



**Forest
Practices
Board**

Forestry Audit: BC Timber Sales and Timber Sale Licence Holders

*Clearwater Field Unit Portion of the Kamloops Business Area
Thompson Rivers Natural Resource District*

FPB/ARC/242

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Board Commentary

As part of its annual audit program, the Board conducted a full scope compliance audit of BC Timber Sales' and timber sale licensees' planning and practices in the Clearwater portion of the Kamloops Business Area.

While the audit found that, overall, planning and practices were quite good, there was one significant non-compliance related to road maintenance practices on the Oliver Creek forest service road.

One section of this road has experienced a number of landslides in recent years and continues to deposit sediment into Oliver Creek, which flows into the Adams River; one of the most important sockeye salmon breeding areas in North America. The auditors recognized fish habitat in Oliver Creek is at risk from the ongoing sedimentation, but were not able to conclude that the sedimentation contravened FRPA. The non-compliance reported in this audit is for the timber sale licensee failing to ensure the road was safe for industrial users.

The Board has identified sediment from roads as a major source of harm to fish habitat in a recent report, [*Conserving Fish Habitat under FRPA – Part 2: An Evaluation of Forest and Range Practices on the Ground*](#). We recommended that government amend FRPA to ensure that there is a clear and enforceable requirement to minimize sediment entering streams during road construction, maintenance and deactivation. This situation is a clear example of why that needs to happen.

Since the audit was carried out in 2019, government has closed this section of road. In 2020, [*Government Action Regulation Order F-3-014*](#) came into effect, designating the Oliver Creek watershed as a fisheries sensitive watershed. The Order establishes watershed objectives aimed at conserving fish habitat. While both of these actions are positive, the Board encourages further action to address the risk this road poses to fisheries values.

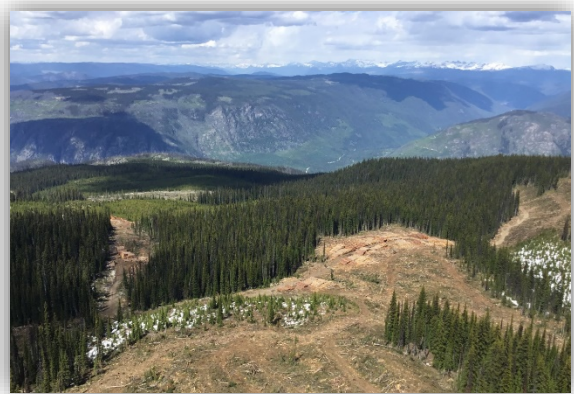
Audit Results

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 2019 compliance audit program, the Board randomly selected the Clearwater Field Unit portion of BC Timber Sales' (BCTS) Kamloops Business Area for audit. A map of the audit area appears on page 2.

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



Typical timber harvesting and topography in the North Thompson River area.

Background

The Kamloops Business area of BCTS is within the Thompson Rivers, Cascades and 100 Mile House Natural Resource Districts. The audit focused on BCTS's activities within the Clearwater field unit portion of the Thompson Rivers Natural Resource District.

This audit took place within the traditional territories of the Secwepemctsin, Ktunaxa, and Lheidli T'enneh of the Dakelh (Carrier) speaking Peoples. The Forest Practices Board would like to recognize the importance of their historical relationship with the land that continues to this day.

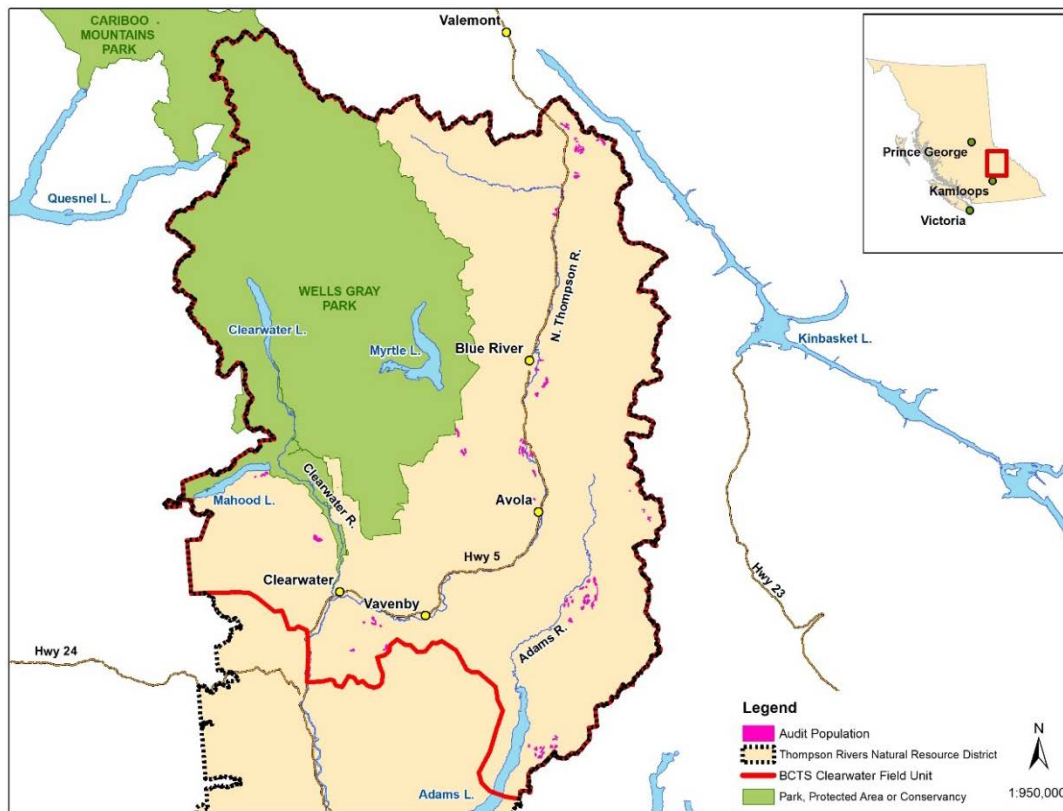
The Clearwater Field Unit covers the North Thompson River area and is approximately 850 000 hectares in size, starting at Adams Lake and extending north towards Valemount. BCTS has several operating areas dispersed throughout the field unit. The communities of Clearwater, Vavenby, Avola and Blue River are within the field unit.

The administrative and management centre for the business area is the BCTS office located in Kamloops. A field team in Clearwater manages activities in the Clearwater Field Unit. Staff prepare operational plans, auction timber sales, issue timber sale licences and fulfill silviculture obligations. Successful bidders are awarded a timber sale licence and must fulfill licence, permit and operational plan obligations, including timber harvesting and road work, within cutblocks.

BCTS's allowable annual cut in the Kamloops timber supply area was approximately 765 000 cubic metres until 2018 when it was reduced to approximately 440 000 cubic metres.¹ During the audit period, timber sale licensees harvested about 500 000 cubic metres from timber sales in the Clearwater, Avola, Blue River, Lempriere and Albreda areas.

¹ BCTS's allowable annual cut in the Kamloops TSA was reduced in 2018 to 440 000 cubic metres to eliminate a previously apportioned dead pine uplift and a pine partition following the most recent timber supply review. This volume is shared between BCTS's Kamloops and Clearwater field units.

Map of Audit Area



Audit Approach and Scope

This was a full scope compliance audit with a two-year timeframe. All activities carried out between June 1, 2017, and June 7, 2019, by BCTS and timber sale licensees, were subject to audit.

BCTS is responsible for operational planning, including preparing forest stewardship plans (FSP)ⁱ and site plans, silviculture activities, major structure² maintenance and construction, and most road construction, maintenance and deactivation outside of cutblocks.

Timber sale licensees are responsible for timber harvesting, fire protection, and most road construction, maintenance and deactivation within cutblocks.

Auditors assessed these activities for compliance with FRPA, the *Wildfire Act*, and applicable regulations. The work included interviewing BCTS staff, reviewing the FSP and site plans, assessing silviculture records and reviewing field practices on site visits with BCTS staff. Auditors accessed sites by truck and by helicopter. One forest professional, one professional engineer, one forest professional/geoscientist-in-training and a chartered professional accountant made up the audit team. The audit team was in the field with BCTS staff from June 3 to 7, 2019.

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*.

² Major structure includes bridges and major culverts where:

- Bridge means a temporary or permanent crossing structure with a span length equal to or greater than 6 metres or an abutment height of 4 metres or greater.
- Major culvert has a pipe diameter of 2 metres or greater or a bottom arch with a span greater than 2.13 metres.

Planning and Practices Examined

BCTS Responsibilities

Operational Planning

BCTS's FSP (FSP #66) was approved in 2006 and extended twice until 2020. All the activities audited were planned under FSP #66. Auditors examined FSP #66 and stand-level site plans for consistency with legal requirements. During harvesting, road and silviculture field sampling, auditors also confirmed whether site plans accurately identified site conditions.

The *Kamloops Land and Resource Management Plan (KLRMP) Higher Level Plan Order (1996)* covers the Clearwater field unit. The order legally establishes certain provisions within the KLRMP, such as visually sensitive areas, cultural and heritage sites, water management, recreation and tourism areas and wildlife management areas. Other objectives set by government through *Government Actions Regulation (GAR)* orders or species at risk notices³ include old-growth management areas, caribou habitat, mountain goat habitat and fisheries sensitive watersheds. In addition, the *Lakes Local Resource Use Plan – Lakeshore Management Guidelines* provide guidelines for resource activities within lakeshore areas, considering resource values such as fisheries, wildlife, recreation, tourism, and visual quality.

The primary forest values associated with BCTS's activities during the audit period are soils, visually sensitive areas, cultural sites, fish streams, residual watersheds, and old-growth management areas.

Road and Major Structure Construction, Maintenance and Deactivation

The population and sample for BCTS's road and bridge activities are summarized in table 1.

Table 1. Population and Sample for Roads and Structures

ACTIVITY	POPULATION	SAMPLE
Road construction (FSR)	14 km	10 km
Road maintenance (FSR)	1,493 km	625 km
Road deactivation (FSR)	51 km	28 km
Structure construction	1 bridge 1 major culvert	1 bridge 1 major culvert
Structure maintenance	52 bridges 9 major culverts	24 bridges 4 major culverts
Bridge removal	1	1

³ Section 7 of *Forest Planning and Practices Regulation* identifies objectives set by government for wildlife for the purposes of forest stewardship planning under the *Forest and Range Practices Act*.

Silviculture Obligations and Activities

BCTS conducted site preparation, planting and brushing silviculture activities, and had regeneration and free-growing obligations during the audit period.

Table 2. Population and Sample for Silviculture Activities and Obligations

OBLIGATIONS AND ACTIVITIES	POPULATION (cutblocks)	SAMPLE (cutblocks)
Site preparation	10	6
Planting	48	22
Brushing	2	2
Regeneration obligations (due or declared)	77	23
Free-growing obligations (due or declared)	102	40

Timber Sale Licensee Responsibilities

Timber Harvesting

Twenty-eight timber sale licensees harvested 83 cutblocks, covering 1,996 hectares during the audit period. Auditors examined harvesting by 15 timber sale licensees on 49 cutblocks, totalling 1,234 hectares.

Road and Major Structure Construction, Maintenance and Deactivation

Timber sale licensees built 76 kilometres of road, maintained 56 kilometres of road and deactivated 50 kilometres of road. Auditors examined 44 kilometres of road construction, 14 kilometres of road maintenance and 8 kilometres of deactivation. Licensees did not construct or maintain any major structures.

Wildfire Protection

There were no active worksites during the field audit so auditors did not assess fire preparedness. During the audit period, fire hazard assessments were due or completed on 78 cutblocks and no abatement obligations were due.

Auditors examined fire hazard assessments for 23 cutblocks and assessed abatement practices (slash piling) when sampling the 49 harvested cutblocks.

Findings

The audit found that BCTS's planning and practices complied with FRPA and the *Wildfire Act* as of June 2019.

The audit found that the timber sale licensees' practices generally complied with FRPA and the *Wildfire Act* as of June 2019, however, the audit identified a significant non-compliance for road maintenance practices, and found that several licensees' practices for assessing fire hazard require improvement.

BCTS Responsibilities



An old trapper's cabin marked by BCTS during layout and preserved during TSL harvest activities.

Operational Planning

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

BCTS addressed forest resources by identifying areas where activities affected resource interests, such as soil productivity (terrain stability), visually sensitive areas, cultural sites, fish streams, residual watersheds, and old-growth management areas. BCTS conducted the appropriate assessments and tailored its operations to meet objectives and measures for these resources.

BCTS accurately identified the resource interests associated with its activities and prescribed appropriate actions in site plans to conserve them.

Road and Major Structure Construction, Maintenance and Deactivation

Road and Structure Construction

BCTS constructed roads according to plan and all documentation was complete, including construction assurance statements for the newly constructed sections. BCTS used qualified professionals when required and followed their recommendations when constructing road. Roads were well built and natural drainage patterns were maintained during and after construction.

BCTS constructed two structures during the audit period. Auditors reviewed both structures and found they conformed with the approved general arrangement drawings and designs. BCTS worked in conjunction with the Regional Engineering Group⁴ and qualified engineering contractors to initiate, design and install the structures. All documentation was completed to acceptable engineering standards.

Road Maintenance

Overall, the roads were generally well maintained with natural drainage patterns maintained and culverts functional.

Structure Maintenance

Government engineers routinely inspected structures on forest service roads (FSRs) and BCTS maintained them, including implementing corrective actions recommended by government engineers. The sampled structures were well maintained.

Road Deactivation

BCTS seasonally or permanently deactivated roads by installing cross-ditches and removing culverts to maintain natural drainage patterns and minimize the risk of erosion. Auditors did not identify any issues with road deactivation.

⁴ The Regional Engineering Group is part of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development.

Silviculture Activities and Obligations

BCTS complied with FRPA requirements, reforesting cutblocks with suitable tree species and stock within the required timeframes. It monitored and tended its plantations to ensure it met free-growing requirements. Cutblocks contained the range of healthy, well-spaced, acceptable trees required to meet free-growing requirements within required time frames.

BCTS is meeting its current regeneration, free-growing and annual reporting requirements. Auditors had no concerns with silviculture planning or practices.



BCTS accommodated recreation trails in a free-growing cutblock in the Candle Creek trail network, north of Clearwater.

Timber Sale Licensee Responsibilities

Oliver Creek Forest Service Road Maintenance – Wadlegger Logging and Construction Ltd.

While assessing maintenance on a portion of the Oliver Creek FSR, auditors noted a 300-metre portion of the road had experienced both historical and recent failures.

The Oliver Creek FSR was used to provide access for timber harvesting and mining activities. It passes above Oliver Creek, a large⁵ salmon migration and spawning stream. This 300-metre section of road has been unstable since a storm event in 2015, with multiple cut- and fill-slope failures depositing sediment into fish habitat and destabilizing the road prism.

For the majority of the audit period, the holder of timber sale licence A89376, Wadlegger Logging and Construction Ltd (WLCL), was responsible for maintenance of the Oliver Creek FSR.⁶

In May 2018, a cut slope failure covered the road with up to three metres of debris. WLCL cleared the debris from the road, under contract to a mining company.

Section 79 (6)ⁱⁱ of the *Forest Planning and Practices Regulation (FPPR)* requires those responsible for road maintenance to ensure the structural integrity of the road prism and clearing width are protected, and to ensure that the road can be used safely by industrial users. Ensuring the structural integrity of the road prism is traditionally done by hiring a qualified professional.

Unstable road prisms and uncontrolled drainage increase the likelihood of mass movements that can put Crown forest resources, such as fish habitat, as well as industrial and public safety at risk. Although WLCL removed debris off of a historically unstable section of FSR, while responsible for the maintenance of this road, at no time did it conduct a terrain stability assessment or hire a qualified professional to assess the integrity of the road prism to ensure that the road could be used safely by industrial users. This is a non-compliance with section 79 (6) of the FPPR and is deemed significant.

⁵ Oliver Creek is classified as an S2 stream as it is 10-20 metres wide, less than 20 percent gradient and, based on government fish inventories, is known to be fish bearing.

⁶ WLCL held road use permit 11360-20/WLCL amendment #2016-06 on Oliver Creek FSR from August 2016 (prior to the audit period), to February 5, 2019.

Timber Harvesting

Licensees conducted harvesting in accordance with the requirements of legislation and site plans. Sampled blocks included ground based and cable harvesting systems and covered a broad range of ecosystems. Harvest activities conformed to site plans, which often included prescriptions for wildlife tree and residual forest cover retention, visual quality, riparian management, terrain stability and old-growth management. Auditors had no concerns with timber harvesting.

Road and Major Structure Construction, Maintenance and Deactivation

Other than the Oliver Creek FSR concern noted above, roads were well maintained with natural drainage patterns maintained and culverts functional.

Licensees built and maintained short spur roads, under road permits or timber sale licences, to access cutblocks and deactivated them when timber sale obligations were completed. Licensees generally followed plans when constructing roads and maintained natural surface drainage patterns. Auditors had no concerns with licensee road construction or maintenance.

Licensees either permanently deactivated or rehabilitated roads to maintain natural drainage patterns and minimized the risk of erosion. No issues were identified with road deactivation.

Wildfire Protection

There were no active harvest operations to assess during the field audit.

The *Wildfire Act* requires licensees to assess the fire hazard at specified intervals, including an assessment of the fuel hazard and the associated risk of a fire starting or spreading. Furthermore, the licensee must provide a copy of a fire hazard assessment to an official when requested.ⁱⁱⁱ If the assessment identifies a hazard, it must be abated.

Auditors found that timber sale licensees effectively abated fire hazards within the required period. However, licensees did not assess the fire hazard on time for 23 of the 47 cutblocks sampled. A hazard assessment is a required step to take to determine if harvesting has created a fire hazard. If a hazard is identified and abated in a timely fashion, a licensee could demonstrate that it has been diligent.

While timber sale licensees are completing fire hazard abatement, some cannot demonstrate that they have been diligent in assessing the hazard, which is a non-compliance with legislation. This non-compliance is not considered significant, since fire hazards are being abated in an effective and timely manner and this is an area requiring improvement

Audit Opinion

In my opinion, except for the road maintenance issue described below, the operational planning, timber harvesting, road construction, maintenance and deactivation, silviculture, and fire protection activities carried out by BC Timber Sales and its timber sale licensees in the Clearwater Field Unit, within the Kamloops Business Area, between June 1, 2017, and June 7, 2019, complied in all significant respects with the requirements of the *Forest and Range Practices Act*, the *Wildfire Act* and related regulations, as of June 2019.

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 *Oliver Creek Forest Service Road Maintenance* section of the report, the audit identified a significant non-compliance related to road maintenance.

Without further qualifying my opinion, I draw attention to the *Wildfire Protection* section of the report, which describes an area requiring improvement.

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*.



Christopher R. Mosher CPA, CA, EP(CEA)
Director, Audits

Victoria, British Columbia
November 17, 2020

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*. Compliance audits examine forest or range planning and practices to determine whether or not they meet FRPA and / or *Wildfire Act* requirements. The Board conducts about 10 compliance audits annually. Most of these are audits of agreement holders. The Board also audits the government's BC Timber Sales Program (BCTS).

Selection of auditees

To begin with, auditors randomly select an area of the Province, such as a natural resource 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, auditors choose the auditee(s) that best suits the selected risk and priorities. The audit selections are not based on past performance.

For example, in 2016, the Board randomly selected the Dawson Creek portion of the Peace Natural Resource District as a location for an audit. After assessing the activities within the area, it was noted that there were two community forest agreements that had not yet been audited by the Board. As the Board strives to audit an array of licence types and sizes each year, these two community forest agreements were selected for audit.

For BCTS audits, a district or timber supply area within 2 of the 12 business areas in the province are selected randomly for audit. Only those areas that have not been audited by the Board in the past five years are eligible for selection.

Audit Standards

The audits are conducted in accordance with auditing standards developed by the Board. These standards include 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 and 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. For smaller audits, the sample will include the full population.

Auditors' work includes interviewing licensee staff, reviewing applicable plans, assessing features from helicopters and measuring specific features like riparian reserve zone width using ground procedures. The audit teams generally spend three to five days in the field.

Evaluating the Results

The Board recognizes that compliance with the requirements of FRPA and the *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 legal 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 in compliance with FRPA or the *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, these events 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 more non-compliance events.

If a significant breach of the legislation 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, Natural Resource Operations and Rural Development.

Reporting

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

The Board reviews the draft report 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 reviews representations from parties that may potentially be adversely affected, makes any necessary changes to the report, and decides if recommendations are warranted. The report is then finalized and released: first to the auditee and then to the public and government seven days later.

ENDNOTES

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 its FSP BCTS is 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 ***Forest Planning and Practices Regulation***

Road maintenance

79(1) A person may maintain a road only if authorized or required to do so under the Act or this regulation.

(2) A person who is authorized in respect of a road must maintain the road, including bridges, culverts, fords and other structures associated with the road, until

- (a) the road is deactivated,
- (b) the district manager notifies the person that the road should not be deactivated due to use or potential use of the road by others,
- (c) a road permit or special use permit for the road is issued to another person, or
- (d) the road is declared a forest service road under the *Forest Act*.

(3) Subject to subsection (4), the government must maintain a forest service road, including bridges, culverts, fords and other structures associated with the road, until the road is deactivated.

(4) The district manager may order the holder of a road use permit that authorizes the use of a forest service road to assume all or part of the responsibility to maintain the road, including bridges, culverts, fords and other structures associated with the road.

(5) Repealed. [B.C. Reg. 580/2004, s. 48 (b).]

(6) A person required to maintain a road must ensure all of the following:

- (a) the structural integrity of the road prism and clearing width are protected;
- (b) the drainage systems of the road are functional;
- (c) the road can be used safely by industrial users.

(7) A holder of a road use permit required to maintain a forest service road under subsection (4), on giving the district manager at least 30 days notice, may do one or more of the following in respect of the forest service road:

- (a) build a bridge;
- (b) install a major culvert;
- (c) install a culvert in a fish stream.

(8) Within 30 days of receiving a notice referred to in subsection (7), the district manager may impose requirements respecting a bridge or culvert referred to in that subsection, and the holder of the road use permit must comply with those requirements.

(9) If the district manager does not impose requirements under subsection (8), the holder of the road use permit may proceed in accordance with the notice given under subsection (7).

ⁱⁱⁱ Section 7 (1) of the *Wildfire Act* states "In prescribed circumstances and at prescribed intervals, a person carrying out an industrial activity or a prescribed activity on forest land or grass land or within 1 km of forest land or grass land must conduct fire hazard assessments."

Section 11(3) of the *Wildfire Regulation* states "Subject to subsection (3.1) of this section, the prescribed intervals, at which persons described in section 7 (1) of the Act must conduct fire hazard assessments, are

- (a) 6 month intervals during the period during which the persons, in any area other than the area described in subsection (2), are carrying on the industrial activity or the prescribed activity, and
- (b) the shorter interval between the most recent 6-month interval and the date on which the activity ceases for an expected period of 6 months or more."



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