

**Forestry Audit: BC Timber Sales Program
Rocky Mountain Forest District**



FPB/ARC/80

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Board Commentary

In summer 2005, the Forest Practices Board conducted a compliance audit of forest planning and practices of the British Columbia Timber Sales (BCTS) program, and timber sale licence holders, in the Rocky Mountain Forest District. BCTS's operating areas are located in the Invermere and Cranbook Timber Supply Areas (see map on page 2).

The Board notes that, with one exception, planning and practices undertaken by BCTS and its timber sale licence holders complied with legislative requirements in all significant respects.

The significant non-compliance noted in the audit relates to sediment from road building and upgrading by the holder of timber sale licence (TSL) A69888—that has, or has the potential to, adversely affect fish streams. Of particular concern is that the TSL holder, independently from BCTS, sought and got approval from the Ministry of Forests and Range for a road use permit to upgrade a long section of forest service road (FSR), adjacent to a fish stream to access a timber sale, but did not follow the permit conditions designed to minimize the amount of sediment entering the stream.

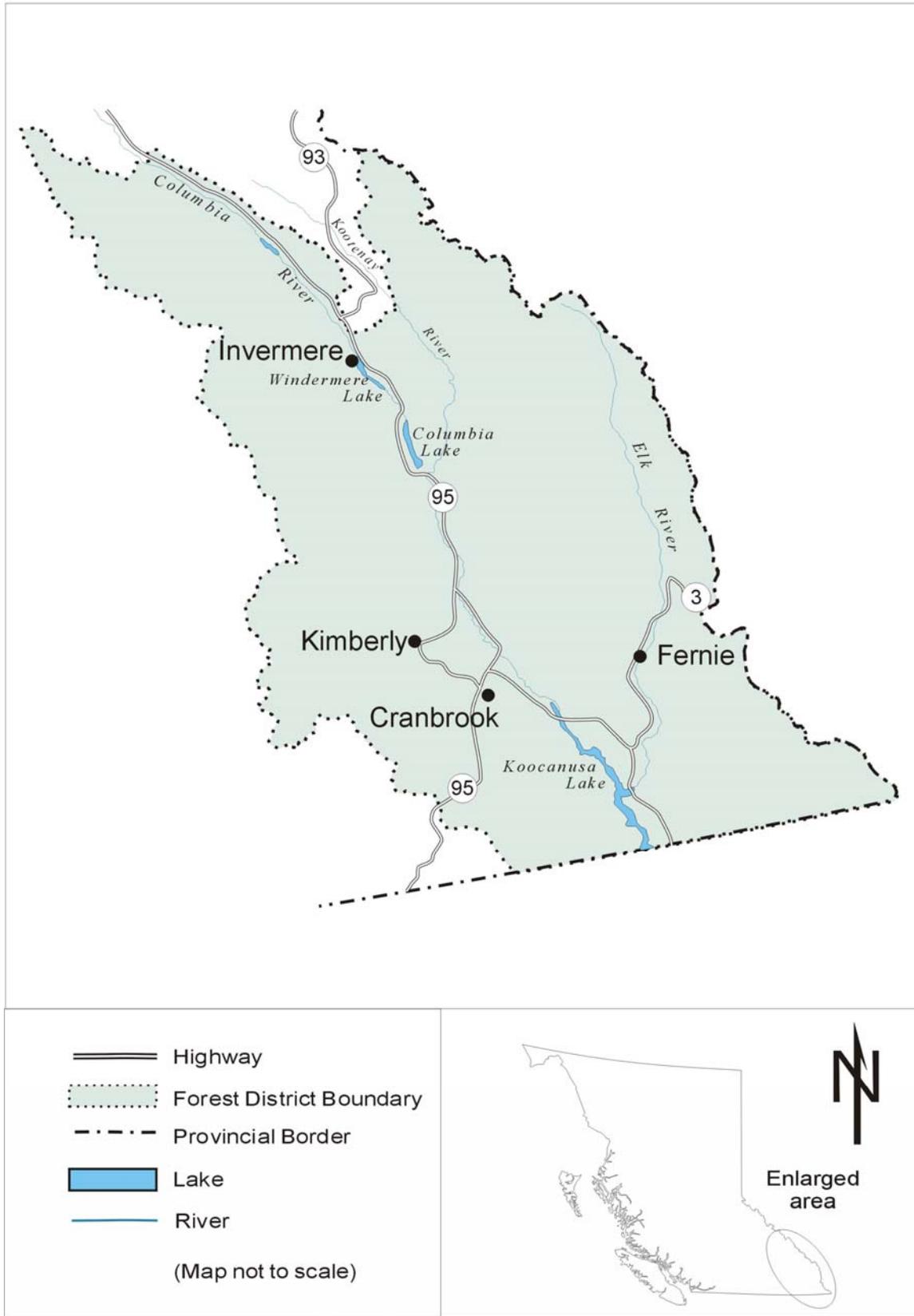
When doing roadwork near fish streams on Crown forest land, a higher standard of practice is both required by legislation and expected by the public. The Board encourages the TSL holder to ensure it operates to a higher standard of practice, when doing road work near fish streams in the future. As well, the Board suggests that it ensure appropriate water control measures are used on all newly constructed roads.

The Board also notes that BCTS's attempt at remediation, although well-intentioned, involved practices that were contrary to the objective of reducing sediment delivery to the fish stream. BCTS's initial remediation attempt is an area where the Board would like to see improvement.

Subsequent to the audit, BCTS completed a formal remediation plan that will see this segment of road permanently deactivated. BCTS had to postpone implementing the deactivation plan when another licensee expressed interest in using the FSR, but remains committed to deactivating the road in 2006. The Board acknowledges BCTS's commitment, noting that it does not have responsibility for the FSR, which is administered by the district manager, who granted a road use permit to the holder of the timber sale licence.

Currently, Ministry of Forests and Range compliance and enforcement officials are investigating this road segment and the corresponding sediment issues. Pending the outcome of the investigation, the Board may undertake further investigation of the circumstances surrounding the Little Lamb Creek FSR, if the Board determines such action is warranted.

Audit of Rocky Mountain Forest District BCTS



Audit Results

Background

As part of the Forest Practices Board's 2005 compliance audit program, the British Columbia Timber Sales (BCTS)¹ program and timber sale licence holders in the Rocky Mountain Forest District were selected for audit from the population of 12 BCTS business areas in the province. The Rocky Mountain portion of the Kootenay business area was selected randomly and not on the basis of location or past performance. Information on the Board's compliance audit process is provided in Appendix 1 (see page 9).



Harvest of trees damaged by the Lamb Creek fire southwest of Cranbrook.

The audit examined planning, activities and obligations undertaken or administered by BCTS from June 1, 2004, to June 17, 2005. The audit examined work done by both BCTS and its timber sale licence holders.² BCTS issues timber sale licenses and permits; develops operational plans; and conducts forest practices that are not subject to licences and permits. Timber sale licence holders fulfill licence, permit and operational plan obligations, including timber harvesting and road work within cutblocks.

BCTS operates in distinct areas throughout the Invermere and Cranbrook Timber Supply Areas within the Rocky Mountain Forest District. The main communities are Cranbrook, Kimberly, and Fernie in the southern part of the district, with Invermere in the north (see map on page 2).

The district is divided north-south by the Rocky Mountain Trench, with the Continental and Border ranges of the Rocky Mountains to the east and the Purcell Mountains to the west. The trench is characterized by low-lying valleys consisting of Douglas-fir and, in the southern part of the district, ponderosa pine. Lodgepole pine and spruce stands dominate mid-elevation plateaus, with some cedar and hemlock in wetter areas in the southern part of the district. Spruce and sub-alpine fir are found at the higher elevations. Harvesting and road-building activities subject to audit were mostly in mid-elevation lodgepole pine stands. Limited road building in the Mark Creek community watershed near Kimberley was also subject to audit.

During the audit period, BCTS harvested approximately 270,000 cubic metres using mostly ground-based systems.³ Most harvesting was in stands damaged by mountain pine beetle or the Lamb Creek fire, southwest of Cranbrook.

About 40 percent of harvesting and 20 percent of road building activities occurred in areas with moderate- to high-risk features, such as fish streams, community watersheds, unstable terrain and mountain caribou habitat. The audit focused on activities with moderate- to high-risk features.

Higher Level Plans

The *Kootenay-Boundary Land-Use Plan* (KBLUP) is a higher level plan⁴ under the Forest Practices Code and is applicable to BCTS's operations subject to audit. The KBLUP establishes management zones and requirements for "old" and "mature+old" forests, caribou habitat areas, grizzly bear habitat and connectivity corridors, streams licensed for human consumption, fire-maintained ecosystems and scenic areas.

Audit Approach and Scope

The audit examined BCTS's and timber sale licence holders' obligations and activities in the areas of:

- operational planning (including forest development plans⁵, silviculture prescriptions⁶ and site plans⁷);
- timber harvesting;
- road construction, maintenance and deactivation;
- silviculture; and
- fire protection.

The audit assessed these activities for compliance with the requirements of the *Forest Practices Code of British Columbia Act* (the Code), the *Forest and Range Practices Act* (FRPA)⁸ and the *Wildfire Act* (WA), and related regulations. All planning, activities, and obligations for the period June 1, 2004, to June 17, 2005, were included in the scope of the audit.

The Board's audit reference manual, *Compliance Audit Reference Manual, Version 6.0, May 2003*, and the addendum to the manual for the 2005 audit season, set out the standards and procedures that were used to carry out the audit.

Planning and Practices Examined

Activities during the audit period were approved under three forest development plans (FDPs) and subsequent amendments:

- the 2001-2005 FDP for the Invermere Timber Supply Area;
- the 2002-2006 FDP for the Cranbrook Timber Supply Area; and
- the 2001-2005 FDP for the Mark Creek community watershed.

Selected roads and cutblocks were audited from the ground, and from the air using a helicopter.

During the audit period, the following activities and obligations were audited:

- 21 of 50 cutblocks harvested
- 22 of 124 kilometres of new road constructed
- 84 of 1,118 kilometres of existing road maintained
- 6 of 47 kilometres of road deactivated
- 11 of 45 bridges maintained
- free-growing obligation on 10 of 25 openings where due
- regeneration obligations on 7 of 54 openings where due
- 2 of 5 cutblocks with mechanical site preparation
- fire preparedness on 3 of 7 active operations encountered

The audit also assessed plans for consistency with KBLUP objectives.

Findings

The audit found that, with one exception, planning and field activities undertaken or administered by BCTS and timber sale licence holders complied in all significant respects with the requirements of the Code, FRPA, WA, and related regulations. The exception was a finding of significant non-compliance relating to road work in the Lamb Creek fire area, done by the holder of TSL A69888.

Road Building Practices in the Area of the Lamb Creek Fire

TSL A69888

The audit found a significant non-compliance related to three sections of road work done by the holder of TSL A69888—construction of a 1.8 kilometre-long road; construction of a 0.5 kilometre-long section of road; and upgrade of a 1.8 kilometre-long section of a FSR.

The 1.8 kilometre-long, newly-constructed road had no cross drains or waterbars, and the ditch dissipated water in only two locations. Sections of the road surface and ditch had eroded, particularly the last 400 metres. The TSL holder did not ensure that the road drainage system controlled ditch erosion (section 9(1)(c)(ii) of the *Forest Road Regulation*).

The 0.5 kilometre section of new road lacked functioning ditches. Cross ditches, where present, drained onto erodable, fine-textured fill slopes. Fine-textured waste material from road construction had been stacked in oversteepened piles along the roadway. The TSL holder did not take steps to ensure that waste areas were left in a stable condition, or to locate waste areas where eroded soil materials would be prevented from entering streams (sections 8(1)(d) and 8(1)(k) of the *Forest Road Regulation*).

The Little Lamb Creek FSR was originally an old mining road and runs parallel to a fish-bearing stream. The FSR is within the creek's riparian reserve zone and, in some short sections, encroaches on the creek itself. While BCTS's operational plan recommended constructing the cutblock access road in an alternative location, the TSL holder sought and received approval from the district manager to access the cutblock by upgrading the FSR under a road use permit. The audit found portions of the upgraded section had unstable cutslopes and plugged ditchlines. The road surface, cutslopes and fill slopes had eroded.

The TSL holder did not use the FSR in accordance with the conditions of the road use permit (section 54(6)(c) of the Code) intended to reduce sediment delivery to the stream. Specifically, the TSL holder did not:

- place cross ditches in locations where significant vegetation occurs between the existing road and the stream;
- remove all culverts put in place during hauling operations;
- upgrade the road in a manner that ensures that water quality in the stream will not be negatively affected;
- place log cribbing to ensure that material does not enter the watercourse; or
- put erosion control socks in place.

Eroded materials from all three sections of road have entered fish streams. The TSL holder did not ensure that the road drainage systems minimized the amount of sediment entering streams (section 9(1)(c)(v) of the *Forest Road Regulation*). The resulting sedimentation has, or has the potential to, adversely affect fish streams. Continued sedimentation of the fish streams is likely, given the exposed fine-textured soils and inadequate/non-functioning drainage systems.

BC Timber Sales (BCTS)

In May 2005, BCTS noted the fine materials eroding from the upgraded section of the Little Lamb Creek FSR. Although BCTS is not responsible for the FSR, which is administered by the district manager, it undertook remediation work to stop sediment from entering the fish stream, as it had machinery in the area. Remediation included digging crossdrains, cleaning ditchlines, and stabilizing fill slopes. However, the crossdrains may have had the unintended effect of accelerating the delivery of sediment to the stream. Also, BCTS had pushed out, or placed, excavated materials on the creek side of the road, which subsequently were eroding into the stream. Consequently, while BCTS's remediation works were well intended, it used practices inconsistent with the objective of reducing sediment delivery. Accordingly, this is an area requiring improvement.

Subsequent to the field audit, BCTS contracted a full deactivation plan for the upgraded section of the FSR, as well as the 0.5 kilometre section of new road. BCTS postponed implementing the deactivation plan after another licensee expressed interest in using the FSR, but remains committed to deactivating the FSR in 2006.

Audit Opinion

In my opinion, except for the road work described below, the operational planning; timber harvesting; silviculture; road construction, maintenance and deactivation; and fire protection activities carried out by BCTS and its timber sale licence holders for the period June 1, 2004, to June 17, 2005, complied in all significant respects with the requirements of the *Forest Practices Code of British Columbia Act*, the *Forest and Range Practices Act*, the *Wildfire Act* and related regulations as of June 2005.

As described in the *Road Building Practices in the Area of the Lamb Creek Fire* section of this report, the audit identified a situation of significant non-compliance related to road work by the holder of TSL A69888. Sediment from road building and upgrading has, or has the potential to, adversely affect fish streams.

Without further qualifying my opinion, I draw attention to the part of the same section that describes an area of BCTS's operations requiring improvement: the attempted remediation of some of the roadwork undertaken by the TSL holder.

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.

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



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March 6, 2006

¹ BCTS issues timber sale licences and permits; develops operational plans; and conducts forest practices that are not subject to licences and permits, such as silviculture activities and some road work. Timber sale licence holders fulfill licence, permit and operational plan obligations, including timber harvesting and road work.

² BCTS replaced the Ministry of Forest's Small Business Forest Enterprise Program (SBFEP) as of April 1, 2003. Some operational plans and work towards fulfilling silviculture obligations were completed by the SBFEP. However, for ease of reading this report, activities, obligations and findings are referenced to BCTS or its licence holders.

³ Excluding some non-replaceable forest licences that were not part of the audit.

⁴ A higher level plan is a forest resource management objective that is established as legally binding by a written order. The objective applies to a resource management zone, landscape unit, sensitive area, recreation site, recreation trail, or interpretive forest site. Higher level plans are a provision of the *Forest Practices Code of British Columbia Act* that give direction to operational plans.

⁵ A forest development plan is an operational plan that provides the public and government agencies with information about the location of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect certain forest resources prescribed by regulation. It must also be consistent with any higher level plans. Site-specific plans are required to be consistent with the forest development plan.

⁶ A silviculture prescription is a site-specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). The silviculture prescriptions examined in the audit are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values including biological diversity, and produce a free-growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with forest development plans that encompass the area to which the prescription applies.

⁷ A site plan is a site-specific plan that is required in place of a silviculture prescription as of December 17, 2002, except where there is already an existing silviculture prescription. The site plan contains many of the same elements as a silviculture prescription and is designed to identify resource values and define what a free-growing stand will be on that site. However, it is not an operational plan under the Code and does not require review or approval by government to be implemented.

⁸ Most of the *Forest Practices Code of British Columbia Act* (the Code) was repealed on January 31, 2004, and replaced with the *Forest and Range Practices Act* (FRPA). The transitional provisions of FRPA say that the Code continues to apply to forest practices carried out under a forest development plan. This continues until there is an approved forest stewardship plan, at which point, the requirements of FRPA apply. Therefore, although FRPA came into effect during the audit period, the legislated forest practices requirements were the requirements of the Code.

Appendix 1: Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government and agreement-holders for compliance with the *Forest Practices and Range Practices Act* (FRPA). The Board has the authority to conduct these periodic independent audits under section 122(1) of FRPA. Compliance audits examine forest planning and practices to determine whether or not they meet FRPA requirements.

Most of the *Forest Practices Code of British Columbia Act* (the Code) was repealed on January 31, 2004, and replaced with FRPA. The transitional provisions of FRPA state that the Code continues to apply to forest practices carried out under a forest development plan, until there is an approved forest stewardship plan, at which point the requirements of FRPA apply.

The Board audits agreement holders who have forest licences or other tenures under the *Forest Act* or the *Range Act*. The Board also audits government's British Columbia Timber Sales (BCTS) program. Selection for audit, of both areas and licensees or agreement-holders to be audited, is made randomly to ensure a fair, unbiased selection.

Audit Standards

Audits by the Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with generally accepted auditing standards.

The audits determine compliance with the Code and FRPA, based on criteria derived from those Acts and related regulations. The criteria reflect judgments about the level of performance that constitutes compliance with each requirement

The standards and procedures for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting the Audit

Once the Board randomly selects an audit licensee and area, 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 field work 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 to two weeks in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of the Code and FRPA 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 Code and FRPA requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that one or more non-compliance event(s) is not significant and not worthy of reporting. Therefore, this category of events will not be included in audit reports.

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 and Range.

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.

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.

