patterns and achieved individual tree retention objectives. CRD met visual quality objectives on cutblocks within visual polygons.

There were no issues with harvesting.

## **Road Construction, Maintenance and Deactivation**

### *Construction*

Road construction used conventional cut and fill construction techniques on relatively flat ground, and roads were well built. CRD maintained natural drainage patterns on completed road sections.

### *Maintenance*

CRD maintains a road ledger to track the activities and obligations on its roads. All road sections audited were stable and natural surface drainage patterns were maintained. Roads and bridges were well maintained.

### *Deactivation*

Roads were adequately deactivated.

No concerns were noted with road construction, maintenance or deactivation.

### *Silviculture Activities*

CRD planted cutblocks with suitable tree species and stock. All planted stock met the chief forester's seed transfer guidelines and no issues were noted in the field.



## ***Wildfire Protection***

The auditors assessed fire preparedness and fire hazard assessment and abatement. Auditors determined the one active work site was compliant with the fire preparedness requirements of the *Wildfire Act*. Workers were adequately prepared with the appropriate equipment, including hand tools and a water delivery system for fighting a wildfire.

The *Wildfire Act* also requires licensees to assess the fire hazard at specified intervals, including an assessment of the fuel hazard and its associated risk of a fire starting or spreading. If the assessment identifies a hazard, it must be abated.

CRD completed wildfire hazard assessments for the six cutblocks examined. It is CRD's standard practice to pile slash and then burn it when it is safe to do. The hazard was abated on four of these cutblocks, even though the hazard abatement was not due on any of the cutblocks for another year.

There were no issues with wildfire protection.

## **Audit Opinion**

In my opinion, except for the structure and silviculture issues discussed below, the operational planning, timber harvesting, road construction, maintenance and deactivation, silviculture, and fire protection activities carried out by Canada Resurgence Developments Ltd. on Forest Licence A16884 between September 1, 2014, and September 8, 2016, complied in all significant respects with the requirements of the *Forest and Range Practices Act*, the *Wildfire Act* and related regulations, as of September 2016.

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* and the *Silviculture Obligations* sections of the report, the audit identified non-compliance with bridge construction and meeting silviculture obligations and reporting.

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, including adherence to the auditor independence standards and the ethical requirements, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. Such an audit includes examining sufficient forest planning and practices to support an overall evaluation of compliance with FRPA and the *Wildfire Act*.



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Victoria, British Columbia  
February 17, 2017



# Appendix 1:

## Forest Practices Board Compliance Audit Process

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### 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*. Compliance audits examine forest or range planning and practices to determine whether or not they meet FRPA and/or *Wildfire Act* 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 one 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 *Wildfire Act*, 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 *Wildfire Act* requirements.

**Unsound Practice** – where the auditor identifies a significant practice that, although found to be in compliance with FRPA or *Wildfire Act*, is not considered to be sound management.

**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

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i A forest stewardship plan (FSP) is a key planning element in the FRPA framework and the only plan subject to public review and comment and government approval. In FSPs licensees are required to identify results and/or strategies consistent with government objectives for values such as water, wildlife and soils. These results and strategies must be measurable and once approved are subject to government enforcement. FSPs identify areas within which road construction and harvesting will occur but are not required to show the specific locations of future roads and cut blocks. FSPs can have a term of up to five years.

ii **Section 72 of the Forest Planning and Practices Regulation:**

*Roads and associated structures*

72 A person 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.

iii **Section 73 of the Forest Planning and Practices Regulation:**

**Design of bridges**

73 A person 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, as 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, as 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.

iv **Section 77 of the Forest Planning and Practices Regulation:**

**Retaining information**

77 (1) A person 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 person is no longer required to maintain the road.

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(2) Subject to subsection (3), a person 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 person must submit to the district manager or the timber sales manager, as applicable, the documents, drawings and records described in subsections (1) and (2) in respect of a road if the person is no longer required to maintain the road because the district manager or timber sales manager

(a) cancelled the road permit, road use permit or special use permit for the road, and

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

*v Section 44 of the Forest Planning and Practices Regulation:*

*Free growing stands generally*

44(1) A person who has an obligation to establish a free growing stand must establish, for areas that have been identified under section 16 (1) [*stocking standards*] as areas to which this section will apply, a stand that

(a) meets the applicable stocking standards set out in the forest stewardship plan for the area, by the applicable regeneration date specified for the area, and

(b) meets the applicable stocking standards and free growing height set out in the forest stewardship plan for the area by a free growing date that is no more than 20 years from the commencement date, unless the minister permits a later free growing date.

(2) If an agreement holder contravenes section 52 (1) [*unauthorized timber harvesting*] of the Act, the holder must establish, on the area on which the contravention occurred, a stand that meets the requirements specified in the holder's forest stewardship plan for an area with similar attributes, as if the area on which the contravention occurred had been identified under section 16 (1) as being subject to this section.

(3) A person is exempt from the requirements of section 29 (1) and (2) [*free growing stands*] of the Act in respect of an area if timber harvesting is restricted to one or more of the following:

(a) harvesting timber to eliminate a safety hazard;

(b) harvesting timber to facilitate the collection of seed, leaving an opening not greater than 1 ha;

(c) removing felled trees from landings and road rights of way;

(d) harvesting trees on land that is, or will be, exclusively used for harvesting hay or grazing livestock in accordance with an agreement under the *Range Act*;

(e) harvesting timber for experimental purposes if, in the opinion of the minister, the harvesting will be carried out under controlled scientific or investigative conditions;

(f) clearing areas for or within a recreation site or recreation trail;

(g) felling and removing trees that have been or will be treated to facilitate the entrapment of pests;

(h) commercial thinning, removal of individual trees, or a similar type of intermediate cutting;

(i) harvesting special forest products.

(4) A person who harvests timber for the reasons referred to in subsection (3) (h) and (i) must ensure that, for a period of 12 months after completion of harvest, the area on which timber harvesting was carried out conforms to the stocking standards specified in section 16 (4) for the area.

*vi Section 88 of the Forest Planning and Practices Regulation:*

*Silviculture treatment records*

88(1) If an agreement holder carries out a silviculture treatment on an area to which section 29 (1) [*free growing stands*] of the Act applies or to which section 44 (4) of this regulation applies, the holder must maintain records of the silviculture treatment until the earlier of

(a) 15 months after a declaration has been made under section 97 of this regulation in respect of a free growing stand being established on the area, and

(b) a date specified by the district manager.

(2) If a timber sales manager carries out a silviculture treatment on an area to which section 29 (2) of the Act applies or to which section 44 (4) of this regulation applies, the timber sales manager must maintain records of the silviculture treatment until a free growing stand is established on the area.

(3) If the minister carries out a silviculture treatment on an area to which section 46 applies, the minister must maintain records of the silviculture treatment until a free growing stand is established on the area.

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vii *Section 86 of the Forest Planning and Practices Regulation:*

*Annual reports*

86(1) In this section and in section 86.1:

"**location**" means the approximate location;

"**reporting period**", in respect of the year in which the report referred to in subsections (2) to (5) is to be furnished, means the 12 month period beginning on April 1 of the immediately preceding calendar year.

(2) Repealed. [B.C. Reg. 104/2008, s. 1 (a) (ii).]

(3) Before June 1 of each year, an agreement holder must report to the district manager

(a) for each area in which timber harvesting was completed during the reporting period and to which section 29 of the Act applies or to which section 44 (4) of this regulation applies, the following information:

- (i) the area in which the harvesting occurred;
- (ii) the amount of area that was harvested;
- (iii) an update of the forest cover inventory;
- (iv) the location and approximate size of all associated wildlife tree retention areas,

(b) the location of any resource feature or wildlife habitat feature in or contiguous to a cutblock or road of which feature the holder is aware during the reporting period if

- (i) the holder has not, in a previous reporting period, 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,

(c) the pertinent information about seeds used during the reporting period to grow seedlings planted by the holder in cutblocks on the land to which the agreement pertains,

(d) an update of the forest cover inventory for each area in which during the reporting period

- (i) the requirements for the regeneration date have been met,
- (ii) the requirements for the regeneration date have not been met but the regeneration date has passed,
- (iii) a free growing stand has been declared under section 97 or 97.1 of this regulation or the requirements of section 46.11 (2) (b) of this regulation have been met, or
- (iv) a free growing stand has not been established, but the free growing date has passed, and

(e) a summary of any silviculture treatments that were carried out during the reporting period.

(4) Repealed. [B.C. Reg. 104/2008, s. 1 (a) (ii).]

(5) Before June 1 of each year, a timber sales manager must report to the district manager

(a) for areas harvested during the reporting period under

- (i) a timber sale licence entered into under the *Forest Act* between the timber sales manager and its holder, or
- (ii) a forestry licence to cut entered into under the *Forest Act* between the timber sales manager and its holder,

the information referred to in subsection (3) (a) and (b) of this section, and

(b) for areas in which the timber sales manager establishes free growing stands as required under section 29 (2) of the Act, the information referred to in subsection (3) (c), (d) and (e) of this section.

(6) Information required under this section must be reported in a form and manner that is satisfactory to the minister.



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