

**Audit of Timber Harvesting and Road
Construction, Maintenance and Deactivation**

**Ministry of Forests
Small Business Forest Enterprise Program
Arrow Forest District**

FPB/ARC/17
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A. Report from the Board

This is the Board's report on a compliance audit¹ of the Small Business Forest Enterprise Program² (SBFEP) in the Arrow Forest District. The operating areas of the SBFEP are scattered in a variety of locations in the West Kootenay region of southeastern British Columbia (see map) near Castlegar and the Slocan Valley and Arrow Lakes.

The audit examined the SBFEP's timber harvesting and road practices, and the related operational plans, for the period September 1, 1997 to October 2, 1998 to assess compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code).

The district's responsibilities and individual SBFEP licensee's responsibilities and performance are closely linked. The district is responsible for managing the SBFEP, including preparing and approving operational plans, much of the road construction, maintenance and deactivation, and meeting silviculture obligations. The licensee is responsible for ensuring that all operations, including harvesting, are carried out in compliance with the Code. The district has a close working relationship with each licensee and an overall responsibility for managing the SBFEP and also ensuring that licensees have met their obligations.

Before completing this report, the Board considered written representations from Arrow Forest District.

Conclusions

The Board's conclusions are based on an audit of the following plans and practices:

- the 1997 forest development plan
- 41 approved silviculture prescriptions and 22 logging plans
- harvesting of 33 cutblocks
- harvesting of 68 small cutblocks for salvage and cash sales
- road layout and design on 3 road sections
- construction of 21 road segments
- maintenance and seasonal deactivation of approximately 83 kilometres of road
- semi-permanent deactivation of 15 road sections

¹ Part B of this document provides background information on the Board's audit program and the process followed by the Board in preparing its report.

² The report from the auditor (Part C of this document) provides specifics about the operating areas of the Small Business Forest Enterprise Program, and the forest planning and field activities that were the subject of this audit and the audit findings.

The district's timber harvesting and road construction, maintenance and deactivation activities, generally complied with Code requirements. The auditors identified one instance of significant non-compliance in the district's forest development plan.

Two cutblocks were approved in mature and old-growth forest types in areas where, in order to meet biodiversity objectives, no timber harvesting should have been planned. The forest development plan (FDP) included a specific commitment that proposed blocks would be consistent with the biodiversity objectives described in a Memorandum of Understanding ("MoU") between the Ministry of Forests and the Ministry of Environment, Lands and Parks. Objectives in this MoU are consistent with the *Kootenay-Boundary Land Use Plan Implementation Strategy* for the West Kootenays that was initiated as part of the CORE (Commission on Resources and Environment) process in 1992. These two blocks, which were subsequently approved in the FDP, were not consistent with known objectives for biodiversity set out in that MoU.³ The actions described in the forest development plan would not achieve the known biodiversity objectives for the maintenance of mature and old timber.

At the time of the audit, these two cutblocks had not been harvested. The district has advised the Board that the blocks will be deferred from harvest until old growth management areas have been established in the district.

In addition to the one instance of significant non-compliance described above, the audit identified other instances of non-compliance. These were determined to be not significant and had little impact on the environment.

Recommendations

The Board recommends that the Arrow Forest District ensure that forest development plans achieve the commitments agreed to by the Ministry of Forests and the Ministry of Environment, Lands and Parks in the Memorandum of Understanding to implement biodiversity objectives established in the *Kootenay-Boundary Land Use Plan Implementation Strategy*.

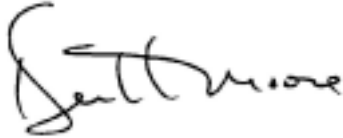
The Board requests that the Arrow Forest District advise the Board by September 30, 1999 of the actions taken to implement this recommendation.

Old Road Systems Within Arrow Forest District

The auditor noted extensive old road systems within and near the Arrow Forest District SBFEP operating areas. These roads were used during past mining and logging activities. Under the Code, the SBFEP is not required to maintain or deactivate these roads.

³ These objectives were known to the district because, under s. 15 (7)(a) of the Code, the objectives were made known in the Memorandum of Understanding.

There appears to be no party with legal responsibility under the Code to maintain or deactivate these old roads, or to carry out work to avoid potential impacts. Sections are in need of remediation and/or deactivation to guard against possible adverse impacts on forest resources and water quality. In the Board's view, this situation warrants further assessment by the government.

A handwritten signature in black ink, appearing to read "Keith Moore". The signature is written in a cursive, flowing style.

Keith Moore
Chair

June 7, 1999

B. Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government's and agreement holder's compliance with the *Forest Practices Code of British Columbia Act* and regulations (the Code). The Board is given the authority to conduct these periodic independent audits by section 176 of the Act. Compliance audits examine forest planning and practices to determine whether or not they meet Code requirements.

The Board undertakes both "limited scope" and "full scope" compliance audits. A limited scope audit involves the examination of selected forest practices (e.g., roads, or timber harvesting, or silviculture) and the related operational planning activities. A full scope audit examines all operational planning activities and forest practices.

The Board determines how many audits it will conduct in a year, and what type of audits (limited or full scope), based on budget and other considerations. 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 Small Business Forest Enterprise Program (SBFEP) which is administered by Ministry of Forests district offices. Selection of agreement holders and district SBFEPs for audit is done randomly, using a computer program, to ensure a fair, unbiased selection of auditees.

Audit Standards

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 criteria derived from the *Forest Practices Code of British Columbia Act* and its related regulations. Audit criteria are established for the evaluation or measurement of each practice required by the Code. 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 *Reference Manual—Compliance Audits, Version 3, May 1998*.

Audit Process

Conducting the Audit

Once the Board selects an audit and decides on the scope of the audit (limited scope or full scope), the staff and resources required to conduct the audit and the period covered by the audit are determined. Board staff also meet with the party being audited to discuss the logistics of the audit before commencing the work.

All the activities carried out during the period subject to audit are identified. This includes activities such as the sites harvested or replanted and road sections built or deactivated during the audit period. The items that comprise each forest activity are referred to as a “population.” For example, all sites harvested form the “timber harvesting population.” All road sections constructed form the “road construction population.” The populations are then sub-divided based on factors such as the characteristics of the sites and the potential severity of the consequences of non-compliance on the sites.

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

Individual sites and forest practices within each population have different characteristics, such as the type of terrain or type of yarding. Each population is divided into distinct sub-populations on the basis of common characteristics (e.g., steep ground vs. flat ground). A separate sample is 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 the sub-population where the risk of non-compliance is greater.

Audit work in the field includes assessments from helicopters and intensive ground procedures such as the measurement of specific features like road width. The audit teams generally spend two to three weeks in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of the Code is more a matter of degree than absolute adherence. Determining compliance requires the exercise of professional judgment within the direction provided by the Board.

Auditors collect, analyze, interpret and document information to support the audit results. The audit team, comprised of professionals and technical experts, first determines whether forest practices are in compliance with Code requirements. For those practices considered to not be in compliance, the audit team then evaluates the degree to which the practices are judged not in compliance. The significance of the non-compliance is determined based on a number of criteria including the magnitude of the event, the frequency of its occurrence, and the severity of the consequences.

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

Compliance – where the auditor finds that practices meet Code requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that a non-compliance event, or the accumulation and consequences of a number of non-compliance events, is not significant and is not considered worthy of reporting.

Significant non-compliance – where the auditor determines that the event or condition, or the accumulation and consequences of a number of non-compliance events or conditions, is 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 the non-compliance. 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 confirm whether or not there has been a breach. 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 Ministers of Forests, Energy & Mines, and Environment, Lands & Parks.

Reporting

Based on the above evaluation, the auditor then prepares the “Report from the Auditor” for submission to the Board. The party being audited is given a draft of the report before it is submitted to the Board so that the party is fully aware of the findings. The party is also kept fully informed of the audit findings throughout the process, and is given opportunities to provide additional relevant information and to ensure the auditor has complete and correct information.

Once the auditor submits the report, the Board reviews it and determines whether any party or person is potentially adversely affected by the audit findings. 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 to the public and government. The representations allow potentially adversely affected parties to present their views to the Board.

At the discretion of the Board, representations may be written or oral. The Board will generally offer written representations to potentially adversely affected parties, unless the circumstances strongly support the need for an oral hearing.

The Board then reviews both the report from the auditor and the representations before preparing its final report, which includes the Board’s conclusions and may also include recommendations, if appropriate.

If the Board’s conclusions or recommendations result in newly adversely affected parties or persons, additional representations would be required.

Once the representations have been completed, the report is finalized and released: first to the auditee and then to the public and government.

C. Report from the Auditor

1. Introduction

As part of the Forest Practices Board's 1998 compliance audit program, the Ministry of Forests' Arrow Forest District Small Business Forest Enterprise Program ("the Arrow SBFEP") was selected for audit from the population of Small Business Forest Enterprise Programs within the province. The Arrow SBFEP was selected randomly and not on the basis of location or level of past performance.

The SBFEP is a program within which the Ministry of Forests awards timber sale licences to small business licensees. The Ministry of Forests, through the district manager, and the individual licensees each have separate but interrelated roles and responsibilities within the small business forest enterprise program:

- a) The district manager is responsible for the overall managing and undertaking of the SBFEP, including preparation and giving effect to the forest development planⁱ, preparation and giving effect to silviculture prescriptionsⁱⁱ, the majority of road construction, maintenance and deactivation, and meeting silviculture obligations. The district manager can also choose to prepare the logging plansⁱⁱⁱ as well as giving effect to logging plans that the small business licensees must follow.
- b) The individual small business licensees who have been awarded timber sale licences (TSL holders) through the SBFEP have a number of legal responsibilities, as reflected in their timber sale licence, and other permits (road permits and road use permits). These responsibilities include obtaining approval of the logging plan, some road construction, maintenance and deactivation, and ensuring that all operations, including harvesting, are carried out in compliance with the code.

The district responsibilities and individual TSL holder responsibilities and performance are closely linked. The planning done by the district impacts directly on the TSL holders' abilities to adequately carry out their responsibilities. The quality of a licence holder's timber harvesting activities can affect a district's ability to adequately carry out their work, such as silviculture obligations, after logging is completed.

The Arrow SBFEP operates within the Arrow Forest District, which is located in the West Kootenay region of southeastern British Columbia and includes the Arrow Lakes and the Columbia River. The major town in the district is Castlegar. The Arrow SBFEP has an allowable annual cut of approximately 158,000 cubic metres with operations scattered throughout the district. The actual volume cut during the thirteen month audit period was approximately 173,000 cubic metres.

The attached map on page C-5 shows the Arrow SBFEP's operating areas, which lie within the Arrow Timber Supply Area and also in designated portions of Tree Farm Licence 3 and Tree Farm Licence 23.

2. Audit Scope

The audit examined the planning and field activities related to timber harvesting and road construction, maintenance and deactivation. These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (“the Code”), including the transitional provisions of the Code.

All timber harvesting, road construction and deactivation, and road maintenance obligations for the period September 1, 1997 to October 2, 1998 were included in the scope of the audit. This involved examining all aspects of operational planning - such as forest development plans, silviculture prescriptions, and logging plans - that supported the activities examined during the audit period.

The Arrow SBFEP’s activities between September 1, 1997 and October 2, 1998 were:

- harvesting of 33 cutblocks
- harvesting of 68 small scale salvage areas and cash sales
- preparation of silviculture prescriptions for 41 cutblocks, 10 of which were harvested during the period
- preparation of logging plans for 22 cutblocks, all of which were harvested during the period
- construction of 21 road sections totaling 38 kilometres
- maintenance and seasonal deactivation of approximately 83 kilometres of road involving activities such as surfacing and the cleaning of culverts and ditches
- semi-permanent deactivation of 15 road sections totaling 22.9 kilometres
- road layout and design for 3 road sections totaling 6.0 kilometres

Section 3 describes the audit of these activities and the results. The Board’s audit reference manual *Reference Manual - Compliance Audits, Version 3.0, May 1998* sets out the standards and procedures that were used to carry out this audit.

There is an extensive network of old roads and structures, such as bridges, within and adjacent to the Arrow SBFEP operating areas as a result of historical logging and mining activity. These now inactive forestry and mining roads have sections in need of remediation or deactivation to guard against possible adverse impacts on forest resources and water quality. The Ministry of Forests does not have maintenance and deactivation obligations under the Code for the majority of these roads and structures, which were not originally constructed as Forest Service Roads.

3. Audit Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined the following activities:

- 17 cutblocks harvested during the period and their related silviculture prescriptions and logging plans, of which 6 of the silviculture prescriptions and 9 of the logging plans were prepared during the period
- 7 small scale salvage areas with harvesting activities during the period
- 17 cutblocks where harvesting activity had not yet commenced but the related silviculture prescriptions were prepared during the period
- construction of 8 road sections totaling approximately 16 kilometres, including 10 bridges
- maintenance and seasonal deactivation of approximately 68 kilometres of road involving activities such as surfacing and cleaning of culverts and ditches
- semi-permanent deactivation of 11 road sections totaling 11.8 kilometres
- road layout and design for 1 road section totaling 0.8 kilometres

Findings

Except for the item of significant non-compliance noted below, the audit found that the forest planning and practices of the Arrow SBFEP were in compliance, in all significant respects, with the Code requirements for timber harvesting activities and road construction, maintenance and deactivation activities.

Harvest Planning Activities

The actions described in the Arrow SBFEP 1998 forest development plan would not achieve the known biodiversity objectives for the district as required under Section 15(7)(a) of the *Operational Planning Regulation*.

Biodiversity objectives were made known through a Memorandum of Understanding (“MoU”) between the Ministry of Forests and the Ministry of Environment, Lands and Parks entitled *Regarding Instruction for the Preparation of the 1998 Forest Development Plans*. The MoU sets out specific objectives derived from the *Kootenay-Boundary Land Use Plan*, a land use plan for the West Kootenays that was initiated as part of the CORE (Commission on Resources and Environment) process in 1992.

While the 1998 forest development plan specifically commits to consistency with the biodiversity objectives in the MoU, the audit found that key objectives for the maintenance of mature and old timber within the district had not been met. Two approved cutblocks out of the ten new cutblocks in mature and old timber types in the plan were in areas where, in order to meet the objectives for the maintenance of mature and old timber, no timber harvesting should currently be taking place.

The two cutblocks, which have yet to be harvested, total 34.9 hectares of primarily mature and old timber. Subsequent to the audit, the Ministry of Forests has indicated that these two cutblocks have now been deferred from harvesting.


4. Audit Opinion

In my opinion, the timber harvesting and road construction, maintenance and deactivation activities carried out by the Ministry of Forests Arrow Forest District Small Business Forest Enterprise Program from September 1, 1997 to October 2, 1998 were in compliance, in all significant respects, with the road and harvesting requirements of the Code as of October 1998, except as noted below.

The actions described in the forest development plan would not achieve the known biodiversity objectives for the maintenance of mature and old timber as required under Section 15(7)(a) of the *Operational Planning Regulation*. Two cutblocks were approved in areas where, in order to meet the biodiversity objectives, no timber harvesting should currently be taking place.

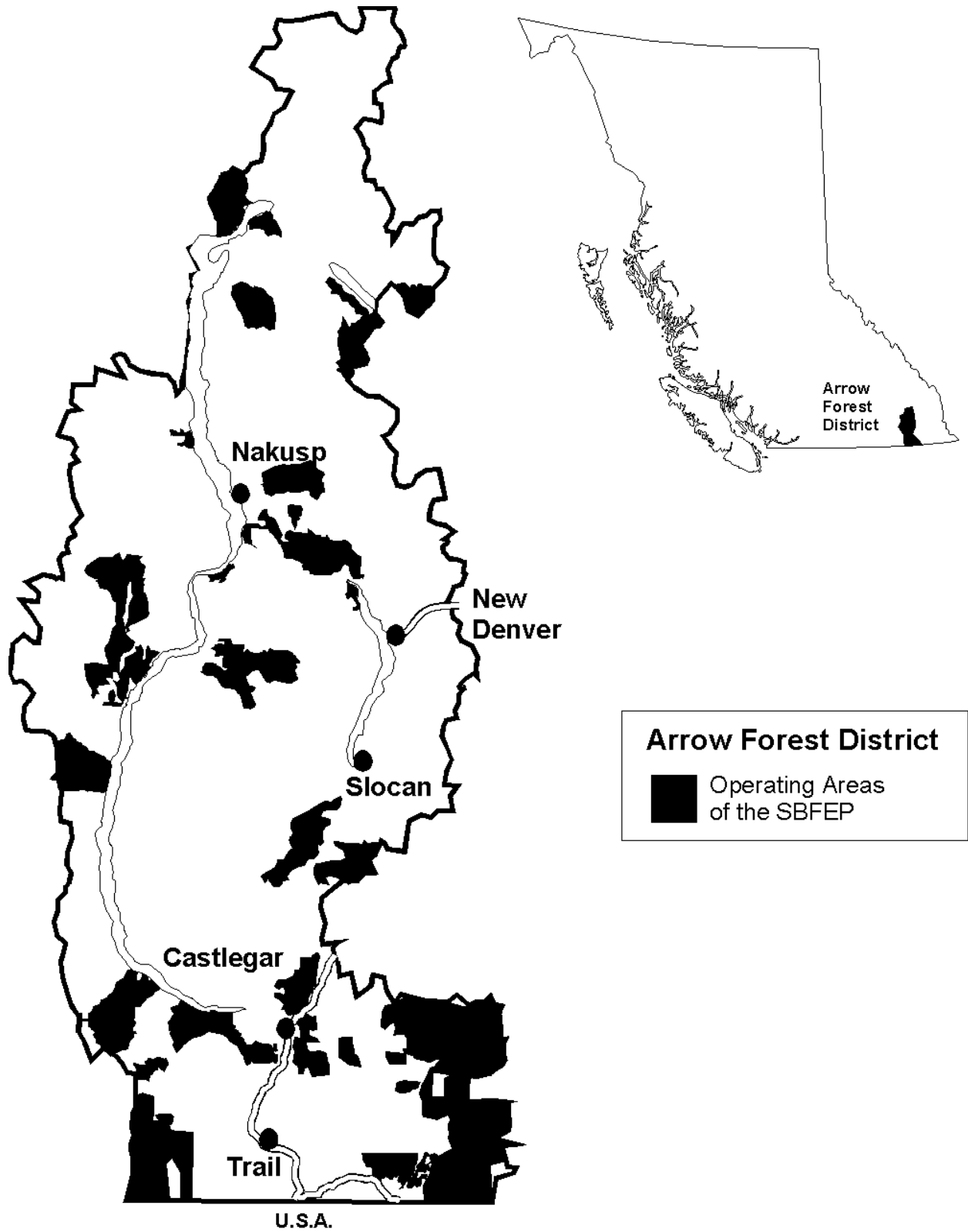
In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2 and 3 of this report from the auditor describe 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 includes examining sufficient road and timber harvesting practices to support an overall evaluation of compliance with the Code.



Chris Ridley-Thomas, R.P. Bio.
Auditor
Vancouver, British Columbia
January 28, 1999

**Arrow Forest District
Small Business Forest Enterprise Program**



Endnotes

ⁱ A forest development plan is an operational plan which provides the public and government agencies with information about the location and scheduling of proposed roads and cutblocks for harvesting timber over a period of at least five years, except under special circumstances. The plan must specify measures that will be carried out to protect forest resources (including biological diversity, water, fisheries, wildlife and other forest resources). It must also illustrate and describe how objectives and strategies established in higher level plans, where they have been prepared, will be carried out. Site specific plans are required to be consistent with the forest development plan.

ⁱⁱ A silviculture prescription is a site specific operational plan that describes the forest management objectives for an area (cutblock - a specific area authorized for timber harvesting). It describes 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 higher level plans that encompass the area to which the prescription applies.

ⁱⁱⁱ A logging plan is an operational plan that details how, when, and where timber harvesting and road construction activities will take place in a cutblock in accordance with the approved silviculture prescription and forest development plan for the area. Information about other forest resource values, plus all current field information for the area, must be clearly shown in the logging plan.