



**Forest  
Practices  
Board**

## **Audit of Forest Planning and Practices**

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*Cassiar Forest Corporation  
Forest Licence A64561*

*Coast Mountain Hydro Corporation  
Occupant Licenses to Cut L46959, L49021 & L49136*

**FPB/ARC/154**

June 2013

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# Audit Background

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## Background

As part of its 2012 compliance audit program, the Forest Practices Board selected Cassiar Forest Corporation (Cassiar) Forest Licence (FL) A64561 and Coast Mountain Hydro Corporation (CMH) Occupant Licences to Cut (OLTC) L46959, L49021 and L49136 for audit.

Both operations are located in the Skeena-Stikine District. Forest Licence A64651 is near the community of Bob Quinn Lake, which is approximately 380 kilometres north of Terrace. CMH's licences are located approximately 37 kilometres west of Bob Quinn Lake, within the mid reaches of the Iskut River. The licences are for a run-of-river hydroelectric project and a related transmission line right-of-way. A map of the audit areas appears on page 2.



*Typical terrain around Bob Quinn Lake.*



*Hydro right-of-way construction.*

Cassiar has an allowable annual cut of 120 000 cubic metres and harvested approximately 219 000 cubic metres of timber during the two-year audit period.

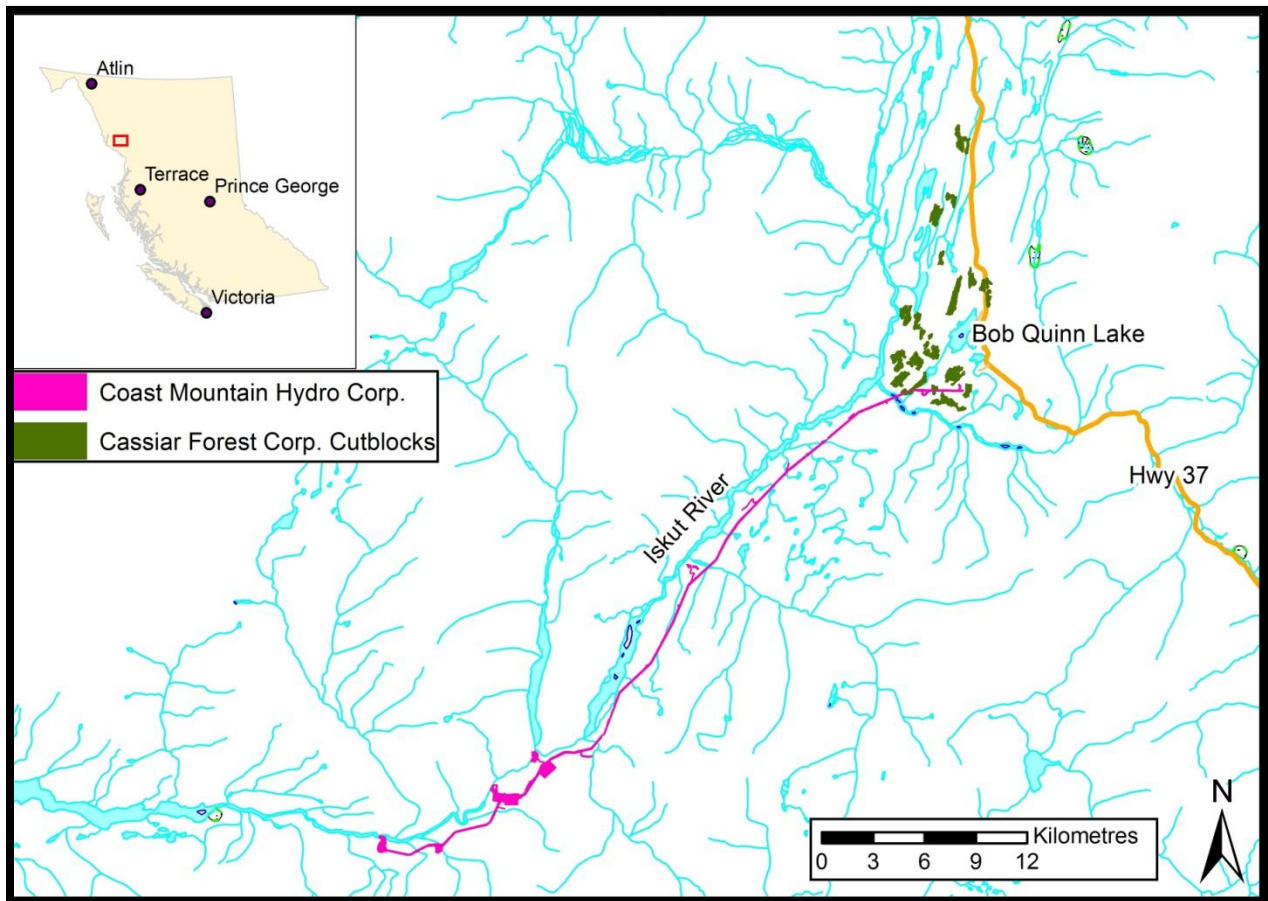
Coast Mountain Hydro was actively constructing the approved and permitted Forrest Kerr and McLymont Creek hydroelectric projects, and the interconnecting 287KV transmission line to a BC Hydro substation, at the time of the audit.

As these two auditees hold distinctively different types of tenures, this report includes a separate audit report for each auditee.

Two forestry professionals, a professional engineer, and a chartered accountant made up the audit team. Field work was carried out from September 25 to 27, 2012.

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

## Map of Cassiar and CMH Operating Areas



## Report 1: Cassiar Forest Corporation

### Audit Approach and Scope

The Board conducted a full scope compliance audit of FL A64561, held by Cassiar Forest Corporation (Cassiar), in which all harvesting, roads, silviculture, protection activities and associated planning done between September 1, 2010, and September 27, 2012, were included. These activities, and associated planning, were assessed for compliance with the *Forest and Range Practices Act* (FRPA) and the *Wildfire Act* (WA), and related regulations.

The Board's Compliance Audit Reference Manual, Version 6.0, May 2003, and the addendum to the manual for the 2012 audit season set out the standards and procedures that were used to carry out this audit.

## Planning and Practices Examined

### Operational Planning

Cassiar's activities are subject to the 2000 Cassiar Iskut-Stikine Land and Resource Management Plan (CI-SLRMP).<sup>1</sup> CI-SLRMP provides direction from government on how to manage public lands and resources within the plan area.

Cassiar planned activities in its 2007-2012 forest stewardship plan (FSP)<sup>2</sup>. The FSP and stand level plans (site plans) were examined to ensure that they were consistent with legislated requirements. Site plans were also evaluated to ensure that they accurately identified site conditions through harvesting, road and silviculture field sampling.

### Timber Harvesting

Twenty cutblocks, covering 1013 hectares, were harvested during the audit period and the auditors reviewed all of them.

### Road Construction, Maintenance, Deactivation

Cassiar constructed 21 kilometres and maintained 33 kilometres of road in the audit period. The Board examined all of the construction and maintenance obligations. No roads had been deactivated.

Cassiar constructed one bridge during the audit period and the bridge was removed prior to the onsite field work, so the construction practices could not be audited. There were no bridge maintenance obligations.

### Silviculture Obligations and Activities

Cassiar's silviculture obligations included planting 14 cutblocks and meeting regeneration delay on 5 cutblocks covering 144 hectares. Auditors examined planting in 2 cutblocks and also confirmed regeneration obligations were met on the 5 regeneration delay cutblocks.

### Fire Protection

Hazard assessment and abatement activities were examined on 20 cutblocks in conjunction with harvest auditing. No fire tool inspections were conducted as there were no active operations during the audit fieldwork.

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<sup>1</sup> The 2000 Cassiar Iskut-Stikine Land and Resource Management Plan can be found at: <http://www.ilmb.gov.bc.ca/slrp/lrmp/smithers/cassiar/index.html>

<sup>2</sup> 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.

## Findings

The audit found the planning and forest activities undertaken by Cassiar complied with the requirements of FRPA, WA and related regulations.

### Timber Harvesting

Harvesting practices were consistent with site plans. Soil disturbance was within FRPA limits, however, some wet areas within cutblocks showed disturbance from ground-based harvesting.

“Soil disturbance” is disturbance to the soil in the net area to be reforested resulting from the construction of temporary access structures, gouges, ruts, scalps or compacted areas. Without rehabilitation, disturbed sites can often have reduced soil productivity and may not provide optimum growing conditions for new trees. For that reason, maximum allowable amounts of soil disturbance are set in regulation.

Ten cut blocks, ranging in size from 20 to 76 hectares, harvested during the audit period, contained areas with excessive dispersed soil disturbance; likely a result of operating machinery during periods of wet soil conditions. In all ten cutblocks, the maximum soil disturbance requirement of five percent over the entire cutblock was not exceeded, but excessive soil disturbance was noted in portions of those cutblocks ranging in size from less than one hectare up to two hectares. Since the five percent disturbance limit was not exceeded when averaged over the entire block (standards unit), these practices comply with FRPA. However, this type of disturbance can be avoided by confining the timing of harvesting activities to periods of lower soil moisture. Therefore, this is a practice that requires improvement.

Subsequent to the audit, Cassiar has introduced hoe forwarding to designated skid trails in areas of sensitive soils to minimize site disturbance.

Wildlife tree retention consisted of patches, or individual trees, and retention was preserved as planned. Access control included gates restricting access as per strategies specified within the FSP in order to control hunting pressure on moose and grizzly bear.

### Operational Planning

The FSP was consistent with legislated requirements. Planning at the landscape and stand levels was consistent with the FSP, the CI-SLRMP and legal requirements.

Cassiar's site plans were thorough and detailed and each referred to applicable FRPA objectives and CI-SLRMP objectives. For each of the relevant objectives, the site plans detailed the result and/or strategy that Cassiar has in place to address the objective.

Site-specific resources were addressed in the site plans by accurately identifying and prescribing practices for resource features, including wildlife habitat (i.e., grizzly bear, moose, and marten), visual management, cultural heritage features and recreation trails (i.e., Yukon Dominion Telegraph Trail).

### Road Construction, Maintenance and Deactivation

No concerns were identified with road construction or maintenance. Roads were stable and stream crossings were well maintained and in good condition. Areas harvested over the winter



(frozen conditions) were temporarily deactivated during drier periods (late summer/early fall), which met road maintenance obligations.

Cassiar had no bridge construction or maintenance obligations during the audit period.

### **Silviculture Activities and Obligations**

Silviculture activity in the audit period included planting and regeneration delay surveys. Cassiar has reforested all of its blocks promptly. All seedlings met the Chief Foresters Standards for Seed Use and there were no concerns with planting.

### **Fire Protection Activities**

No concerns were identified with respect to hazard assessment and abatement. Fire hazard was assessed at the completion of harvesting and slash was either piled, or piled and burned, on all blocks. There were no active operations at the time of the field audit.

### **Audit Opinion**

In my opinion, the operational planning; timber harvesting; road construction and maintenance; silviculture; and fire protection activities carried out by Cassiar Forest Corporation on Forest Licence A64561 between September 1, 2010 and September 27, 2012, complied in all significant respects with the requirements of the *Forest and Range Practices Act*, the *Wildfire Act* and related regulations as of September 2012. There is no opinion provided for road deactivation.

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 *Timber Harvesting* section of this report, the audit identified an area of improvement related to soil disturbance.

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.



Christopher R. Mosher CA, EP(CEA)  
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Victoria, British Columbia  
April 29, 2013

# Report 2: Coast Mountain Hydro Corporation

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## Audit Approach and Scope

The Board conducted a limited scope compliance audit of Occupant Licences to Cut (OLTC) L46959, L49021 & L49136, held by Coast Mountain Hydro Corporation (CMH), in which all harvesting, protection activities and associated planning carried out between September 1, 2010, and September 26, 2012 were included. These activities and associated planning were assessed for compliance with the *Forest and Range Practices Act* (FRPA) and the *Wildfire Act* (WA), and related regulations.

The Board's Compliance Audit Reference Manual, Version 6.0, May 2003, and the addendum to the manual for the 2012 audit season set out the standards and procedures that were used to carry out this audit.

Road construction and maintenance activities were conducted under a temporary use permit authorized under the *Land Act*. The Board does not have jurisdiction to review activities authorized under legislation other than the *Forest Act* or *Range Act*, therefore these road activities were outside the scope of this audit. There were no road deactivation activities.

As well, there are no silviculture requirements associated with OLTC's, therefore silviculture activities were also not part of this audit.

## Planning and Practices Examined

### Operational Planning

CMH operated under an environmental assessment certificate. There are no requirements under an OLTC to have an approved forest stewardship plan (FSP). Planning at the landscape level requires any operational plans to be consistent with the 2000 Cassiar Iskut-Stikine Land and Resource Management Plan and legal requirements.

CMH prepared a management plan, environmental protection plan, construction environmental management plan and a timber plan for the project.

### Timber Harvesting

OLTC L46959 is approximately 222 hectares, which includes the Forest Kerr access road, intake, switchyard, camp and facilities areas, laydown areas, and waste rock storage site. Timber harvesting was completed for this OLTC.

OLTC L49021 is approximately 292 hectares, which includes the transmission line right-of-way from the BC Transmission line substation located at Bob Quinn Lake to 37.5 km on the Eskay Mine Road. Timber harvesting was completed for approximately 73 hectares at the time of the field audit.

OLTC L49136 is approximately 119 hectares, which includes the access road from the Forest Kerr camp to the bridge crossing at the Iskut River and laydown areas. Timber harvesting was completed for this OLTC.



## **Protection**

There were no active operations during the field audit, so the field components of the fire preparedness requirements of the WA were not audited.

## **Findings**

The audit found the planning, harvesting and protection activities undertaken by Coast Mountain Hydro complied with the requirements of FRPA, WA and related regulations.

### **Operational Planning**

Coast Mountain Hydro prepared a management plan, environmental protection plan, construction environmental management plan and a timber plan for the project.

The auditors examined the pertinent sections of these plans that related to the timber harvesting and wildfire activities and requirements were met.

### **Timber Harvesting**

Harvesting practices were consistent with the OLTC. As the areas were being cleared for uses other than forestry, the auditors focused on these activities within the OLTC designated areas.

There were no requirements for retaining wildlife tree patches or for adhering to soil disturbance limits.

*Forest Planning and Practices Regulation* requirements that were examined included ensuring there were no landslides, maintaining riparian reserve zones, and following riparian management zone prescriptions.

### **Fire Protection Activities**

No concerns were identified with respect to fire hazard assessment and abatement. Fire hazard is assessed at the completion of harvesting. Slash was piled and ready for burning on OLTCs where timber harvesting was complete. At the time of the field audit, there were no active operations related to the transmission line right-of-way section.

Much of the timber cut along the transmission line right-of-way is decadent hemlock with little value and therefore will be left on site with no plans to treat it (e.g., pile, burn, buck, limb, etc.) to manage fire hazard. While this may be a defensible practice, given the relatively wet climate and lack of public access, no rationale was provided to support this approach.

## Audit Opinion

In my opinion, the timber harvesting, fire protection activities and associated planning carried out by Coast Mountain Hydro Corporation on Occupant Licences to Cut L46959, L48572 & L49021 between September 1, 2010 and September 26, 2012, complied in all significant respects with the requirements of the *Forest and Range Practices Act*, the *Wildfire Act* and related regulations as of September 2012.

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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# Appendix 1: Forest Practices Board Compliance Audit Process

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## 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 8 or 9 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 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 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.



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