



**Forest  
Practices  
Board**

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

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*Western Forest Products Inc.  
Tree Farm Licence 39/Block 6*

**FPB/ARC/107**

June 2009

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## **Board Commentary**

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In spring 2008, the Forest Practices Board conducted a limited scope compliance audit of Western Forest Products Inc. (WFP) Tree Farm Licence (TFL) 39/Block 6 in the Haida Gwaii Forest District (formerly Queen Charlotte Islands), with a focus on fish streams and crossings.

The audit assessed more than 140 cutblocks, 1,800 kilometres of road activities and obligations, and 450 bridges, as well as associated operational planning. The audit found that harvesting, road activities and associated planning undertaken by WFP between May 1, 2006, and May 30, 2008, complied with legislative requirements in all significant respects.

Haida Gwaii contains a large number of high-value fish streams and the Board commends WFP on the various measures it has taken to protect fish and fish habitat on TFL 39/Block 6. By minimizing the potential input of sediment into fish streams, ensuring fish passage at stream crossings and maintaining large riparian management areas, WFP is actively engaging in minimizing impacts to fish and fish habitat while conducting its forestry operations.

### **Other Issue:**

There is a legacy of failing old road systems within TFL 39/Block 6 that, while not the responsibility of WFP, are of concern to the Board. The Board raised this concern with government back in the late 1990s, however this issue is ongoing. As the issue is not limited to TFL 39/Block 6, or even to Haida Gwaii, the Board plans to assess this concern further and may issue a separate report on the matter.

Audit of Forest Planning and Practices  
TFL 39, Block 6  
Haida Gwaii Forest District



-  TFL 39
-  Water
-  Road
-  Ferry Route



# Audit Results

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## Background

As part of its 2008 compliance audit program, the Forest Practices Board randomly selected the Haida Gwaii (formerly Queen Charlotte Islands) Forest District as the location for a limited scope compliance audit, with a focus on fish streams, including riparian area management and fish passage at stream crossings.

Within the district, the Board selected the licensee with the largest tenure on the Islands—Western Forest Products Inc. (WFP)—for audit (see map on page 2). WFP’s TFL 39/Block 6 was the tenure audited. Information about the Board’s compliance audit process is provided in Appendix 1.

Of all the TFLs in the province, TFL 39 has the largest apportionment of volume, with an allowable annual cut (AAC) of 3,211,000 cubic metres, or approximately 19 percent of the provincial TFL volume. TFL 39 contains six separate blocks, covering areas of Vancouver Island, the mainland coast and Haida Gwaii, all within the Coast Forest Region of the Ministry of Forests. This audit only examined block 6, located on Haida Gwaii.



Figure 1. Skedans Bay on Louise Island within TFL 39.

The Board’s audit fieldwork took place from May 26 to 30, 2008.

## Audit Approach and Scope

The Board conducted a limited scope compliance audit, in which harvesting, road activities and associated planning undertaken between May 1, 2006, and May 30, 2008, were all examined.

Harvesting and road activities were assessed for compliance with the *Forest and Range Practices Act* (FRPA)<sup>i</sup> and related regulations, as well as certain transitional elements of the *Forest Practices Code of British Columbia Act* (the Code).

The audit team also examined how well WFP’s planning and practices around streams provided for the protection of fish and fish habitat. Specifically, the audit assessed:

- compliance with requirements to provide fish passage at fish stream crossings;
- compliance with applicable riparian reserve zone widths and treatments;
- practices within the riparian management zone meant to protect the integrity and function of the riparian reserve zone; and
- general practices around streams, such as erosion and sediment control, for the protection of fish and fish habitat.



Figure 2. Unfinished Haida canoe.

The Board’s *Compliance Audit Reference Manual, Version 6.0, May 2003*, and the addendum to the manual for the 2008 audit season, set out the standards and procedures that were used to carry out this audit.

## Higher Level Plans<sup>ii</sup>

WFP activities on TFL 39/Block 6 are subject to some components of the Haida Gwaii Strategic Land Use Agreement, which was signed on December 12, 2007, by the Council of the Haida Nation and the BC government.

This land use agreement identifies strategic land use zones and ecosystem-based management objectives, and also provides a framework for collaborative implementation of the agreement by the two governments. The strategic land use zones provide for new protected areas, operating areas for resource development and special value areas, including critical nesting habitat for northern goshawk, great blue heron, saw-whet owl and marbled murrelet.

Currently, there are no higher level plan orders in place for the implementation of ecosystem-based management and the management of Haida traditional forest resources. However, plans for areas designated as protected areas, cedar areas and special value areas are implemented indirectly through a chief forester’s order under section 173 of the *Forest Act*.

## Planning and Practices Examined

### Planning

The planned activities of WFP on TFL 39/Block 6 were set out in the *Forest Development Plan 2001-2005 Weyerhaeuser Timberlands Unit All Operations: Dinan Bay, Ferguson, Louise Island, Alliford and West Coast* (FDP), with a final submission addendum dated February 2002. The *Western Forest Products Ltd. Forest Stewardship Plan* (FSP<sup>iii</sup>) details the objectives, results, and strategies that the licensee’s harvesting and roads activities were subject to after January 4, 2007.

These results and strategies included commitments such as:

- the referral of cultural heritage resource (see example, Figure 2) information to the Council of the Haida Nation;
- strategies for sediment control during road construction in community watersheds, such as the Honna community watershed; and
- reserving suitable marbled murrelet nesting habitat, as defined in the land use agreement.

Site level plans<sup>iv</sup> were found to be consistent with the FDP and FSP results and strategies. Harvesting and road activities were examined for compliance with site level plans.

The Board audited these planning documents and site level plans to ensure compliance with applicable legislation and assessed them for consistency with the chief forester's orders.

## Timber Harvesting

During the audit period, WFP harvested approximately 1,875 hectares in 75 conventional cutblocks and 66 salvage cutblocks of small windthrow areas, totaling approximately 740,000 cubic metres of timber. The Board audited 41 of the conventional cutblocks, and 5 of the salvage cutblocks.

## Road Construction and Maintenance

There are 3,105 kilometres of roads within TFL 39/Block 6. Of these, 1,374 kilometres have not been used since the Code was implemented on June 15, 1995, and, therefore, have no maintenance obligations associated with them (old roads). As a result, WFP is responsible for maintaining 1,732 kilometres of road on TFL 39/Block 6, and these are the roads that were subject to this audit.

At the time of the audit, 592 kilometres of roads on the TFL were being actively used for industrial purposes by WFP. When a road is not being used for industrial purposes, it need only be maintained to a 'wilderness standard,' which is lower than the standard for an active road. At the time of this audit, there were 1,049 kilometres of wilderness roads in the TFL that were being maintained to this lower standard.

### **Maintenance standards on active roads, wilderness roads, and old roads (FRPA s. 79 / 81)**

On an *active road*, the licensee must ensure all of the following:

- a) the structural integrity of the road prism and clearing width are protected;
- b) the drainage systems of the road are functional;
- c) the road can be used safely by industrial users.

A *wilderness road* is a road that is not currently being used by industrial users (but has been used for industrial purposes since June 15, 1995).

On a *wilderness road*, only a) and b) above apply, and only to the extent necessary to ensure there is no material adverse effect on a forest resource.

An *old road* is a road that has not been used for industrial purposes since June 15, 1995. These roads are sometimes referred to as 'non-status roads.'

The TFL holder is not responsible for the maintenance of *old roads*.

During the audit period, WFP constructed 93.2 kilometres of new road, deactivated one road (2.1 kilometres), and constructed 26 new bridges. There were also 426 bridges and major structures with maintenance obligations, of which 252 were located on roads that were actively used for industrial purposes, and 174 were located on wilderness roads.

The Board audited:

- 48.8 kilometres of new road construction
- 622 kilometres of road maintenance (391 kilometres required to be maintained to a standard for industrial use, and 231 kilometres required to be maintained to the wilderness road standard)
- 2.1 kilometres of deactivated road
- 18 newly constructed bridges
- 197 bridges and major structures with maintenance obligations (158 on roads used for industrial purposes, and 39 on wilderness roads)

## **Fish passage**

Haida Gwaii in general, and specifically the area within TFL 39/Block 6, contains a large number of high-value fish streams, with several of these streams being integral to the survival of many migratory fish species (principally salmon). The area also contains an extensive road network with numerous fish-stream crossings as well as harvest activities that occur near fish streams.

In determining the audit sample for harvest blocks, new road construction and road maintenance, the audit team consulted several information sources to identify the high-value fish streams within the TFL, where the maintenance of fish passage is potentially at risk. The audit assessed the practices around streams and the protection of fish and fish habitat at 175 stream crossings.

## **Findings**

The audit found that fish and fish habitat are being protected, and that the harvesting and road activities, and associated planning by WFP on TFL 39/Block 6, complied in all significant respects with the requirements of FRPA, related regulations, and certain transitional elements of the Code, as of May 2008.

### **Protection of fish and fish habitat**

Overall, WFP's road construction, road maintenance and forest harvesting practices provided for the protection of fish and fish habitat.

There are four specific practices employed by WFP that, collectively, have significantly reduced the potential negative effects of forest practices on fish and fish habitat. They are:



1. The use of rock ballast for surfacing most main and spur roads.
2. The use of high intensity treatments within the riparian management areas to reduce the loss of trees due to windthrow (see Figure 3).
3. The use of open bottom structures, including wood box culverts and bridge structures, on the vast majority of fish-stream crossings.
4. The use of substantial buffers adjacent to large rivers, streams and lakes that support high-value fish stocks.



Figure 3. Tree topping in a riparian management zone to reduce the potential for windthrow.

### Measures implemented to minimize the input of sediment to fish streams

Almost all roads assessed, with the exception of those on Louise Island, were capped with ballast rock (see Figure 4). While this practice adds significant costs to road construction, it is necessary to support off-highway logging trucks. However, a significant secondary benefit of this practice, observed during the audit, is the reduction of road surface erosion, which in turn reduces sedimentation of streams.

As well, the audit team observed numerous cut slopes, fill slopes and ditches that had been well seeded, particularly on the approach to major and high-value fish stream crossings (see Figure 4). Grass seeding is an erosion control measure intended to bind soil particles, reducing erosion from gravity, rain and wind.

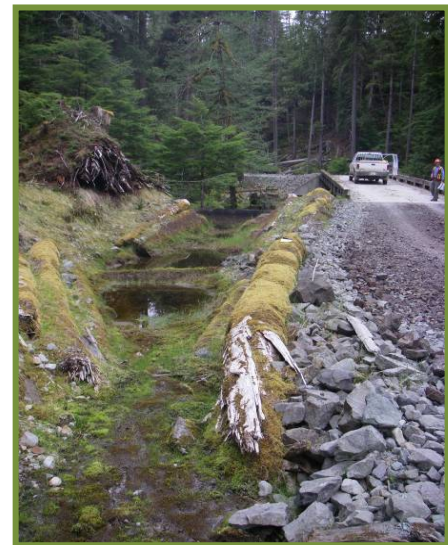


Figure 4. Settling basins and grass seeding on approach to high-value fish habitat.



Figure 5. Bridge abutments set well back from the high water mark.

Where the approaches to stream crossings were adequately seeded, there was no evidence of sediment being deposited into streams.

The audit team also observed several examples where sumps and check dams were strategically positioned in ditches on approach to high-value fish streams (see Figure 4). These structures reduce the water velocity in ditches, causing sediment to drop from suspension prior to entering the stream.

## Fish passage at stream crossings

Temporary and permanent bridge crossings were installed and maintained in a manner that minimizes harm to fish and fish habitat, and provides for fish passage at all life stages. Of particular note, bridge abutments were set back well above the high-water mark, causing little disturbance to the stream channel bank or streamside vegetation under the bridge structure (see Figure 5). As well, WFP strategically uses temporary access structures (steel decks) and removes them once silviculture obligations have been met.



Figure 6. Open bottom structure (wood box culvert) on a small fish stream.

With few exceptions, crossings on smaller fish streams (i.e. S3<sup>v</sup>, S4<sup>vi</sup>) were constructed with wood box culverts (see Figure 6). If properly sized, these open bottom structures provide fish passage at all stages of life and ensure the natural downstream movement of bedload and woody debris.

All wood box culverts inspected during the audit provided for fish passage.

## Fish passage within fish streams

Under section 56(1) of the *Forest Planning and Practices Regulation* (FPPR), an authorized person conducting a primary forest activity must ensure the activity does not have a material adverse effect on fish passage in a fish stream. There were no instances noted during the audit where forestry activities caused a material adverse effect on fish passage.

## Riparian management areas

In all significant respects, riparian management zones and riparian reserve zones were established and managed as required under FRPA. In particular, the audit team observed numerous examples of high-intensity treatments—such as topping of selected trees in an effort to minimize windthrow damage—in the riparian management zone adjacent to fish streams (see Figure 3).

The audit team observed that, generally, buffers adjacent to larger, high-value fish streams were substantially wider than required under FRPA. There were also many examples where standing trees were retained in the riparian management zone adjacent to non-fish streams. Although it is not a requirement of FRPA, the Board regards efforts to protect the integrity and function of the riparian reserve zone as a good practice.

## Old Road Systems Within TFL 39/Block 6

Of the 3,105 kilometres of roads within TFL 39/Block 6, approximately 1,374 kilometres have not been used for industrial purposes since the implementation of the Code in June 1995 (old roads). The deteriorating condition of many of these old roads within the TFL, built and used by previous tenure holders before the introduction of the Code, was identified as a problem.

While some of these old road systems were appropriately deactivated through funding by Forest Renewal BC<sup>vii</sup> (FRBC) in the mid 1990s—and continue to be deactivated today using Ministry of Forests and Range Forest Investment Account<sup>viii</sup> (FIA) funding—many of these roads have not been deactivated (see Figure 7). In some cases, the older deactivation has proved ineffective, and these old roads are now causing harm to the environment through road failures causing landslides.



Figure 7. Landslide from an old road depositing into an important fish stream.



Figure 8. A landslide initiated from a pre-Code road deactivated during the mid-1990s.

The Board previously raised the concern about the stability of old roads in several audit reports published in the late 1990s. At that time, it was hoped that funding from FRBC would assist in deactivating old roads to a state of stability. However, during the course of this audit it became apparent that even some roads that had been deactivated using FRBC funding were the initiation point of some large slides. Currently, although not an obligation of WFP, the company is using FIA funding to continue to deactivate some of the higher-risk road systems within TFL 39/Block 6.

As neither WFP, nor any of the former tenure holders on TFL 39/Block 6, have used these old road systems since June 1995, WFP is not obligated to ensure their stability. Some of these old roads, constructed in the 1960s, 1970s and 1980s, continue to trigger slope failures. Some of these slides were seen during the course of the audit, and some occurred subsequent to the audit (see Figures 8 and 9). Some of these failures are directly, and likely significantly, impacting important fish-bearing streams.



Figure 9. A landslide initiated from a pre-Code road deactivated in the mid-1990s.

## Audit Opinion

In my opinion, the timber harvesting, road construction, deactivation and maintenance, and associated planning carried out by Western Forest Products Inc. on Tree Farm Licence 39, Block 6, between May 1, 2006, and May 30, 2008, complied in all significant respects with the requirements of the *Forest and Range Practices Act* (FRPA) and related regulations, and certain transitional elements of the *Forest Practices Code of British Columbia Act* (the Code), as of May 2008.

Without qualifying my opinion, I draw attention to the “*Protection of Fish and Fish Habitat*” section of this report, which describes the measures taken to ensure the protection of fish passage, and fish habitat.

Without qualifying my opinion, I also draw attention to the “*Old Road Systems Within TFL 39/Block 6*” section of this report, which describes the deteriorating condition of these old road systems within the TFL. As these roads have not been used for industrial purposes since the implementation of the Code in June 1995, these situations are not considered a non-compliance by Western Forest Products Inc. However, on some of these old road systems, there is the potential for significant harm to fish and fish habitat.

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 the Code.



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April 29, 2009

# 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. (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 or range stewardship plan, at which point the requirements of FRPA apply.)

## 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 forest 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 2007, the Board randomly selected the Robson Valley Timber Supply Area as a location for an audit. After assessing the activities within that area, we discovered that two licensees 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, the audit focused on the status of the outstanding obligations of these two licences.

For BCTS audits, a forest 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 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 field work includes assessments of features using helicopters as well as 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, 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 Code, 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 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 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 auditor's draft report 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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<sup>i</sup> 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 state 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 prior to the audit period, the legislated forest practices requirements that applied to the majority of the auditee's activities were the requirements of the Code.

<sup>ii</sup> 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.

<sup>iii</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.

<sup>iv</sup> 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.

<sup>v</sup> An S3 stream is a fish bearing stream, or is a stream found in a community watershed, that has an average channel width between 1.5 and 5 metres and has a riparian reserve zone width of 20 metres and a riparian management zone width of 20 metres.

<sup>vi</sup> An S4 stream is a fish bearing stream or is a stream found in a community watershed that has an average channel width less than 1.5 metres and has a riparian management zone width of 30 metres.

<sup>vii</sup> Forest Renewal BC was a crown corporation created in 1994 to help build a more diversified, sustainable forest economy that supports local communities, workers and their families. FRBC's mission was to plan and implement a program of investments to renew the forest economy of British Columbia by enhancing the productive capacity and environmental values of forest lands, creating jobs, providing training for forest workers, and strengthening local communities that depend upon the forest industry.

<sup>viii</sup> The purpose of the Forest Investment Account (FIA) is to assist government to develop a globally recognised, sustainably managed forest industry. Administered by government or government agents, Forest Investment Account programs provide funding to forest sector associations, researchers, tenure holders, manufacturers, and government agencies to:

- support sustainable forest management practices;
- improve the public forest asset base; and
- promote greater returns from the utilisation of public timber.





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