



**Forest
Practices
Board**

Audit of Forest Planning and Practices

*Ndazkhot'en Forest Management Ltd.
Forest Licences A65926 and A81934*

FPB/ARC/159

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Table of Contents

Audit Results	1
Background.....	1
Audit Approach and Scope.....	3
Planning and Practices Examined.....	3
Findings.....	4
Audit Opinion.....	7
Appendix 1: Forest Practices Board Compliance Audit Process	8

Audit Results

Background

As part of the Forest Practices Board's 2013 compliance audit program, the Board randomly selected the Quesnel District as the location for a full scope compliance audit. Within the district, the Board selected forest licences A65926 and A81934, held by Ndazkhot'en Forest Management Ltd. (NFM) and located in the Quesnel Timber Supply Area (TSA), for an audit.

NFM operates on two forest licences within the TSA. Forest Licence (FL) A65926 was issued on February 15, 2002, with a term of 15 years and FL A81934 was issued on January 1, 2008, with a term of 5 years. The licences have an allowable annual timber harvest volume of 70 000 cubic metres and 125 000 cubic metres respectively. Most of NFM's operations are near the village of Nazko, approximately 100 kilometres west of Quesnel. During the two-year audit period, NFM harvested 441 000 cubic metres; 221 000 cubic metres from FL A65926 and 220 000 cubic metres from FL A89134. All harvesting was carried out using ground-based systems, and mountain pine beetle infested lodgepole pine accounted for 88 percent of the harvested volume.

A professional forester, a professional forester/agrologist, a professional engineer and a chartered accountant made up the audit team. Field work was carried out from August 19 to 21, 2013.

Additional information about the Board's compliance audit process is provided in Appendix 1.



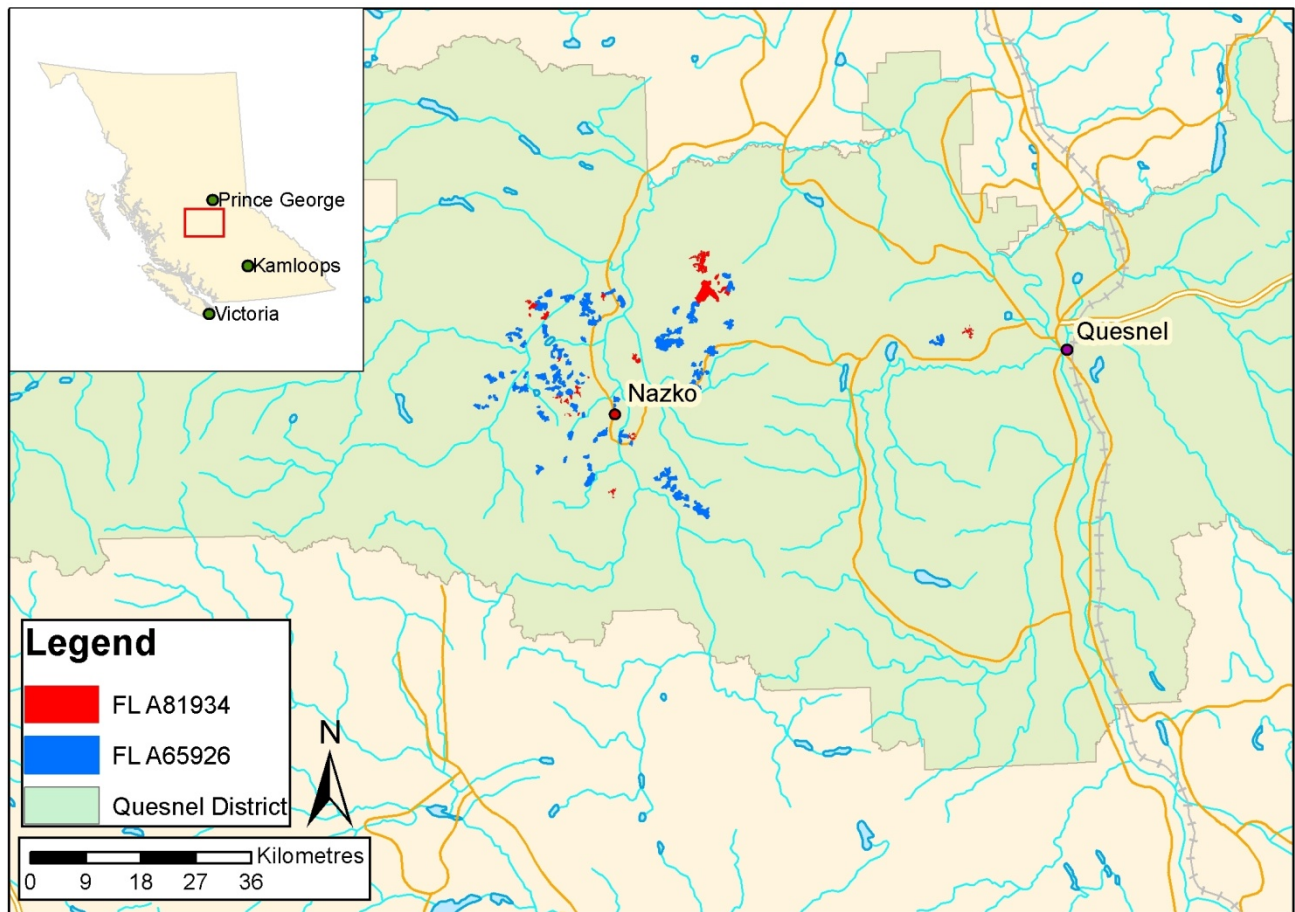
Typical terrain and timber profile.

Objectives Set by Government

Activities must comply with objectives set by government in the *Forest and Range Practices Act* (FRPA) and related regulations, and the *Cariboo-Chilcotin Land Use Plan* (CCLUP).

The CCLUP is a higher level plan covering the Quesnel, Williams Lake and 100 Mile House timber supply areas. The CCLUP was established by Cabinet as a legal higher level plan under the *Forest Practices Code of British Columbia Act* in January 1996 and is continued under FRPA. The *Land Use Objectives for the Cariboo-Chilcotin Land Use Plan Area* were established through the *Land Use Objective Regulation* (LUOR), under section 93.4 of the *Land Act* (effective June 25, 2010).

Map of Ndazkhot'en Forest Management Ltd. FL A65926 & A81934 Operating Areas Subject to Audit



Audit Approach and Scope

The Board conducted a full scope compliance audit, which includes all harvesting, roads, silviculture, protection activities and associated planning, carried out between August 1, 2011, and August 21, 2013. These activities were assessed for compliance with FRPA, the *Wildfire Act (WA)* and related regulations.

The Board's audit reference manual, *Compliance Audit Reference Manual, Version 7.0, September 2012* set out the standards and procedures that were used to carry out this audit.

Planning and Practices Examined

NFM conducts its operations in accordance with Forest Stewardship Plan Id#:482, Ndazkhot'en Forest Management Ltd., Forest Licence A65926 and Forest Licence A81934.ⁱ Two forest stewardship plans (FSPs) were examined in the audit: the previous FSP approved on April 23, 2007, and the current FSP approved on May 30, 2012. The current FSP incorporates the land use objectives established through the CCLUP and the LUOR.

The field activities carried out by NFM during the audit period, and therefore subject to audit, were:

- construction of 154 kilometres of road
- maintenance of 294 kilometres of road and 1 bridge
- harvesting of 41 cutblocks, 3 of which were active during the audit, with a gross area totalling 3403 hectares
- planting of 33 cutblocks
- brushing of 5 cutblocks

In addition to those field activities, regeneration obligations on 11 cutblocks became due during the audit period, and therefore were also subject to audit. No free-growing obligations were due during the audit period.

The auditors examined the following activities and obligations:

- 93 kilometres of road construction
- 190 kilometres of road maintenance
- 18 harvested cutblocks with a gross area of 1722 hectares, including 2 active cutblocks for fire preparedness requirements of the WA
- 1 maintained bridge
- 7 planted cutblocks
- 3 brushed cutblocks
- 11 cutblocks with regeneration obligations due

Road construction, harvesting and protection activities under both tenures were included in the audit population and audit sample, and are listed by licence in Table 1 below. However, only FL A65926 had silviculture activities, which were included in the audit population and sampled. FL A81934 had no silviculture activities during the audit period, therefore there were no silviculture practices to assess.

Table 1: Road construction and maintenance, and harvesting population and samples.

		Population			Sample		
		Length (km)	# Cutblocks	Gross Area (ha)	Length (km)	# Cutblocks	Gross Area (ha)
Road Construction	RUP	0			0		
	RP	25			24		
	FL A65926	64			46		
	FL A81934	65			23		
Road Maintenance	RUP	42			42		
	RP	123			79		
	FL A65926	64			46		
	FL A81934	65			23		
Harvesting	FL A65926		24	1,843		12	1,162
	FL A81934		17	1,560		6	560

Findings

The audit found that planning and forestry activities undertaken by NFM on FL A65926 and FL A81934 complied with the requirements of FRPA, the WA and related regulations.

Operational Planning

The audit found that NFM addressed the *Land Use Objectives for the Cariboo-Chilcotin Land Use Plan Area* in its FSP. The FSP was consistent with legislated requirements and approved land use plans. Site plans were evaluated and were consistent with the FSP.

Timber Harvesting

All logging targeted mountain pine beetle infected stands, with lodgepole pine accounting for 88 percent of the total volume harvested during the audit period. Topography in the operating area was gently rolling, with very little rock or steep slopes, and harvesting was conducted using ground-based systems. All harvesting followed the cutblock boundaries, no trespasses were noted and there was no excessive waste in the cutblocks.

Soil Disturbance

Soil disturbance was managed diligently. There were instances where soil disturbance approached limits in the site plan in localized areas, but the practice was not widespread and, overall, NFM met soil disturbance limits specified in its site plans.

Riparian

There were few riparian areas within the cutblocks, although there were significant riparian features outside of the cutblocks. NFM recognized the value of these riparian areas and demonstrated sound riparian management by:

- defaulting to S4 streams
- identifying wet seams and non-classified drainages on maps to ensure these areas were avoided when practicable
- establishing wildlife tree patches around wetlands or creeks
- locating block boundaries outside of the riparian management zones where appropriate
- establishing machine free zones in riparian management areas
- maintaining the integrity of wetlands with adequate buffers
- removing crossings and seeding with grass as soon as practicable



Riparian management of small NCD

Wildlife Tree Retention

NFM met the wildlife tree retention targets established in the *Land Use Objectives for the Cariboo-Chilcotin Land Use Plan Area* and incorporated in the FSP. The targets are established by landscape and biogeoclimatic unit and range from seven to nine percent. There were few live stems within the cutblock that would act as wildlife trees, so most retention was retained in patches internal to, or abutting, the harvested area or around riparian features. The quality of the patches appeared to be reasonable.

Road Construction, Maintenance and Deactivation

No concerns were identified with road construction or road and bridge maintenance.

The audit found that:

- natural drainage patterns were maintained
- exposed cutbanks, fill slopes and running surfaces were grass seeded where there was a possibility of sediment entering streams
- the bridge was maintained

Roads were well maintained and there was no evidence of siltation or road failures.

Silviculture Activities and Obligations

Planting

Seven cutblocks were reviewed in detail and all 33 cutblocks were reviewed for compliance with the Chief Forester's Standards for Seed Use.ⁱⁱ

There were minor areas identified where seedlings were planted outside of the elevation limits specified in the standards. However, these variances accounted for less than one percent of all seedlings planted and NFM is permitted to plant up to five percent outside of the elevation limits.

Brushing

No issues were noted on the three brushed blocks reviewed.

Regeneration Due

All 11 cutblock were reviewed for regeneration obligations due during the audit period. Five cutblocks had no issues and six cutblocks had minor reporting discrepancies.

Free to Grow Due

There were no free-growing obligations due during the audit period.

Fire Protection Activities

Two active operations were evaluated. At the time of the field inspection, the fire danger class was three, which meant NFM had to maintain a fire watcher after work for a minimum of one hour. During the fire regulation inspection the following was noted:

- 24-hour contact details and an equipment list were provided to the fire centre. NFM also prepares an annual fire preparedness and response plan, which outlines the steps to follow in the event of a fire.
- There was at least one hand tool per person onsite.
- Operators had a sufficient water delivery system on-site. The tank was full and serviced two cutblocks approximately 10 minutes apart.
- Logging debris was piled in a manner that would facilitate burning.



Debris piled to facilitate disposal.

Where burning had taken place, the auditors noted that the piles had burned clean and there was very little debris left over. No evidence of escapes was noted. Broadcast burning was not conducted.

Audit Opinion

In my opinion, the operational planning, timber harvesting, road construction, maintenance and deactivation, silviculture and fire protection activities carried out by Ndzakhot'en Forest Management Ltd. on forest licences A65926 and A81934 between August 1, 2011, and August 21, 2013, complied in all significant respects with the requirements of the *Forest and Range Practices Act*, the *Wildfire Act* and related regulations, as of August 2013.

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 FRPA and WA.



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Victoria, British Columbia
October 16, 2013

Appendix 1: Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government and agreement-holders under the *Forest and Range Practices Act* (FRPA), section 122 and the *Wildfire Act* (WA). Compliance audits examine forest or range planning and practices to determine whether or not they meet FRPA and/or WA requirements.

Selection of auditees

The Board conducts about eight or nine compliance audits annually. Most of these are audits of agreement holders. The Board also audits the government's BC Timber Sales Program (BCTS). This section describes the process for selecting agreement holders to audit.

To begin with, auditors randomly select an area of the Province, such as a district. Then the auditors review the forest resources, geographic features, operating conditions and other factors in the area selected. These are considered in conjunction with Board strategic priorities (updated annually), and the type of audit is determined. At this stage, we choose the auditee(s) that best suits the selected risk and priorities. The audit selections are not based on past performance.

For example, in 2010, the Board randomly selected the Mackenzie district as a location for an audit. After assessing the activities within that area, we discovered that a large licensee had recently closed operations due to financial problems. As the Board has expressed concern in the past about financially strapped companies failing to meet outstanding obligations, such as reforestation and road maintenance, and we knew that some of the licence area is very remote, the new licence holder was selected for audit.

For BCTS audits, a district within one of the 12 business areas within the province is selected randomly for audit.

Audit Standards

Audits by the Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with Canadian generally accepted auditing standards. The standards for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting the Audit

Once the Board randomly selects an area or district and determines the scope of audit to be conducted and the licensee(s) to be audited, all activities carried out during the period subject to audit are identified (such as harvesting or replanting, and road construction or deactivation activities). Items that make up each forest activity are referred to as a population. For example, all

sites harvested from the timber harvesting population and all road sections constructed from 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 fieldwork 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 week in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of FRPA and WA 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 FRPA and WA 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 generally worthy of reporting. However, in certain circumstances, events that are considered not significant non-compliance 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 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, Lands and Natural Resource Operations.

Reporting

Based on the above evaluation, the auditor then prepares a draft audit report. The party being audited is given a draft of the 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.

¹ 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 licensees are 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 cutblocks. FSPs can have a term of up to five years.



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