

FORESTRY AUDIT: BC TIMBER SALES & TIMBER SALE LICENCE HOLDERS

Skeena Business Area
Terrace Field Unit

AUGUST 2022
FPB/ARC/253



**Forest
Practices
Board**

BC'S INDEPENDENT
WATCHDOG FOR
SOUND FOREST &
RANGE PRACTICES

In undertaking its work, the Forest Practices Board acknowledges and respects the Indigenous Peoples whose territory is the subject of this report. The Board recognizes the importance of their historical relationship with the land that continues to this day.

Table of Contents

Board Commentary..... i

Audit Results..... 1

 Introduction 1

 Background..... 1

 Audit Approach and Scope 3

 Planning and Practices Examined 3

 Findings..... 5

Audit Opinion5

Appendix 1: Forest Practices Board’s Compliance Audit Process..... 10

Board Commentary

As part of its annual audit program, the Board conducted a full scope compliance audit of BC Timber Sales (BCTS) Skeena Business Area in the Coast Mountains Natural Resource District. The audit results are described in detail later in this report. Although BCTS and timber sale licence (TSL) holders complied with most *Forest and Range Practices Act* (FRPA) and *Wildfire Act* requirements, this commentary provides the Board's views on several drainage structure safety and compliance issues identified in the audit.

Under BCTS's business model, BCTS staff prepare plans and award TSLs. TSL holders, in turn, are responsible for conducting timber harvesting and road work associated with the TSL, and must ensure FRPA requirements are met. This includes a requirement to ensure bridges and culverts they construct are safe and sound. TSL holders operate independently of BCTS and can plan and conduct their operations as they choose without direction or supervision from BCTS. BCTS and other parts of the Ministry of Forests have responsibilities to monitor TSL holders to ensure plans are implemented effectively and legal requirements are met.

This audit found two bridges and three box culverts that were unsafe, environmentally deficient, or non-compliant with the legislation. BCTS was aware of two of these situations and had requested the TSL holder to address the deficiencies.

The Board previously identified significant safety concerns and non-compliance with legislation associated with bridges and other crossings in its 2014 special investigation entitled *Bridge Planning, Design and Construction*. In a follow-up report on bridges in 2020, the Board noted the critical importance of compliance monitoring and enforcement, where appropriate, in ensuring crossings meet all legal requirements. Since 2014, the Association of BC Forest Professionals and Engineers and Geoscientists BC have taken steps to educate their registrants on the design and construction of safe and environmentally sound forest crossings. Although the Board has seen significant improvements across the province, as noted in its 2020 bridge report and recent audits, the findings of this audit contrast with those improvements.

Under section 131 of FRPA, the Board makes the following recommendation:

1. BCTS should identify the actions it will take to improve performance on crossing construction in the Coast Mountains Natural Resource District portion of the BCTS Skeena Business area. Actions may include education of TSL holders and professionals, clarification of standards and requirements, changes to EMS and improved monitoring and enforcement.

Under section 132 of FRPA, the Board requests that BCTS respond to this recommendation by December 1, 2022, indicating that:

- a) it accepts the recommendations and describes how it will address or has addressed them; or
- b) it partially accepts the recommendations, with reasons, and describes how it will address or has addressed them; or
- c) it does not accept the recommendations, with reasons.

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 the 2021 Forest Practices Board audit program, the Board randomly selected the BC Timber Sales (BCTS) Terrace Field Unit portion of the Skeena Business Area 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.



BCTS harvest operations in the audit area are typically on moderate to steep mountainous terrain.

Background

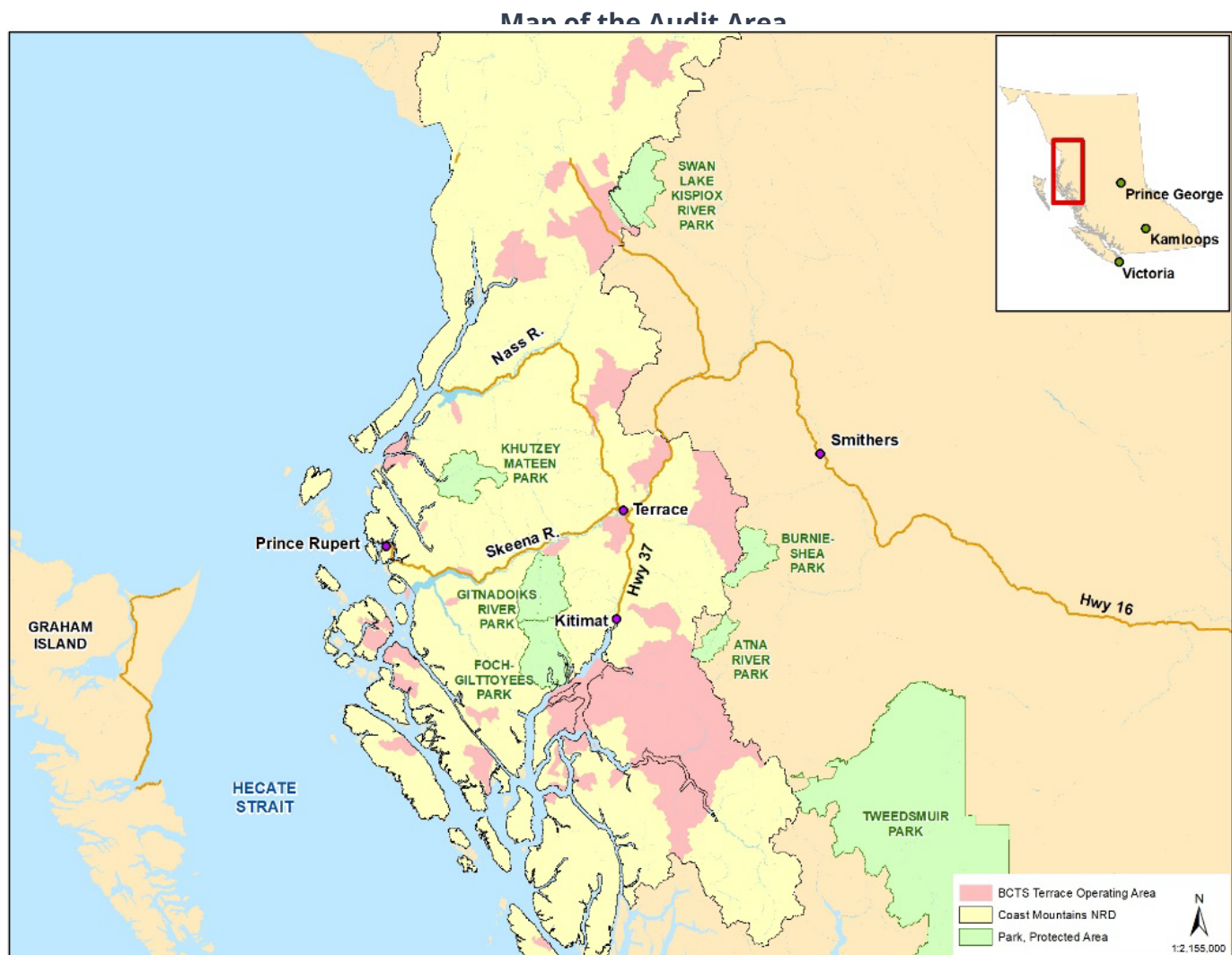
The BCTS Skeena Business Area operates in the Coast Mountains and Skeena Stikine Natural Resource Districts. The Terrace Field Unit operating areas subject to this audit are located within the Coast Mountains Natural Resource District, on the west coast of British Columbia.

This audit examined activities and obligations in BCTS operating areas, which overlap with the traditional territories of the following First Nations: Cheslatta Carrier Nation, Gitanyow, Gitga'at First Nation, Gitxaala Nation, Gitxsan Nation, Haisla Nation, Heiltsuk Nation, Kitasoo Band, Kitselas First Nation, Kitsumkalum First Nation, Metlakatla First Nation, Nee-Tahi-Buhn Band, Nisga'a Nation, Skin Tyee Nation, Tahltan Band Council, Takla Nation, Tsetsaut Skii Km Lax Ha Nation, Wet'suwet'en First Nation, the Wet'suwet'en Hereditary Chiefs, and within the Nass treaty area of the Nisga'a Nation. These Indigenous peoples have been stewards of the land since time immemorial, and the Forest Practices Board recognizes their deep connection with the land that continues to this day.

The Coast Mountains District covers an area of over 80 000 square kilometres and includes the major centers of Terrace, Kitimat, Prince Rupert, New Aiyansh, and Stewart. Within the district, there are five timber supply areas and two tree farm licences with a combined allowable annual cut of approximately 2.5 million cubic metres. BCTS has an apportionment of 1.2 million cubic metres and harvested about 620 000 cubic metres during the audit period.

BCTS's operating areas are dispersed throughout the district, representing the broad range of topographic and climatic variations found within the district (see map below). Mountainous and rugged terrain is typically found in the south, where operations on islands and fjord lands create access challenges. Broad scenic mountain valleys are typically found in the north. A coastal climate dominates the southern portions of the district with abundant rainfall and mild temperatures. An interior climate dominates the northern portions with drier summers and colder, longer winters. Forests in the area consist primarily of western and mountain hemlock, amabilis and subalpine fir, Sitka and Engelmann spruce, red and yellow cedar, and lodgepole pine. Salmon-bearing rivers are predominant in the district, with many tertiary streams and lakes used for spawning and migration, including the Nass and Skeena rivers and Kitsumkalum, Alastair, Lakelse, Meziadin, Bowser, Jesse and Kitlope lakes.

BCTS's Terrace field team is based in Terrace, where staff prepare operational plans, auction timber sales, and issue timber sale licences and road permits. BCTS awards the successful bidder at each auction a timber sale licence (TSL) authorizing the holder to harvest the auctioned timber. The TSL holder, in turn, is responsible for fulfilling timber harvesting and road work associated with the licence, permit and operational plan obligations.



Audit Approach and Scope

This was a full scope compliance audit with a two-year timeframe. All activities that BCTS and TSL holders carried out between June 1, 2019, and June 24, 2021, were subject to the audit.

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

TSL holders 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*, applicable regulations, and legal orders. Auditor's work included interviewing BCTS staff, reviewing the FSP and site plans, assessing silviculture records, and conducting site visits with BCTS staff to review field practices. Sites were accessed by truck and by helicopter. Two forest professionals, one forest professional/geoscientist, and a chartered professional accountant made up the audit team. The audit team was in the field from June 21 to 24, 2021.

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*.

Planning and Practices Examined

BCTS Responsibilities

Operational Planning

BCTS planned its activities under the *Coast Mountains Natural Resource District Forest Stewardship Plan 2016-2021*, extended to July 4, 2023. Auditors examined the FSP and stand-level site plans to ensure they met legal requirements. Auditors also compared site plans with site conditions during harvesting, road and silviculture field sampling to ensure that they accurately identified site conditions.

BCTS's FSP links the objectives, results and strategies contained in plans and agreements associated with its operations. BCTS was required to specify results and strategies in its FSP that are consistent with the objectives described in the *Kalum Sustainable Resource Management Plan*, the *Kalum Land and Resource Management Plan*, the *Central Coast Land and Resource Management Plan*, the *North Coast Marine Plan*, the *North Coast Land and Resource Management Plan*, the *Central Coast Land and Resource Management Plan*, the *Nass South Sustainable Resource Management Plan*, the *Agreement Between BC Timber Sales Skeena Business Area and the Nisga'a Nation for BC Timber Sales Activities within the Nass Area*, and the *Gitanyow Lax'yip Land Use Plan*.

Road and Major Structure Construction, Maintenance and Deactivation

BCTS did not construct any roads during the audit period. The major structure maintenance population included 139 bridges and 45 major culverts. Auditors sampled 66 bridges and 18 major culverts for a total of 84.

TABLE 1. Population and Sample for Road and Structures

ACTIVITY	POPULATION	SAMPLE
	(Kilometres)	(Kilometres)
Road Maintenance (FSR)	1018	499
Road Deactivation (FSR)	8	3
	(Structures)	(Structures)
Bridge Construction	1	1
Bridge & Major Culvert Maintenance	184	84
Bridge Deactivated	2	2

Silviculture Obligations and Activities

BCTS conducted planting, brushing and spacing 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	SAMPLE
	(Cutblocks)	(Cutblocks)
Planting	25	10
Brushing	6	6
Spacing	2	2
Regeneration Obligations (due or declared)	73	18
Free-growing Obligations (due or declared)	112	37

Timber Sale Licensee Responsibilities

Timber Harvesting

During the audit period, 33 TSL holders harvested 72 cutblocks on 1963 hectares. Auditors examined harvesting by 20 TSL holders on 31 cutblocks totaling 1047 hectares.

Road and Major Structure Construction, Maintenance and Deactivation

TSL holders constructed roads and maintained roads and bridges, but did not construct bridges or deactivate roads or bridges.

TABLE 3. Population and Sample for Road and Major Structure Activities

ACTIVITY	POPULATION	SAMPLE
Road Construction (km)	151	71
Road Maintenance (km)	145	70
Bridge Maintenance (structures)	2	2

Wildfire Protection

Auditors examined fire hazard assessment and abatement practices and wildfire preparedness as part of the harvest sampling.

TABLE 4. Population and Sample of Wildfire Protection Activities

ACTIVITY	POPULATION	SAMPLE
	(Cutblocks)	(Cutblocks)
Fire Preparedness of Active Work Sites	3	1
Fire Hazard Assessment	66	32
Fire Hazard Abatement	72	31

Findings

The audit found that BCTS's and TSL holders' planning and practices generally complied with FRPA and the *Wildfire Act* as of June 2021, with the exception of the findings described below.

BCTS Responsibilities

Annual Reporting

Section 86 (5)ⁱⁱⁱ of the *Forest Planning and Practices Regulation* (FPPR) requires BCTS to report harvest and silviculture treatments in a timely manner to the district manager. Although BCTS was tracking its silviculture treatments internally, over 25 percent of the harvest and silviculture treatments sampled were not reported on time in the Ministry of Forests' Reporting Silviculture Updates and Land status Tracking System (RESULTS). Failure to do so is a non-compliance with legislation. This is an administrative shortcoming that did not affect regeneration delay or free-growing obligations.

As the reporting errors in RESULTS are pervasive, this is considered a significant non-compliance.

Subsequent to the audit, BCTS completed the outstanding reporting and adopted internal procedures to ensure compliance in the future.

Operational Planning

BCTS operates under an FSP approved in 2016. The FSP incorporated the objectives, results and strategies contained in the land and resource management plans and agreements that apply to forest practices in the audit area.

BCTS maintained accurate documentation of planning and operational activities. The files were readily available and complete. Site plans were consistent with the FSP and addressed site-specific resources by accurately identifying and prescribing practices for resource features such as wildlife tree retention, riparian areas, wildlife habitat, and sensitive soils.

BCTS completed resource assessments at the landscape, operational and site levels, where required, and implemented the assessments' recommendations. BCTS did not plan to harvest or construct roads within wildlife habitat areas and met old growth management objectives.

Auditors found no issues with operational planning.

Road and Major Structure Construction, Maintenance and Deactivation

Road Maintenance

BCTS adequately maintained roads and retained the structural integrity of road prisms. All of the culverts examined were functional and effectively controlled water and auditors did not observe any road failures. Active roads were safe for industrial use, drainage systems were functional and natural drainage patterns were maintained.

Road Deactivation

Deactivated roads were marked with signs and adequately barricaded. BCTS removed culverts and maintained natural drainage.

Bridge Construction

Auditors did not identify any administrative or operational issues with the newly constructed bridge. All documentation was complete (i.e., general arrangement designs, structural drawings, fabrication drawings, record drawings and construction assurance statements), accurate and compliant with legislation. The bridge was well constructed and safe for industrial use.

Bridge and Major Culvert Maintenance

BCTS works with the Regional Engineering Group¹ to complete major structure maintenance and inspections on forest service roads. BCTS adequately maintained bridges and culverts and posted load ratings for bridges on all active roads. All major culverts assessed were functional.

Bridge Deactivation

BCTS adhered to deactivation plans while removing the bridges and did not impact the stream channels.

Overall, BCTS operating areas are challenging, often with steep, difficult terrain requiring specialized construction techniques, intensive water management, and continual maintenance to ensure that resource roads and bridges are safe for use. Auditors found BCTS's road-related activities were generally well done.

Silviculture Activities and Obligations

Brushing activities focused on controlling deciduous tree species, which are a limiting factor in achieving free-growing obligations. BCTS completed brushing activities according to plans and effectively controlled competing vegetation.

BCTS planted cutblocks with suitable tree species and stock, and seedlings planted were within approved seed transfer limits. Cutblocks contained the range of healthy, well-spaced, acceptable trees necessary to meet free-growing requirements within the required periods.

BCTS declares that regeneration obligations are met at the time of planting. It also conducts walkthrough surveys after planting to determine brushing requirements, and a survival survey near the regeneration delay milestone due date to confirm stocking. Auditors found that BCTS met its regeneration delay obligations.

BCTS surveys cutblocks before declaring free-growing obligations are met. These surveys, and auditor field observations of free-growing stands, confirmed BCTS met free-growing obligations and plantations looked healthy and vigorous.

Auditors did not have any concerns with silviculture obligations or practices.

Timber Sale Licensee Responsibilities

FINDINGS OF SIGNIFICANCE

Bridge Maintenance

Road Permit R21176 held by Cascadia Timber Corp. (Cascadia)

Section 72^{iv} of the FPPR states that a person who maintains a road must ensure the bridges are structurally sound and safe for industrial users. Section 77^v of the FPPR states that when constructing a bridge, a person must prepare or obtain essential documentation and keep it for the duration of their obligations. In addition, Section 79^{vi} of the FPPR states that a person required to maintain a road must ensure the road can be used safely by industrial users.

Cascadia installed two bridges just before the audit period and maintained the bridges to transport logs and equipment during the audit period. It planned to remove the bridges once all TSL obligations were completed. When auditors examined the bridges, they found that neither bridge was centered on the sill logs nor secured to the sill logs with bolts, which is required in the bridge design. One of the bridges had a missing section of guardrail, which can compromise the structural integrity and safety of the bridge.

A crossing assurance statement is completed by a qualified professional to ensure a bridge is safe.² Preparation of a crossing assurance statement includes conducting field reviews during and after construction and completing as-

¹ The Regional Coastal Engineering Group is part of the Ministry of Forests.

² A crossing assurance statement is a professional document confirming that the implementation and significant aspects of the construction of the work, substantially complies in all material respects with the concepts and intent reflected in the issued for construction professional documents prepared for the crossing, including all revisions to the plans, field reviews and supporting documents for the crossing.

built drawings,³ which identify and rationalize any departures from the original bridge design and assesses their potential effects on structural integrity.

After construction, Cascadia hired a professional engineer to complete crossing assurance statements for both bridges and bridge loading analyses for the heaviest load planned to cross these bridges. However, the engineer did not complete the necessary field inspections during construction, prepare any record drawings or consider the installation deficiencies in the load analyses. As a result, the above-noted departures from the original bridge design were not recognized nor rationalized and the statements did not adequately ensure that the bridges were safe and sound.

Cascadia did not install the bridges in accordance with the design and did not adequately complete a crossing assurance statement. Therefore, it did not ensure the two bridges were structurally sound and safe for industrial use. This is a significant non-compliance with sections 72, 77 and 79 of the FPPR.

After the audit, Cascadia removed the bridges as originally planned.

Road Construction

Section 72 of the FPPR states that a person who constructs a road must ensure the roads, bridges and culverts are structurally sound and safe for industrial use.

The auditors found two instances where the construction of wood box culverts affected road safety.

Wood Box Culvert Installation – TSL A95770 held by Northpac Forestry Group Ltd (Northpac).

Northpac installed a wood box culvert within a stream channel. The approaches were built on wood waste, the culvert components were not secured with lashing, pins or notches, the outlet sill log was partly submerged, and the culvert was almost filled to capacity when auditors visited the site. A culvert installed in this manner is subject to erosion and potential failure and poses a safety risk to industrial users.

The wood box culvert was unsafe for industrial use, which is a significant non-compliance with section 72 of the FPPR.

Wood Box Culvert Installation – TSL TA0534 held by Tianyuwen Trading Corp (TTC)

During construction of two spur roads in TSL TA0534, TTC did not install two wood box culverts to engineering standards. The culverts were not securely lashed, notched or pinned together and components had shifted, compromising their structural integrity. BCTS had identified the deficiencies in a previous inspection and asked TTC to submit an action plan describing how and when the deficiencies would be mitigated. The deficiencies had not been addressed at the time of the field audit.

TTC installed wood box culverts that were unsafe for industrial use and did not submit the action plan requested by BCTS. TTC continued using the spurs for log hauling without ensuring they were safe for industrial use, which is a significant non-compliance with section 72 of the FPPR.

After the audit, TTC removed the log culverts as part of the deactivation plan for the cutblock.

Wildfire Protection

Fire Protection – TSL TA0534 held by Tianyuwen Trading Corp (TTC)

Section 6(2)^{vii} of the *Wildfire Regulation* requires that a person who carries out timber harvesting must determine the fire danger class for the location of the activity. To help minimize the risk of a fire starting or spreading, section 6(3)^{viii} of the *Wildfire Regulation* requires that, when there is a risk of a fire starting, timber harvesting must be conducted according to applicable restrictions and an adequate fire suppression system must be kept at the activity site.

³ Required under section 77(1)(b) of the FPPR, an as-built drawing is a professional document which includes drawings and ancillary documents forming a record of what was constructed and implemented at a crossing. The documents can include measurements, elevations, sizes or notes marked on the issued for construction documents, including any significant amendments or modifications to the crossing design.

TTC did not follow the requirement to monitor fire hazard conditions using representative weather data for the area. The auditors' inspection of TTC's fire tools and suppression system found an adequate number of fire tools on site, but the suppression system consisted of only 60 metres of hose and a pump. The hose was stored over 700 metres from TTC's high-risk activities, the pump was not in working order and TTC did not have a fire suppression plan that identified water sources that could be used to suppress a fire. Should a fire occur, it is unlikely that TTC could react in time to control the fire.

TTC's fire suppression system and fire planning were inadequate, which is a significant non-compliance with sections 6(2) and 6(3)(b)(ii) of the *Wildfire Regulation*.

Fire Hazard Assessments

Section 11(3.1)(a)^{ix} of the *Wildfire Regulation* sets out the intervals licensees are required to assess a fire hazard when carrying out an industrial activity like timber harvesting, 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. 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, 13 of 19 licensees did not assess the fire hazard within the required time period and/or could not provide an assessment for 22 of the 32 cutblocks sampled. A hazard assessment is a requirement 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.

Some of the timber sale licensees 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 effectively and promptly. As a result, this is an area requiring improvement.

GENERAL FINDINGS

Harvesting

TSL holders conducted harvesting in accordance with the requirements of legislation and site plans. TSL holders used ground-based and cable harvest systems. They maintained natural drainage patterns, and achieved wildlife tree retention objectives. TSL holders protected riparian areas along streams and non-classified drainages within cutblocks using machine-free zones and retaining vegetation adjacent to streams. Soil disturbance was below the limits specified in the site plans. Auditors found no issues with harvesting.

Road Construction and Maintenance

TSL holders are responsible for in-block roads and road sections connecting to forest service roads.

Road Construction

Construction techniques varied from conventional balanced bench to full benching with end haul. Roads were constructed as planned, the drainage structures installed maintained natural drainage patterns and the roads were safe and stable.

Except for the wood box culverts noted above, road construction was generally well done and auditors had no concerns.

Road Maintenance

TSL holders adequately maintained roads to ensure the structural integrity of the road prism. The roads assessed were generally safe for industrial use, culverts and ditch lines were functional, and natural drainage patterns were maintained.

TSL holders' road maintenance was generally well done, and auditors had no concerns.

Wildfire Protection

Auditors evaluated all cutblocks in the harvest audit sample for compliance with the *Wildfire Act*.

Six of the TSL holders completed fire hazard assessments where an assessment was required. The completed assessments included a determination of fuel hazards and the risk of a fire starting or spreading, as required.

The TSL holders piled slash concurrent with and following harvesting activities. Slash was piled a safe distance from standing timber and the piles were either burned or planned to be burned when safe to do so. Fire hazards were adequately abated on all 32 of the sampled cutblocks.

Except for the fire protection finding described above, adequate hand tools and water delivery systems were present on each site. There were no requirements for fire watch, restricted work hours or shutdown at the time of the field audit.

Audit Opinion

In my opinion, except for the issues 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 sales licensees in the Coast Mountains Natural Resource District, within the Skeena Business Area, between June 1, 2019, and June 24, 2021, complied in all significant respects with the requirements of the *Forest and Range Practices Act*, the *Wildfire Act* and related regulations, as of June 2021.

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 *Annual Reporting* section of the report, the audit identified a significant non-compliance related to reporting errors in RESULTS.

As described in the *Bridge Maintenance – Road Permit R21176* section of the report, the audit identified a significant non-compliance related to bridge safety.

As described in the *Wood Box Culvert Installation – TSL A95770* and *Wood Box Culvert Installation – TSL TA0534* sections of the report, the audit identified two significant non-compliances related to road safety.

As described in the *Fire Protection – TSL TA0534* section of the report, the audit identified a significant non-compliance related to not having a fire suppression system on site.

Without further qualifying my opinion, I draw attention to the *Fire Hazard Assessments* 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 *Wildfire Act*.



Christopher R. Mosher CPA, CA, EP(CEA)
Auditor of Record

Victoria, British Columbia
July 29, 2022

Appendix 1:

Forest Practices Board's Compliance Audit Process

Background

The Forest Practices Board conducts audits of government and agreement-holders under section 122 of the *Forest and Range Practices Act* (FRPA) and section 68 of the *Wildfire Act*. Compliance audits examine forest or range planning and practices to determine whether or not they comply with the applicable requirements of FRPA and the *Wildfire Act*. The Board conducts 6-8 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 the Board's strategic priorities, and the type of audit is determined. At this stage, auditors choose the auditee(s) that best suit(s) the selected risk and priorities.

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, auditors 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 1 of the 12 BCTS business areas in the province is selected randomly for audit. The audit selections are not based on past performance.

Only those licensees or BCTS operations 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, replanting, road construction, road deactivation). 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.

The auditors select a separate sample 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 also consider factors such as geographic distribution and values potentially affected by activities to ensure an adequate sample.

Auditors' work includes interviewing licensee staff, reviewing the auditee's applicable plans, reviewing applicable government orders, assessing some features from helicopters and measuring specific features like riparian reserve zone widths 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 responsible Minister(s).

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 opportunity to make representations allows 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 FSPs, 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 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.

ⁱⁱⁱ *Forest Planning and Practices Regulation* – Annual Reports – Section 86(5)

(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.

^{iv} *Forest Planning and Practices Regulation* – Roads and associated structures – Section 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.

^v *Forest Planning and Practices Regulation* – Retaining information – Section 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.

(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.

^{vi} *Forest Planning and Practices Regulation* – Road maintenance – Section 79(6)

(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.

^{vii} *Wildfire Regulation* – High risk activities – Section 6(2)

(2) A person who carries out a high risk activity on or within 300 m of forestland or grass land on or after March 1 and before November 1, unless the area is snow covered, must determine the Fire Danger Class for the location of the activity

(a) by reference to representative weather data for the area,

(b) by reference to

(i) the Danger Region from Schedule 1,

(ii) the applicable numerical rating under the Buildup Index, and

(iii) the applicable numerical rating under the Fire Weather Index, and

(c) by cross-referencing the Buildup Index with the Fire Weather Index, for the applicable Danger Region, under Schedule 2.

^{viii} *Wildfire Regulation* – High risk activities – Section 6(3)

(3) If there is a risk of a fire starting or spreading, a person carrying out a high risk activity on or within 300 m of forest land or grass land must

(a) do so in accordance with the applicable restriction and duration set out in Schedule 3 for the Fire Danger Class, and

(b) keep at the activity site

(i) fire fighting hand tools, in a combination and type to properly equip each person who works at the site with a minimum of one fire fighting hand tool, and

(ii) an adequate fire suppression system.

^{ix} *Wildfire Regulation* – Hazard assessment – Section 11(3.1)

(3.1) The prescribed intervals, at which a person described in section 7(1) of the Act who is a qualified holder must conduct fire hazard assessments, are the intervals

(a) set out in subsection (2) or (3) of this section, as applicable, or

(b) specified by a professional forester or a registered forest technologist.



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