

Audit of Silviculture Practices

**West Fraser Mills Ltd.
Forest Licence A20021**



April 1997

FPB/ARC/03

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A. Report from the Board

One of the principal roles of the Forest Practices Board is to conduct periodic, independent audits of forest practices in British Columbia and provide the findings of those audits to the public and three ministers. The *Forest Practices Code of British Columbia Act* requires the Board to undertake two types of audits:

- audits of compliance with the forest practices requirements of the Code - referred to as forest practices audits; and
- audits of the appropriateness of government enforcement of the Code - referred to as enforcement audits.

Independent auditing and reporting of forest practices is a relatively new undertaking and has attracted considerable attention from government, agreement holders, environmental groups, forest worker organizations, and the public. Few jurisdictions in the world provide for a similar independent authority to undertake audits of compliance with forest practices legislation.

The uniqueness of the responsibility and the requirement to report findings publicly has necessitated the development of a structured set of standards and procedures, as set out in the Board's audit reference manual. These were developed by the Board in 1995 and 1996 and field tested in the first half of 1996.

In the fall of 1996, the Board conducted four limited scope¹ compliance audits: two of roads and harvesting practices, one of silviculture activities, and one of operational planning.

This report presents the findings of one of those - an audit of the silviculture activities on Forest Licence A20021 held by West Fraser Mills Ltd. The document containing this report is in three parts:

Part A - this report from the Board;

Part B - a description of the process used by the Board to audit compliance with the Forest Practices Code; and

Part C - a report from the auditor.

The licence is located northeast of Williams Lake around Quesnel Lake and Horsefly Lake in the Horsefly Forest District. It was selected randomly, and not on the basis of location or level of performance. The licence has approximately 4 percent of the allowable annual cut of the Williams Lake timber supply area.

¹ The Board decided that by having each of these initial audits focus on certain areas of forestry practices only, it would allow easier implementation of its audit program.

The audit was conducted in October 1996. The objective of the audit was to determine if the silviculture activities carried out in the licence area from June 15, 1995, to September 30, 1996, complied with the requirements of the Forest Practices Code, including the transitional provisions.

The Board recognizes that the silvicultural activities were carried out during a period of transition to full Code compliance. All of the activities audited were implemented under silviculture prescriptions prepared and approved before the substantial compliance requirements of the Code came into effect on December 15, 1995. As described in the report from the auditor, the transitional provisions of the Code allow silviculture prescriptions prepared and approved prior to December 15, 1995, to meet only the requirements that applied before the Code came into effect. Therefore, the activities that were examined in the audit were assessed for compliance with the requirements that applied at the time when the silviculture prescriptions were prepared and approved.

The audit work included intensive ground-based examination of silviculture activities on all 17 cutblocks in which activities were conducted. The audit included:

- mechanical preparation of sites for planting on 12 cutblocks;
- planting of tree seedlings on five cutblocks; and
- fill-in planting on four of the above five cutblocks planted the previous year.

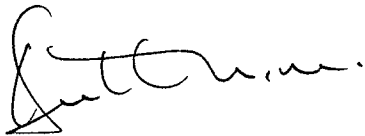
The Board's audit reference manual, "Reference Manual - Compliance Audits, Version 1, September, 1996," sets out the standards and procedures that were used to select and audit practices in the field. Part B of this document describes the direction provided to auditors about assessing compliance with the Code.

Conclusions

The Board has reviewed the report from the auditor and has concluded as follows:

1. The Board accepts the opinion of the auditor that the silviculture activities carried out by West Fraser Mills Ltd. on Forest Licence A20021 from June 15, 1995, to September 30, 1996, were in compliance, in all significant respects, with the silviculture requirements of the Forest Practices Code in October 1996.
2. The opinion of the auditor is a "clean" opinion, indicating that all of the silvicultural activities assessed in the audit were in compliance, in all significant respects, with the Code requirements in place at the time of the audit. The use of the words "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 by the audit but not worthy of inclusion in the report from the auditor.

We would like to thank the individual auditors for their work in the field and in preparing the report from the auditor. We also greatly appreciate the cooperation shown to the auditors by the staff of West Fraser Mills Ltd.

A handwritten signature in black ink, appearing to read "Keith Moore". The signature is fluid and cursive, with a prominent initial "K" and a long, sweeping underline.

Keith Moore
Chair

April 1, 1997

B. Forest Practices Board compliance audit process

Audit standards and criteria

Audits by the Forest Practices 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 based on audit criteria derived from the *Forest Practices Code of British Columbia Act* and the related regulations. The audit criteria were established for the evaluation or measurement of each practice required by the Code. These reflect judgments about the level of performance that constitutes compliance with each requirement.

The Board's audit reference manual, "Reference Manual - Compliance Audits, Version 1, September, 1996," sets out the standards and procedures for its compliance audits.

Audit methodology

At the outset of an audit, an analysis of each forestry activity, such as the cutting and removal of trees from a specified forested area (harvesting of a cutblock), is used to identify the items, e.g., cutblocks harvested or roads constructed, that comprise the activity during the period subject to audit. The items comprising each forest activity are referred to as a "population."

The most efficient means of obtaining information, to conclude whether there is compliance with the Code, are chosen for each population. Because of limited resources, sampling is usually relied upon to obtain audit evidence, rather than inspecting all activities.

As individual sites and forest practices within each population have different characteristics, such as the type of terrain or the type of yarding, each population is divided into distinct sub-populations ("strata") on the basis of common characteristics (e.g., steep terrain versus flat ground). A separate sample is selected for each population, such as the cutblocks selected for auditing timber harvesting. Within each population, more audit effort (i.e., higher sampling) is allocated to the strata where the risk of non-compliance is greater.

The audit work in the field includes assessments from helicopters and intensive ground procedures such as the measurement of specific features, e.g., road width.

Audit conclusions

The Board recognizes that compliance with many Code requirements is a function of degree, rather than of absolute compliance, and requires the exercise of professional judgment within the direction provided by the Board.

In performing the audit, auditors collect, analyse, interpret and document information to support the results. This requires the audit team, comprising of professionals and technical experts, to first determine whether forest practices are in compliance with Code requirements, and then to evaluate those practices judged not to be in compliance to assess the degree of severity of non-compliance - that is, its significance. Significance is assessed relative to the actual or potential harm to persons or the environment.

As part of the assessment process, auditors categorize their audit findings into the following levels of compliance:

Compliance - where the auditor assesses that practices meet Code requirements.

Not significant non-compliance - where the auditor, upon reaching a non-compliance conclusion, assesses that the non-compliance event or condition, or the accumulation of a number of non-compliance events or conditions and the consequences of the non-compliance, is not significant.

Significant non-compliance - where the auditor, upon reaching a non-compliance conclusion, assesses that the event or condition, or the accumulation of a number of non-compliance events or conditions, is significant.

Included in this category are situations where non-compliance has resulted in harm to persons or the environment, even if remedial action has already mitigated the consequences of the non-compliance to a minor level.

Significant non-compliance also includes situations where potential for harm is probable, that is, harm has not yet occurred as a result of non-compliance, but there is a strong likelihood that it will. "Harm," in Board audits, is defined as an adverse change from existing conditions that affects person(s) or the environment, and is brought about as a result of non-compliance.

Significant breach - where the auditor, upon reaching a non-compliance conclusion, assesses that significant harm has occurred or is beginning to occur to persons or the environment as a result of the non-compliance event or condition. A significant breach can also result from the cumulative effect of a number of non-compliance events or conditions.

Identification of a possible significant breach requires the auditor to conduct tests to determine the extent of the breach. If it is determined, after conducting tests, that a significant breach has occurred, the auditor is required by the Forest Practices Board Regulation to immediately advise the Board, the person being audited, and the three ministers.

Audit opinion

To reach an overall opinion, assessments are made at various levels. In all cases, an assessment is made of a forest practice or group of forest practices, followed by assessments at each forestry activity level (e.g., roads constructed).

If all of the forestry activities subject to audit are in compliance with the Code, in all significant respects, the overall opinion reflects this conclusion - and is referred to as a “**clean opinion.**” The use of the words “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 by the audit but not worthy of inclusion in the report from the auditor.

In situations where significant non-compliance is identified, the type of overall opinion is dependent upon the magnitude and pervasiveness of the non-compliance.

A “**qualified opinion**” is appropriate when the significant non-compliance is neither pervasive nor of a sufficient magnitude to warrant an overall negative conclusion. The words “except for” are used to draw attention to the details of the significant non-compliance to “qualify” an overall opinion of compliance, in all significant respects, with Code requirements. The words “in all significant respects” recognizes that there may be instances of not significant non-compliance that either may not be detected by the audit, or that are detected by the audit but not worthy of inclusion in the report from the auditor.

An “**adverse opinion**” is an overall negative conclusion and appropriate when significant non-compliance is sufficiently pervasive or of a sufficient magnitude to warrant an overall negative conclusion. An adverse opinion would either indicate that, overall, the forest activities subject to audit were not in compliance with Code requirements or a particular forest activity subject to audit was not in compliance with Code requirements.

C. Report from the Auditor

1. Introduction

The Forest Practices Board selected Forest Licence A20021 held by West Fraser Mills Ltd. for an audit of silviculture (development and care of a forest) practices. The licence was selected on a random basis from the population of major forest licences in the Cariboo, Kamloops, and Nelson Forest Regions, and not on the basis of location or level of performance.

Forest Licence A20021 is located in the Horsefly Forest District, and within the Williams Lake Timber Supply Area, as shown on the attached map. The licence has approximately 4 percent of the allowable annual cut of the Williams Lake Timber Supply Area, with a current allowable annual cut of 127,004 cubic metres.

The licence, which is managed from Williams Lake, has five operating areas. Much of the operating areas are accessible only by air or water.

2. Audit scope

The scope of the audit of Forest Licence A20021 included all silviculture activities for the period June 15, 1995, to September 30, 1996. During the period, all silviculture activities on Forest Licence A20021 were carried out under plans (silviculture prescriptions) approved before the substantial compliance requirements of the Forest Practices Code came into effect on December 15, 1995.

Consequently, the activities that we examined in the audit were assessed for compliance with the transitional provisions of the Code that applied and include the following:

- the requirements of sections 10 to 14 of the Silviculture Practices Regulation B.C. Reg. 42/94 for prescriptions prepared and approved between April 1, 1994, and December 15, 1995; and
- the requirements of sections 1 and 2 of the Silviculture Regulation B.C. Reg. 147/88 for prescriptions prepared before April 1, 1994.

Silviculture prescriptions that are prepared and approved prior to December 15, 1995, do not have to address the substantial compliance provisions of the Code that are detailed below:

- description of the location of sensitive areas;
- specify the sensitivity of the soil to disturbance;
- specify the critical site factors;
- in-depth soil conservation requirements;
- coarse woody debris objectives; and

- describe or include such items as the location of riparian reserve and management zones, wildlife trees, and wildlife habitat areas.

During the period subject to audit, silvicultural activities on Forest Licence A20021 covered the following activities:

- mechanical preparation of sites for planting on 12 cutblocks;
- tree seedlings planted on five cutblocks in 1995;
- fill-in planting in 1996 on four of the five cutblocks planted in 1995, because of high mortality resulting from Rhizina root disease.

As silviculture activities had only been carried out on 17 cutblocks, we audited all of them.

Section 3 describes the results of our audit. The Board's audit reference manual, "Reference Manual - Compliance Audits, Version 1, September, 1996," sets out the standards and procedures that were used for the audit.

3. Audit opinion

In my opinion, the silviculture activities carried out by West Fraser Mills Ltd. on Forest Licence A20021 from June 15, 1995, to September 30, 1996, were in compliance, in all significant respects, with the silviculture requirements of the Code as of October 1996.

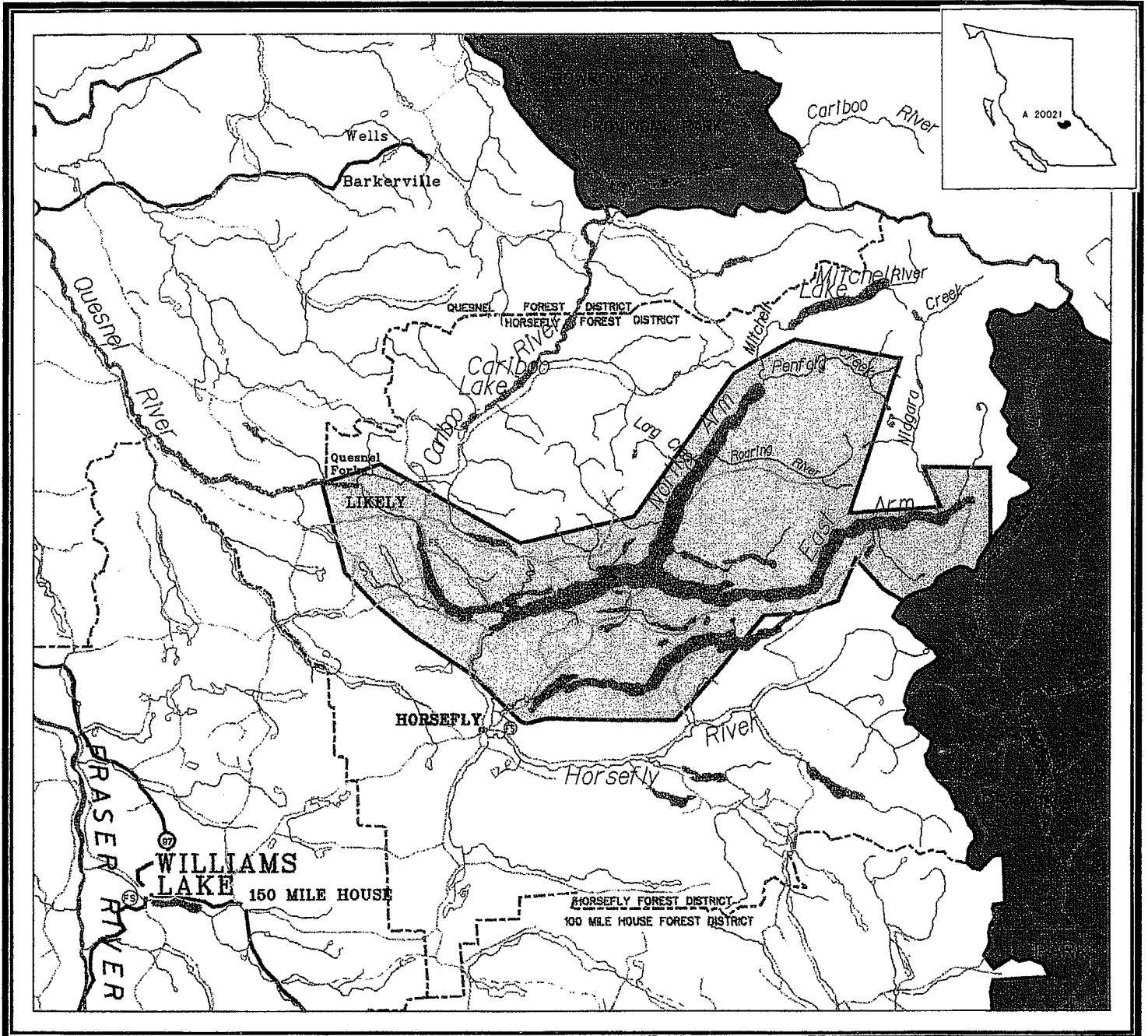
Section 2 of this report from the auditor describes the basis of the audit work performed in reaching the above opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit included examining sufficient silvicultural activities to support an overall evaluation of compliance with the Code.



Sucha More, CA
Auditor
Forest Practices Board

Victoria, British Columbia
March 11, 1997

**West Fraser Mills Ltd.
Forest Licence A20021**



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